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MISCELLANEOUS

12.0 9.3 GHz TO 10.8 GHz — TEST DATA FOR 50 dB, 9.3 TO 10.8 GHz, DC-COUPLED, DETECTOR LOG VIDEO AMPLIFIER (DLVA) WITH -85 dBm TSS LEVEL, September 11, 1992

- MODEL No: LVD-910-85, (SERIAL No: DL20898)

13.0 6 GHz TO 18 GHz — TEST DATA FOR 20 dB, 6 TO 18 GHz, DC-COUPLED, LINEAR DETECTOR VIDEO AMPLIFIER (LDVA), September 25, 1992

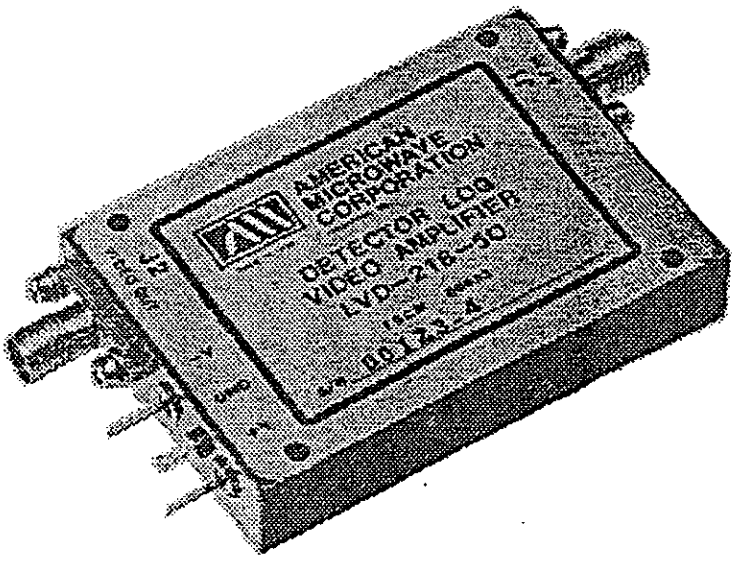
- MODEL No: DVA-50, (SERIAL No's: DL20896 AND DL20897)

American Microwave Corporation

DLVA

DETECTOR LOG VIDEO AMPLIFIER
2-18 GHZ, 45 DB DYNAMIC RANGE

MODEL: LVD-218-50



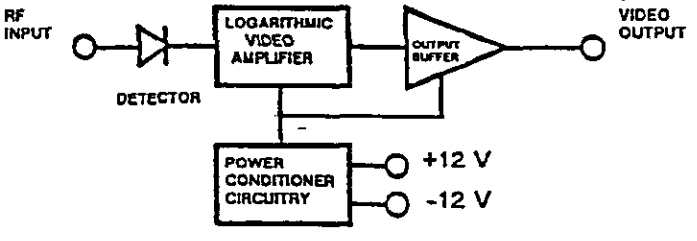
FEATURES

- DC Coupled
- Wide Bandwidths
- Fast Rise Times
- Short Recovery Times
- Small Size

DESCRIPTION

The LVD-218 -50 Series DLVA's offer 50 dB dynamic range over the full 2-18 GHz bandwidth with DC coupling. Units employ planar diode detectors and monolithic video circuitry for high speed performance and outstanding reliability. They are available with optional external or internal controlled CW nulling.

FUNCTIONAL BLOCK DIAGRAM



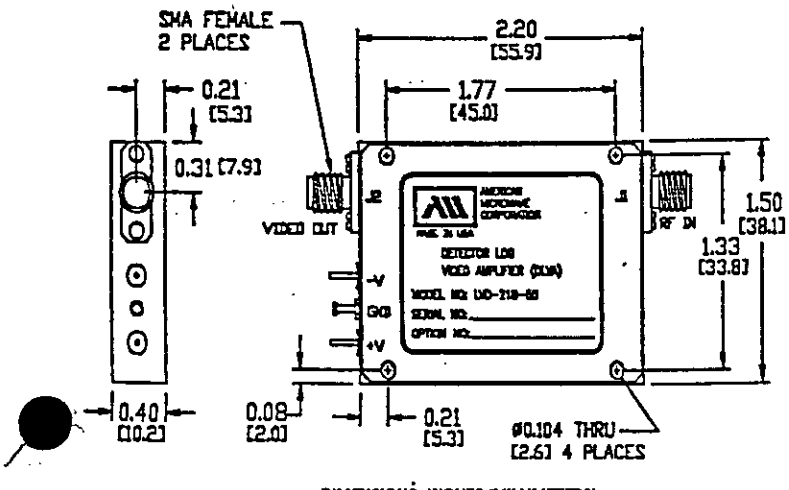
7311G GROVE ROAD, FREDERICK, MARYLAND 21701, •Tel: (301) 662-4700 •Fax: (301) 662-4938

GUARANTEED SPECIFICATIONS

PARAMETER	SPECIFICATIONS
•Frequency	2-18 GHz
•Flatness (-20 dBm)	±1.5 dB
•VSWR	3.0:1, Max
•TSS	-40 dBm, Max.
•Logging Range	-40 to +5 dBm
•Log Slope (Note 1)	50 mV/dB, ±10%
•Log Linearity (-40 to 0 dBm)	±1.0 dB, Max.
•Output Stability (-54°C to +85°C)	±1.0 dB, Max.
•Pulse Width Range	50 ns to CW
•Rise Time	20 ns, Max.
•Recovery Time (from 0 dBm)	150 ns, Max
•Video Load	100 Ohms, Min.
•D.C. Power (Note 2)	±12 V @80 mA
•Weight	1.5 oz.

Notes:
1. Other Log slopes available.
2. Other voltages from ±9 V to ±18 V available.
3. Internal or external CW nulling available.

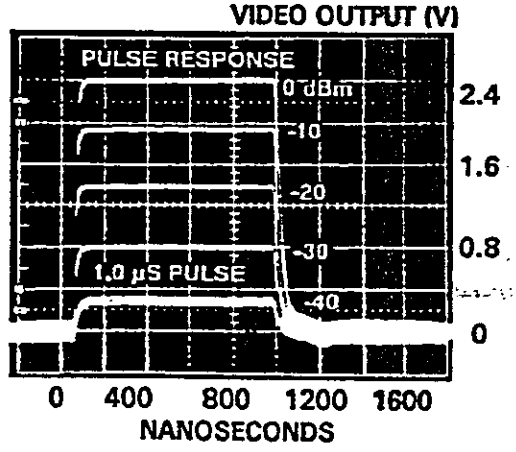
MECHANICAL DATA

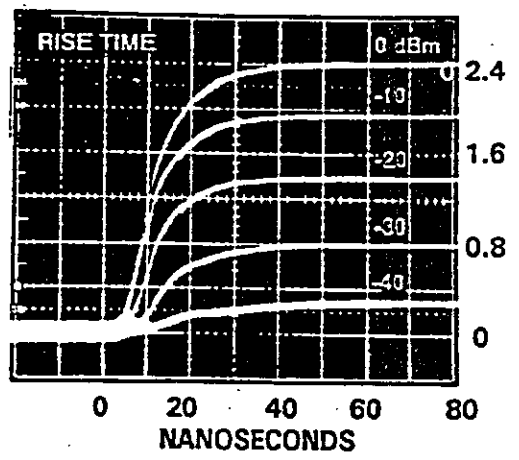


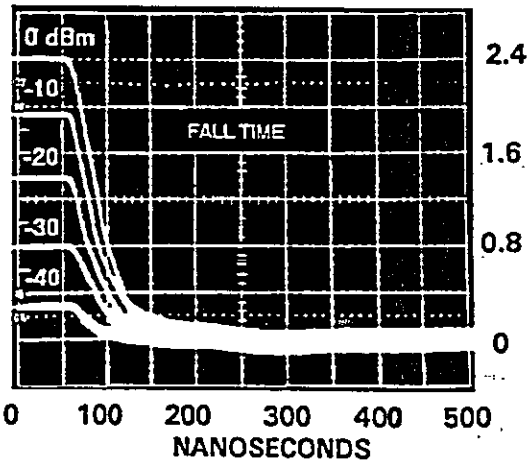
DIMENSIONS: INCHES (MILLIMETERS)

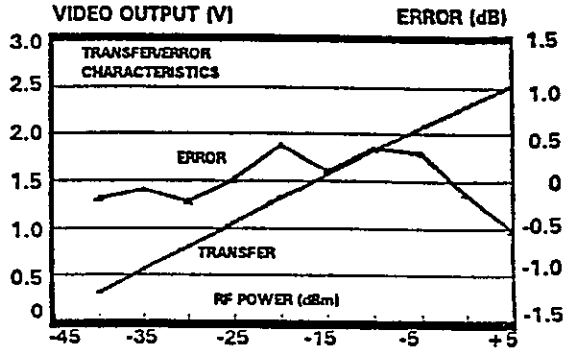
TYPICAL PERFORMANCE

VIDEO RESPONSE





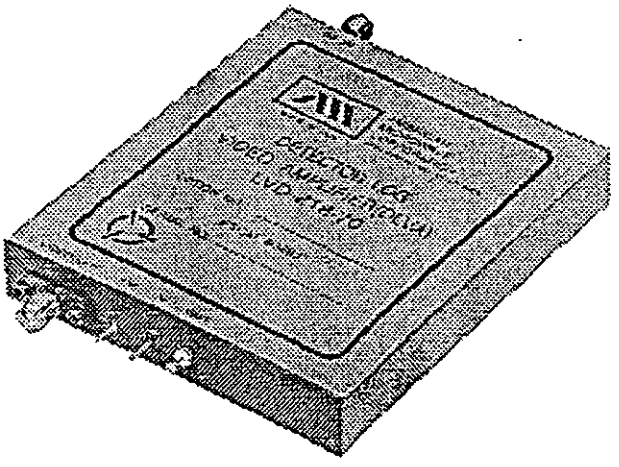




American Microwave Corporation

DLVA

DETECTOR LOG VIDEO AMPLIFIER
2-18 GHZ, 75 DB DYNAMIC RANGE
MODEL: LVD-218-70



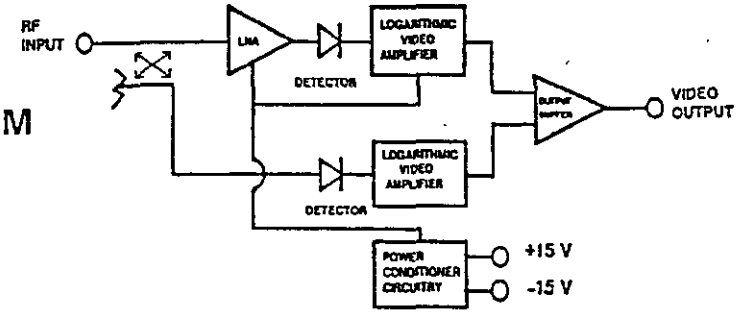
FEATURES

- DC Coupled
- Wide Bandwidths
- Fast Rise Times
- Short Recovery Times
- Extended Dynamic Range
- MMIC Reliability

DESCRIPTION

The LVD-218 -70 Series DLVA's offer 80 dB dynamic range over the full 2-18 GHz bandwidth with DC coupling. Units employ planar diode detectors , a GaAs FET LNA and monolithic video circuitry for high speed performance and outstanding reliability. They are available with optional external or internal controlled CW nulling.

FUNCTIONAL BLOCK DIAGRAM



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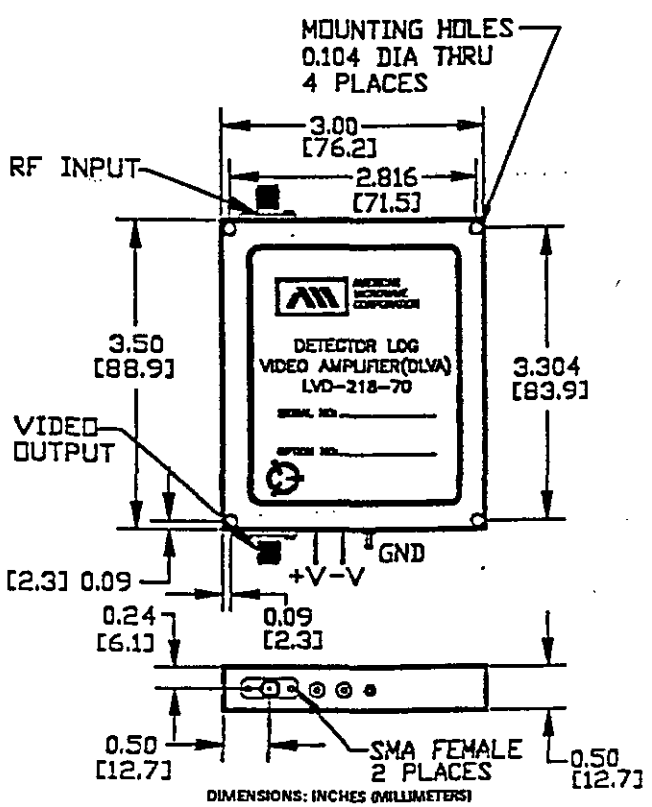
GUARANTEED SPECIFICATIONS

PARAMETER	SPECIFICATIONS
•Frequency (note 4)	2-18 GHz
•Flatness (-20dBm)	±2.5 dB
•VSWR	3.0:1, Max
•TSS	-68 dBm, Min.
•Logging Range	-65 to +10 dBm
•Log Slope (see note 1)	50 mV/dB
•Log Linearity (-65 to +10 dBm)	±2.0 dB, Max.
•Output Stability (0°C to +60°C)	±2.0 dB, Max.
•Pulse Width Range	50 ns to CW
•Rise Time	30 ns, Max.
•Recovery Time	350 ns, Max
•Video Load (note 2)	100 Ohms, Min.
•D.C. Power (note 3)	+15V@400mA
	-15V @150mA
•Weight	7.0 oz.

Notes:
1. Other Log slopes available.
2. Other Video Loads down to 50 Ohms available.
3. Other voltages from ±9V to ±18V available.
4. 0.2 to 20 GHz RF Bandwidth available.
5. -55°C to +85°C operating temperature.
6. Internal or external cw nulling available.

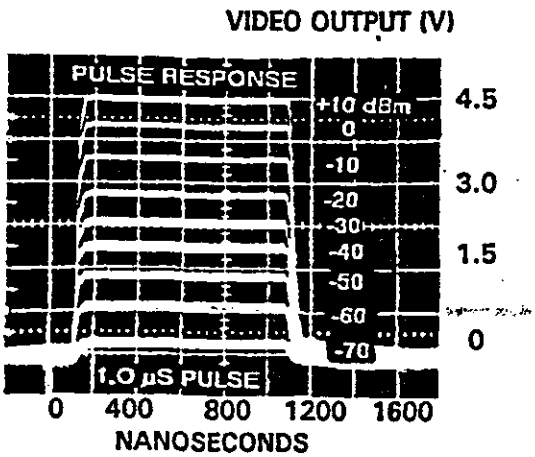
MECHANICAL DATA

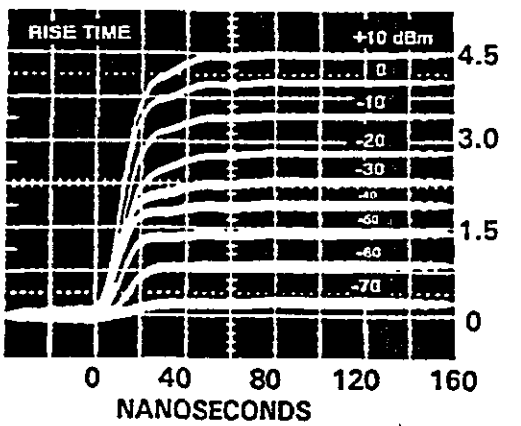


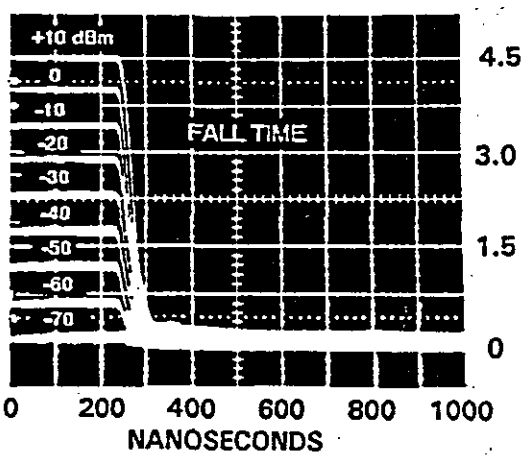
DIMENSIONS: INCHES (MILLIMETERS)

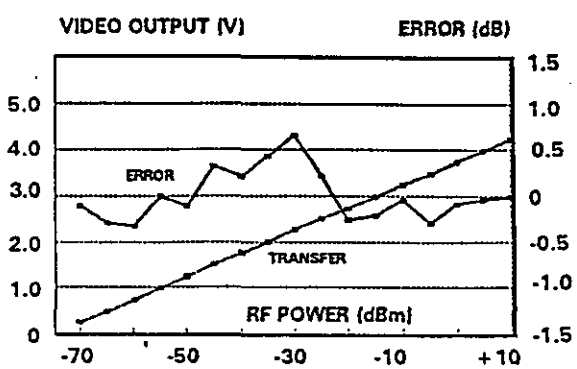
TYPICAL PERFORMANCE

VIDEO RESPONSE









AMERICAN MICROWAVE CORPORATION

DETECTOR

LOG VIDEO AMPLIFIER'S (DLVA'S)

AND

RELATED COMPONENTS

NEW

PRODUCT DEVELOPMENTS

AT

AMERICAN MICROWAVE CORPORATION

SEPTEMBER 10, 1993

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

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4. 40/45 dB TRULY DC-COUPLED DLVA's WITH SWITCHABLE VIDEO FILTERS

5. 70/75 dB TRULY DC-COUPLED DLVA'S

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 30245-1	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

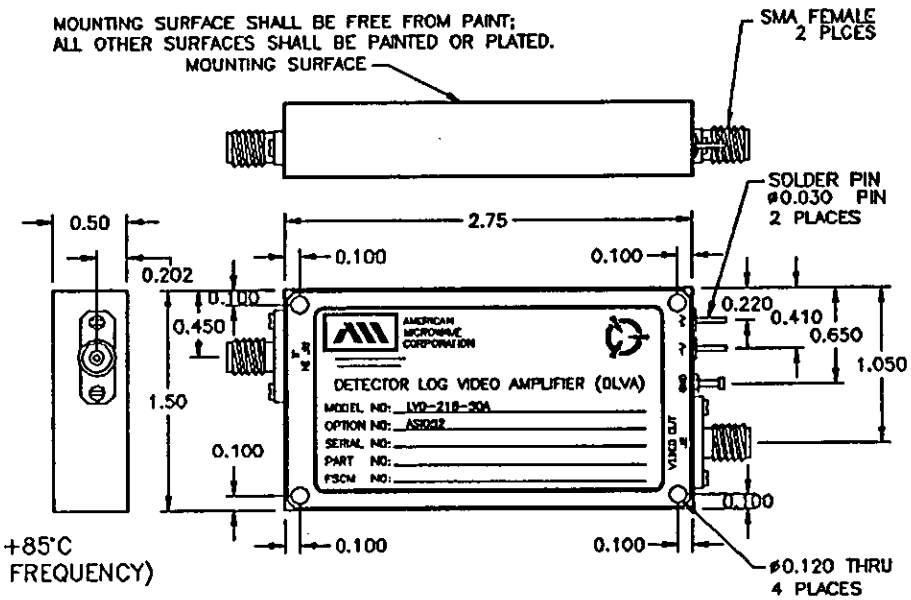
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 2.0 GHz
- LOGGING RANGE ..... -40 TO 0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±1.5dB MAXIMUM (OVER LOGGING RANGE AND -54°C TO +85°C)
- LOG SLOPE @ 93Ω LOAD 100mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- AMPLITUDE VARIATION ..... ±1.5 dB MAXIMUM (OVER -54°C TO +85°C AND LOGGING RANGE AT ANY SINGLE FREQUENCY)
- RISE TIME (10% TO 90% POINTS) ..... 35nS MAXIMUM
- RECOVERY TIME ..... ±1.0 µs (WITHIN ±1dB OF BASELINE ≤ 0dBM AND ≤100uS INPUT PULSE)
- BASELINE DC OFFSET ..... 0 ±60 mV MAXIMUM
- TSS ..... -42dBm MINIMUM (100nS PULSE WIDTH) @DC TO 10MHz NOMINAL VIDEO BANDWIDTH
- VSWR (RF) @-23dBM ..... 2.5:1 MAXIMUM
- VIDEO OUTPUT LEVEL ..... 0 TO 5.0 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V ..... 12 TO 15V @ 100MA MAXIMUM
  - -V ..... 12 TO 15V @ 100MA MAXIMUM
- SIZE ..... 2.75" X 1.50" X 0.50"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	±1.0dB LOG LINEARITY
A09	±1.0dB FREQUENCY FLATNESS
A10	250nS TYPICAL, 350nS MAXIMUM

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 1.75 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/28/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

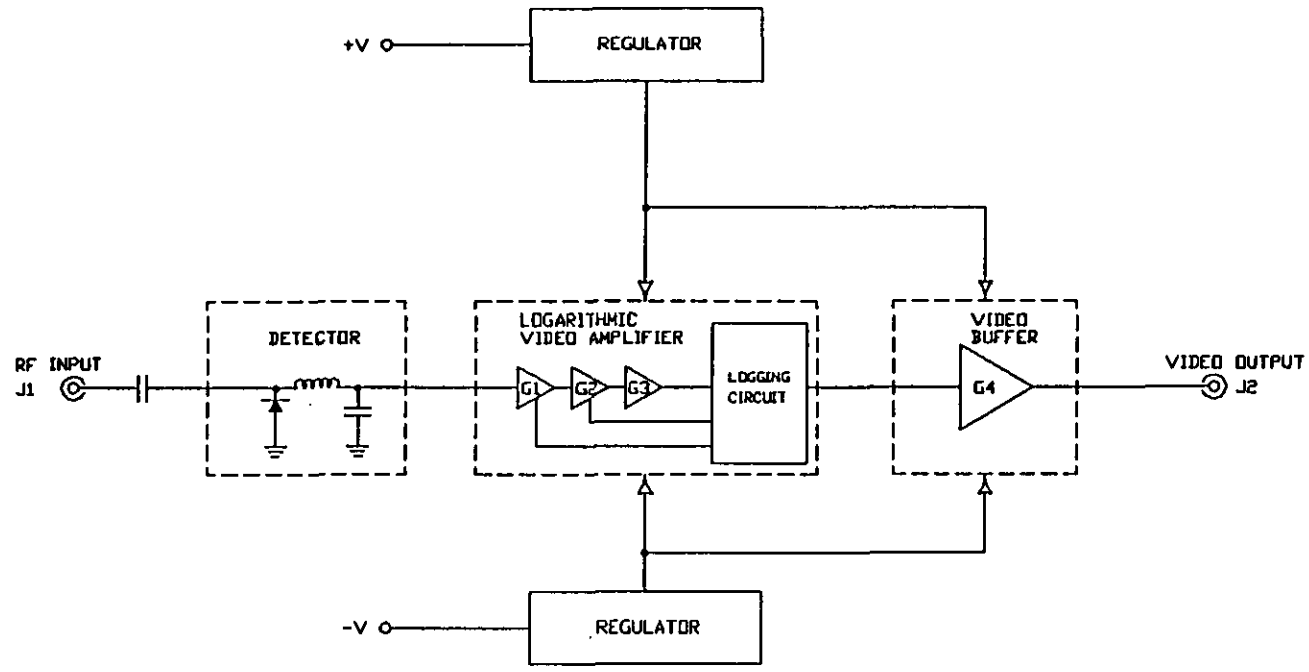
PRODUCT FEATURE

LVD-218-50A (OPTION ASI052)

0.5 TO 2 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG # 100-3183

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/29/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50A (OPTION AS1052)

0.5 TO 2 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3183

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 206170-1	11/21/92	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

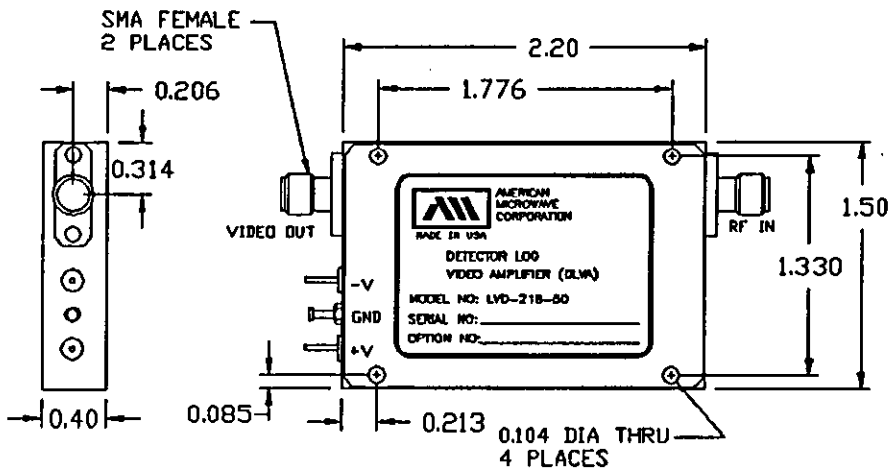
SPECIFICATIONS

- FREQUENCY RANGE ..... 5.2 TO 5.9 GHz
- FREQUENCY FLATNESS ..... ±0.2dB MAXIMUM
- LOGGING RANGE ..... -40 TO 0dBm MINIMUM
- USEFUL RANGE ..... -40dBm TO +5dBm
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (±0.5dB TYPICAL)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0dB MAXIMUM (±0.5dB TYPICAL) (0°C TO +60°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME ..... 20nS MAXIMUM, 15nS TYPICAL
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS MAXIMUM
- TSS ..... -42dBm MINIMUM (-44dBm TYPICAL)
- VSWR (RF) ..... 2.0:1 MAXIMUM
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (WITH 100Ω LOAD)
  - +V ..... 9 TO 18V @ 120mA MAXIMUM
  - -V ..... 9 TO 18V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN R.A	11/21/92
CHECKED	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

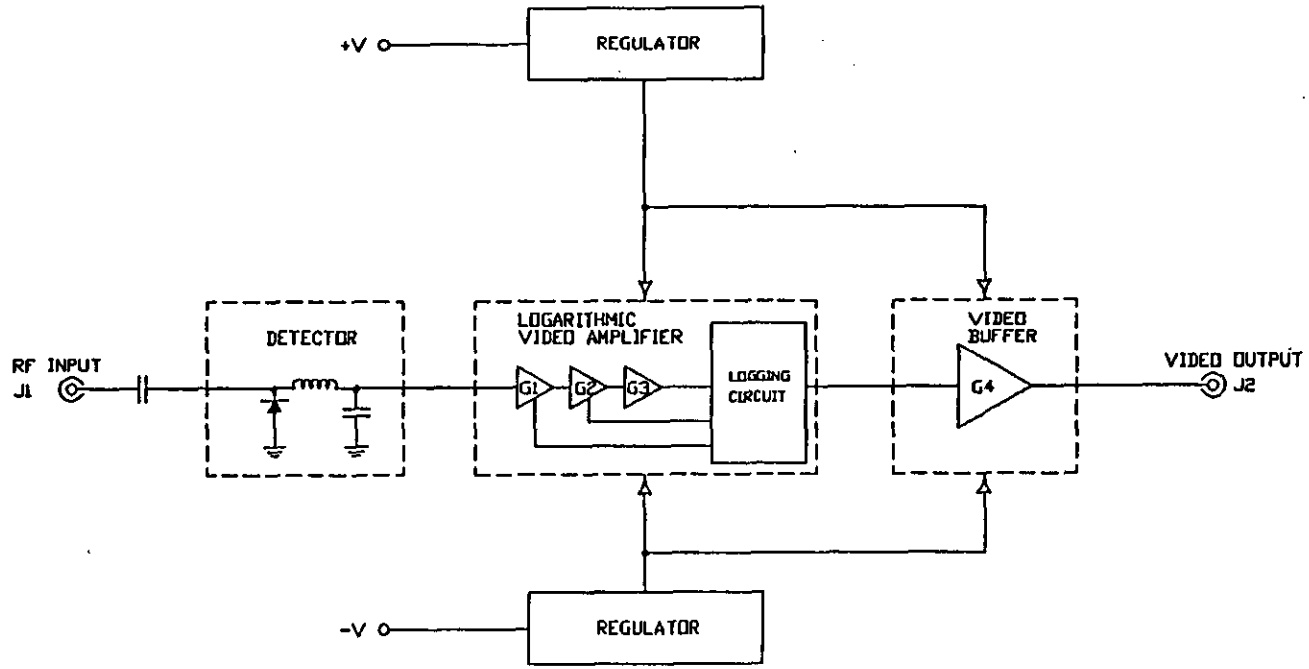
PRODUCT FEATURE

LVD-218-50 (OPTION 5259)

5.2 TO 5.9 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG # 100-3265

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE
DRAWN RA	1/21/92
CHECKED	11/22/92

AMERICAN MICROWAVE CORPORATION
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TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50 (OPTION 5259)

5.2 TO 5.9 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3265

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB # 30484	07/24/93	

DESCRIPTION

THE LVD-618 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE 6-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

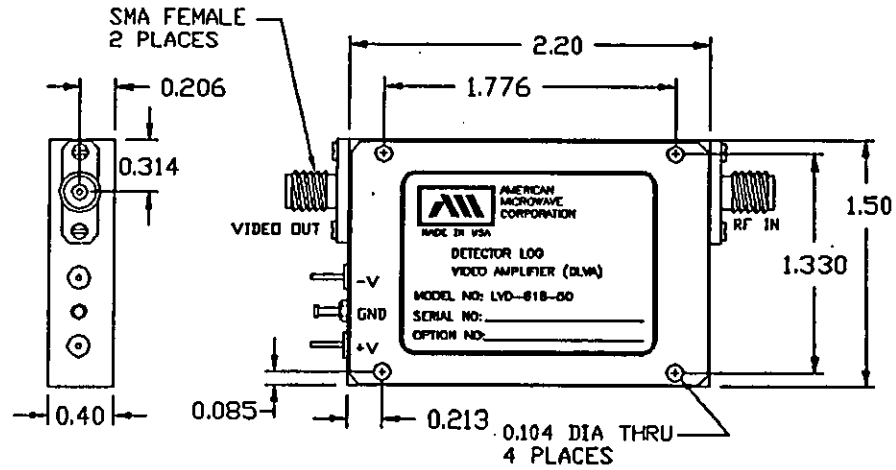
SPECIFICATIONS

- FREQUENCY RANGE ..... 6 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.5dB MAXIMUM
- LOGGING RANGE ..... -40 TO -0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (-40 TO 0dBM)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±10% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM (-54° TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME ..... 15nS MAXIMUM
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 250nS TYPICAL 500nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) ..... 2.5:1 MAXIMUM
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 120MA MAXIMUM
  - -V ..... 9 TO 18V @ 80MA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"
- VIDEO LOAD ..... 50 OHMS MINIMUM

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE (-67dBM TO +10dBM)
A07	OTHER VIDEO LOADS
A08	RECOVERY TIME, 250nS MAXIMUM
A09	FREQUENCY FLATNESS OF ±1dB MAXIMUM

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

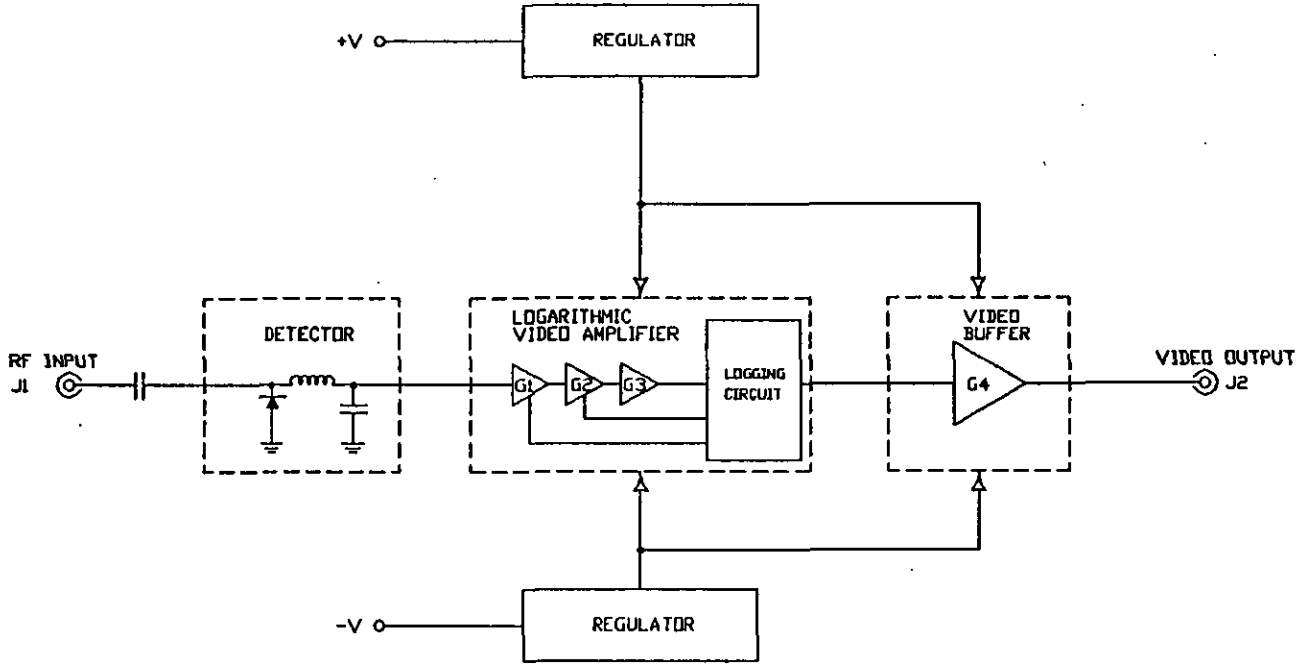
- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/24/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
LVD-618-50
6 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/24/93	PRODUCT FEATURE LVD-618-50 6 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/27/93	SIZE A / SHEET 2 OF 2 / DWG. # 100-3157

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 30245-2	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 5.5 OZ WEIGHT

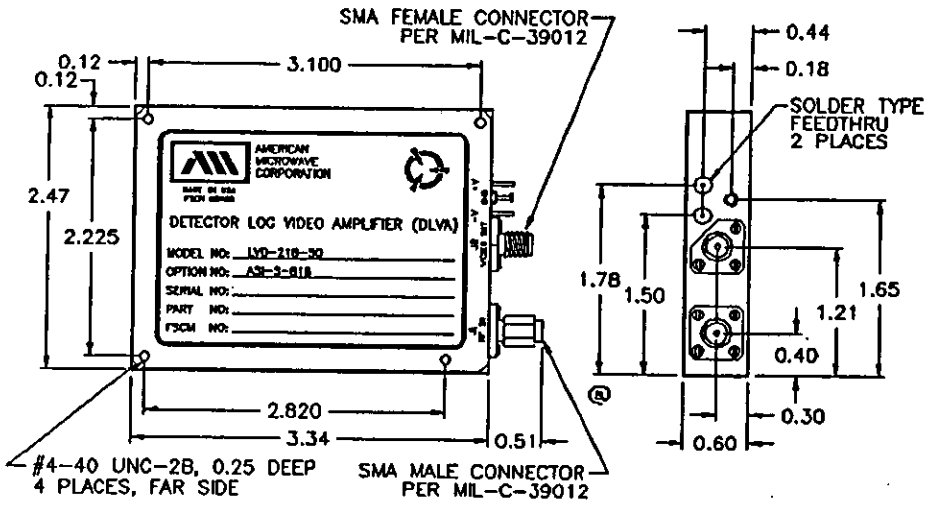
SPECIFICATIONS

- FREQUENCY RANGE ..... 8 TO 18 GHz
- FREQUENCY FLATNESS ..... ±0.7dB
- LOGGING RANGE ..... -40 TO 0 dBM
- USEFUL RANGE ..... -40 TO +5 dBM
- LOG LINEARITY ERROR ..... ±0.5 dB
- LOG SLOPE ±10% TOLERANCE 100mV/dB
- LOG SLOPE ACCURACY ..... ±10% OF AVERAGE SLOPE
- OUTPUT LEVEL STABILITY ..... ±1.0 dB (-54°C TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) 17nS
- RECOVERY TIME ..... 300nS (WITHIN ±200 mV OF BASELINE)
- TSS ..... -42dBm
- VSWR @ -23 dBm 3.0:1
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V ..... 15V @ 140mA MAXIMUM WITH CW (60 mA NO SIGNAL)
  - -V ..... 15V @ 70mA MAXIMUM WITH CW (60 mA NO SIGNAL)
- SIZE ..... 3.34" X 2.47" X 0.6"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3. WEIGHT: 5.5 OZ
4. UNIT IS EPOXY SEALED.

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	

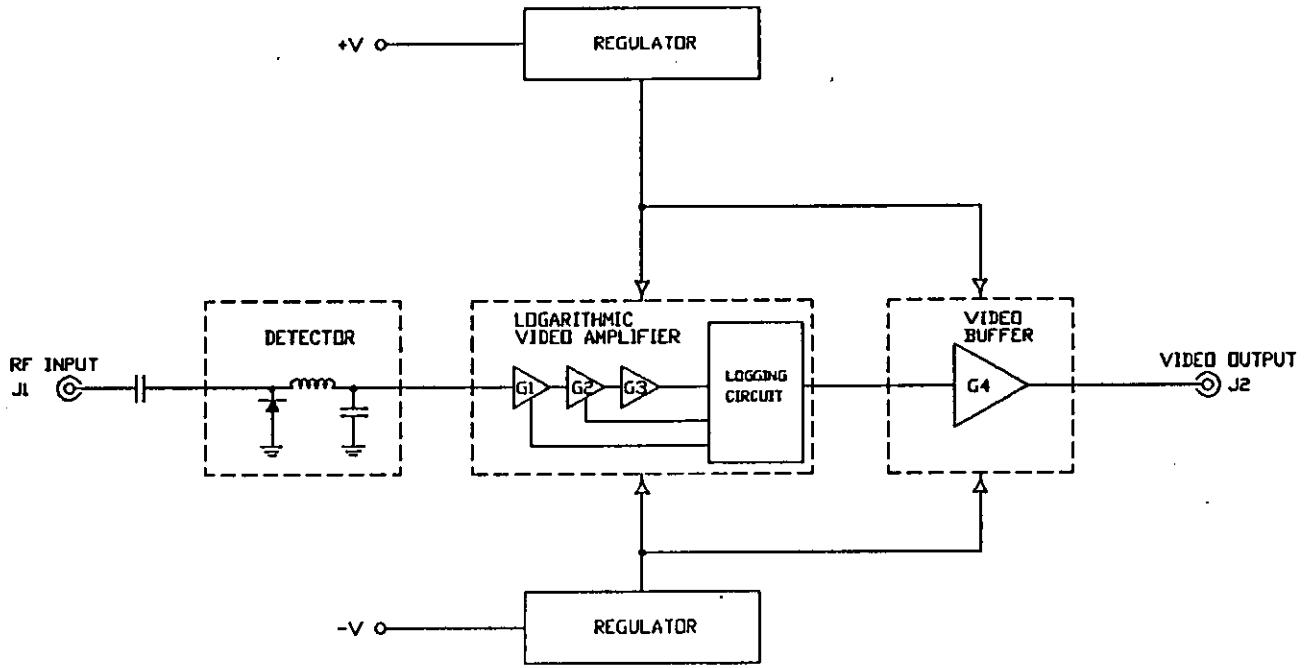
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50 (OPTION ASI-S-818)

8 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/28/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50 (OPTION ASI-S-818)

8 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3181

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 30245-1	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

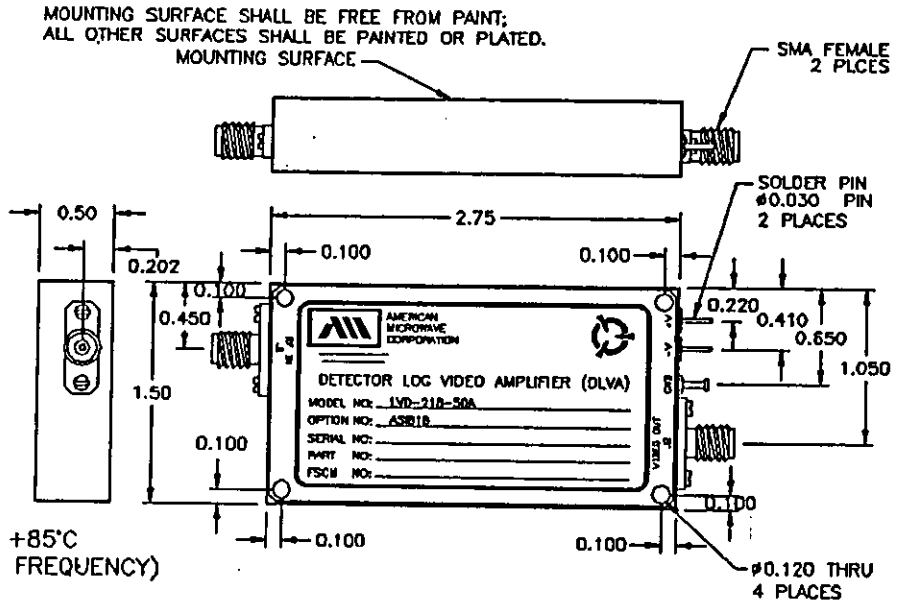
SPECIFICATIONS

- FREQUENCY RANGE ..... 8 TO 18 GHz
- LOGGING RANGE ..... -40 TO 0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±1.5dB MAXIMUM (OVER LOGGING RANGE AND -54°C TO +85°C)
- LOG SLOPE @ 93Ω LOAD 100mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- AMPLITUDE VARIATION ..... ±1.5 dB MAXIMUM (OVER -54°C TO +85°C AND LOGGING RANGE AT ANY SINGLE FREQUENCY)
- RISE TIME (10% TO 90% POINTS) ..... 35nS MAXIMUM
- RECOVERY TIME ..... ±1.0 µs (WITHIN ±1dB OF BASELINE ≤ 0dBM AND ≤100uS INPUT PULSE)
- BASELINE DC OFFSET ..... 0 ±60 mV MAXIMUM
- TSS ..... -42dBm MINIMUM (100nS PULSE WIDTH) @ DC TO 10MHz NOMINAL VIDEO BANDWIDTH
- VSWR (RF) @-23dBM ..... 3:1 MAXIMUM
- VIDEO OUTPUT LEVEL ..... 0 TO 5.0 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V ..... 12 TO 15V @ 100MA MAXIMUM
  - -V ..... 12 TO 15V @ 100MA MAXIMUM
- SIZE ..... 2.75" X 1.50" X 0.50"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	±1.0dB LOG LINEARITY
A09	±1.0dB FREQUENCY FLATNESS
A10	250nS TYPICAL, 350nS MAXIMUM

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 1.75 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN R.A	07/24/93
CHECKED	07/24/93

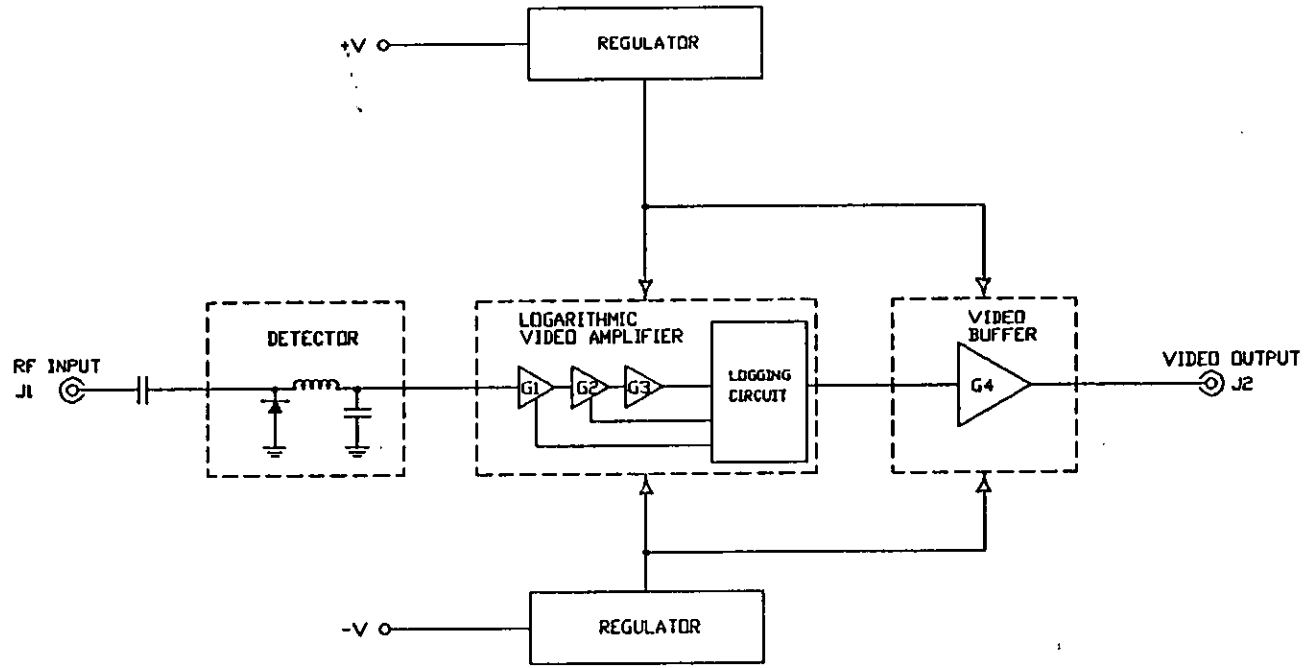
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50A (OPTION ASI818)

8 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



1-10

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/24/93	PRODUCT FEATURE LVD-218-50A (OPTION ASI818) 8 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/28/93	SIZE A / SHEET 2 OF 2 / DWG. # 100-3182

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/21/92	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

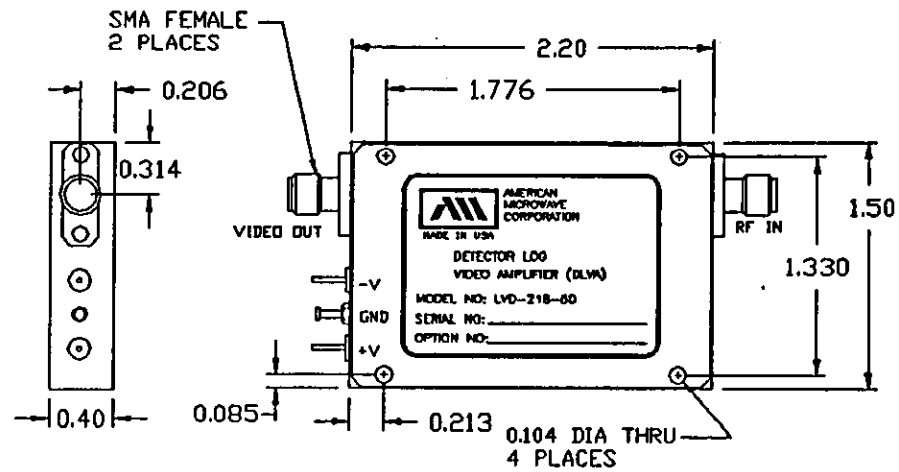
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.0dB MAXIMUM
- LOGGING RANGE ..... -40 TO -0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±0.5dB MAXIMUM
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM (-54° TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME ..... 20nS MAXIMUM
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL 300nS MAXIMUM
- TSS ..... -42dBm MINIMUM
- VSWR (RF) ..... 3:1 MAXIMUM
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 75MA MAXIMUM
  - -V ..... 9 TO 18V @ 75MA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

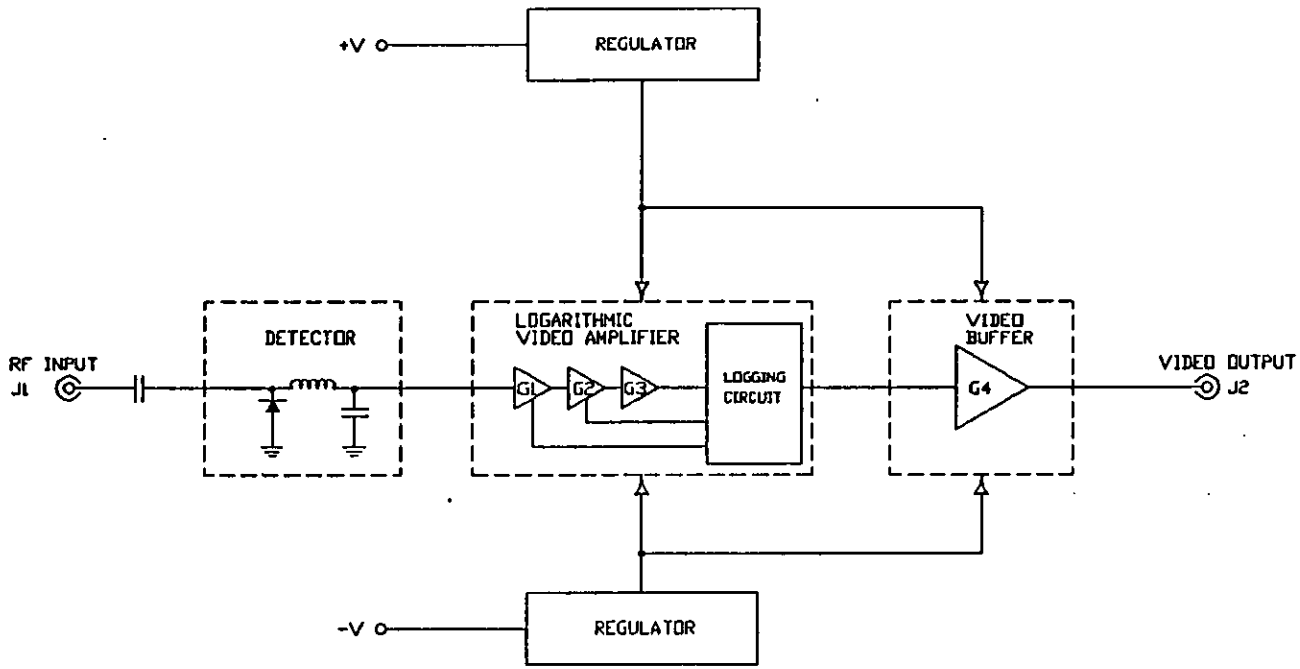
APPROVALS	DATE
DRAWN WSP	11/21/92
CHECKED	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
LVD-218-50
2 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG. # 100-2811

FUNCTIONAL BLOCK DIAGRAM



1-12

APPROVALS	DATE
DRAWN WSP	11/21/92
CHECKED	11/24/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50

2 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-2811

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 308187	07/26/93	

DESCRIPTION

THE LVD-218-50 (OPTION 0518) SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 0.5-18GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

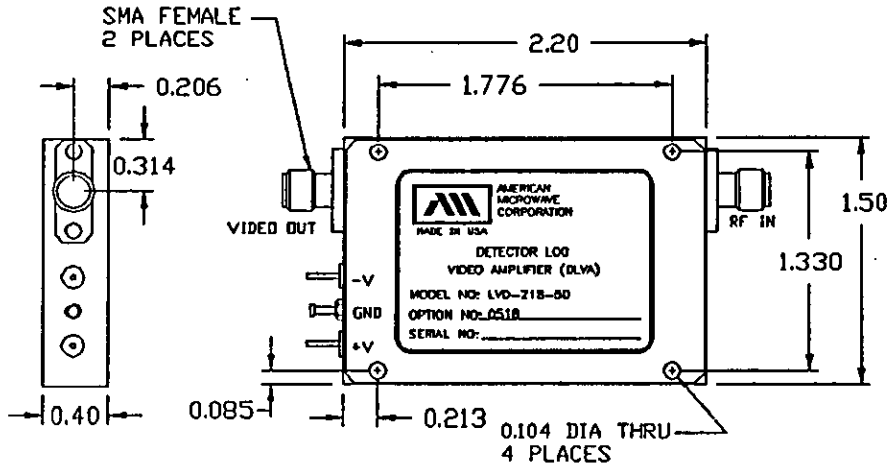
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS @-20dBM ..... ±1.5dB (±1.0dB TYPICAL)
- LOGGING RANGE ..... -40 TO 0dBm MINIMUM
- USEFUL RANGE ..... -40 TO +5dBm
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (±0.5dB TYPICAL) (-40dBm TO 0dBm)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM, ±0.5dB TYPICAL (-54°C TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) ..... 20nS MAXIMUM, (15nS TYPICAL)
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL, 200nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) 2.5:1
- MAXIMUM RF INPUT ..... +15dBm
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (100Ω LOAD)
  - +V ..... 12V @ 120mA MAXIMUM
  - -V ..... 12V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

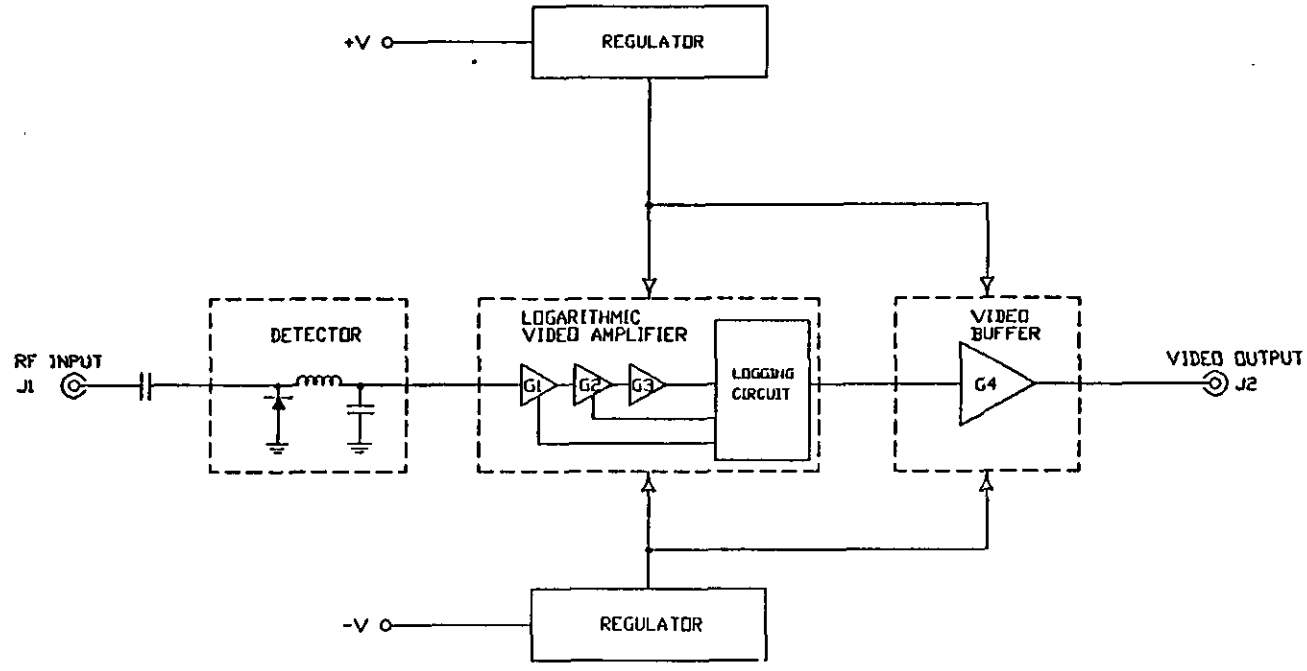
- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

APPROVALS	DATE
DRAWN RA	07/26/93
CHECKED	

PRODUCT FEATURE
LVD-218-50 (OPTION 0518)
0.5 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED JXy	07/24/93

PRODUCT FEATURE

LVD-218-50 (OPTION 0518)

0.5 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3267

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 20245	07/26/93	

DESCRIPTION

THE LVD-218-50F SERIES ARE SUPER-FAST DLVA'S AND ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

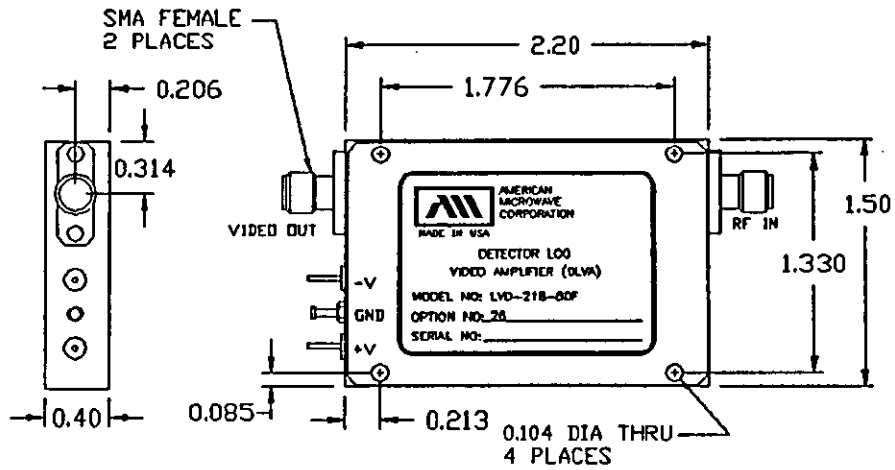
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 6 GHz
- FREQUENCY FLATNESS @ -20dBM ..... ±1.0dB (±0.5dB TYPICAL)
- LOGGING RANGE ..... -40 TO 0dBm MINIMUM
- USEFUL RANGE ..... -40 TO +5dBm
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (±0.5dB TYPICAL) (-40dBm TO 0dBm)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM, ±0.5dB TYPICAL (0°C TO +60°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) ..... 15nS MAXIMUM, (10nS TYPICAL)
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL 250nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) 2.5:1
- MAXIMUM RF INPUT ..... +15dBm
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (100Ω LOAD)
  - +V ..... 12V @ 120mA MAXIMUM
  - -V ..... 12V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

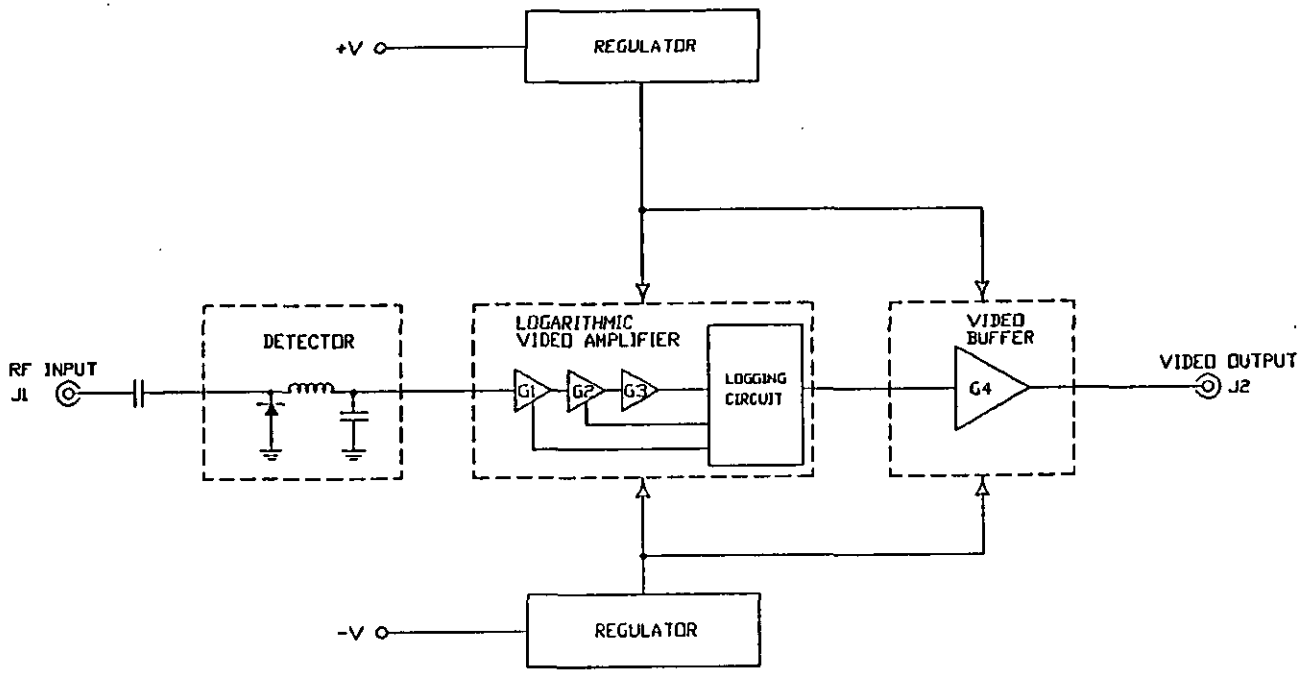
- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

APPROVALS	DATE
DRAWN RA	07/26/93
CHECKED	

PRODUCT FEATURE
LVD-218-50F (OPTION 26)
2 TO 6 GHz, 40/45dB, FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



2-2

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN R.A	07/24/93	PRODUCT FEATURE LVD-218-50F (OPTION 26) 2 TO 6 GHz, 40/45dB, FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/24/93	SIZE A / SHEET 2 OF 2 / DWG. # 100-3266

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE. JOB# 305102E	07/26/93	

DESCRIPTION

THE LVD-218-50SF SERIES ARE SUPER-FAST DLVA'S AND ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 2-18GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

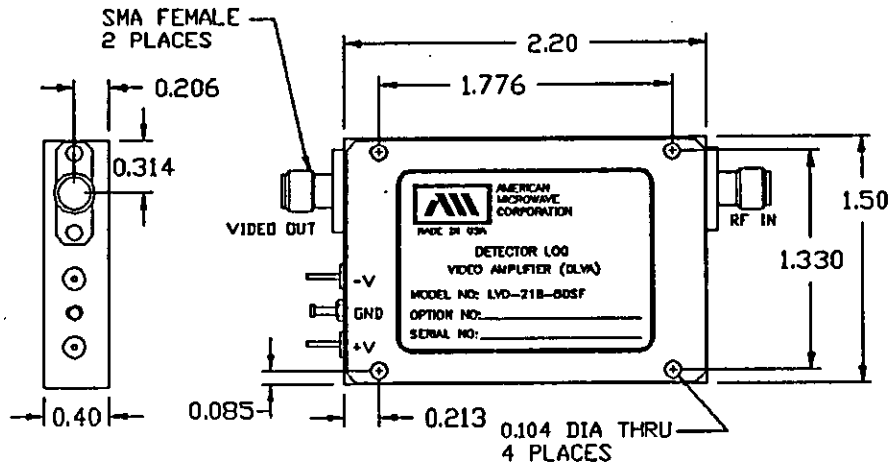
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 18 GHz
- FREQUENCY FLATNESS @-20dBM ..... ±1.5dB
- LOGGING RANGE ..... -40 TO 0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (-40 TO 0dBM)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM (0°C TO +60°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) ..... 10nS MAXIMUM, (5nS TYPICAL)
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL 300nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) 2.7:1
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (100Ω LOAD)
  - +V ..... 12V @ 120mA MAXIMUM
  - -V ..... 12V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/26/93
CHECKED	

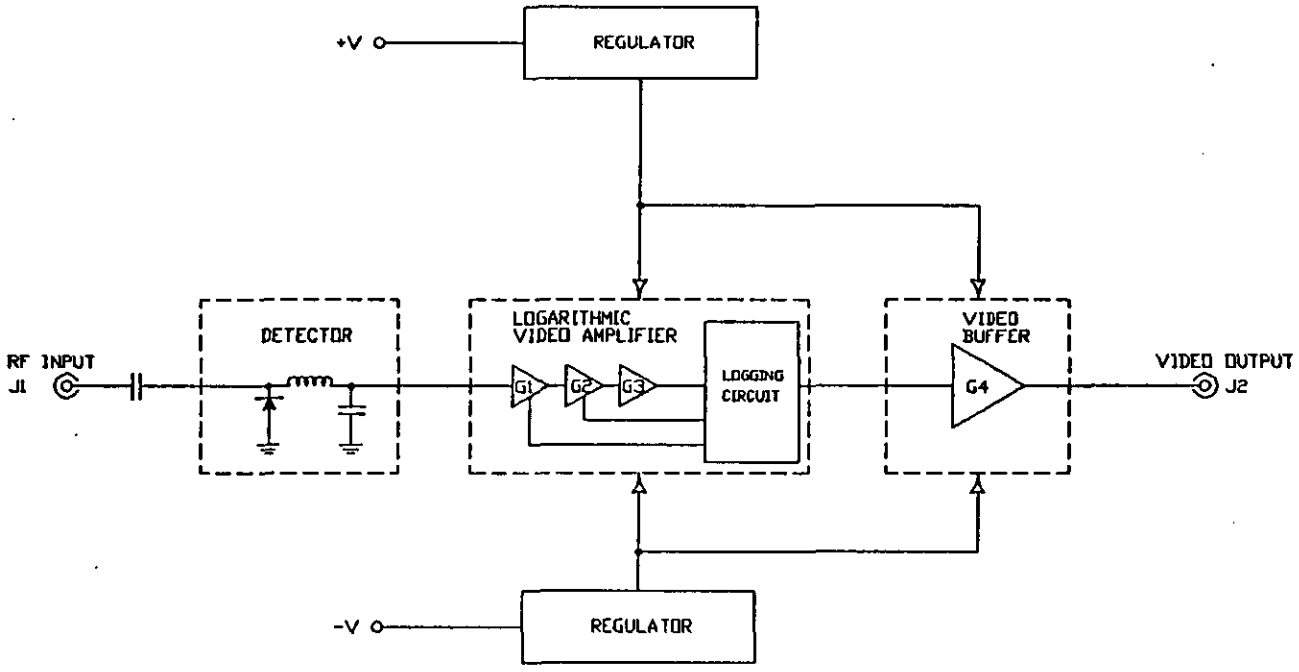
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-50SF

2 TO 18 GHz, 40/45dB, SUPER-FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/26/93

PRODUCT FEATURE

LVD-218-50SF

2 TO 18 GHz, 40/45dB, SUPER-FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3229

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 30244-1	07/27/93	

DESCRIPTION

THE LVD-218-50SF (OPTION 0518) SERIES ARE SUPER-FAST DLVA'S AND ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 0.5-18GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

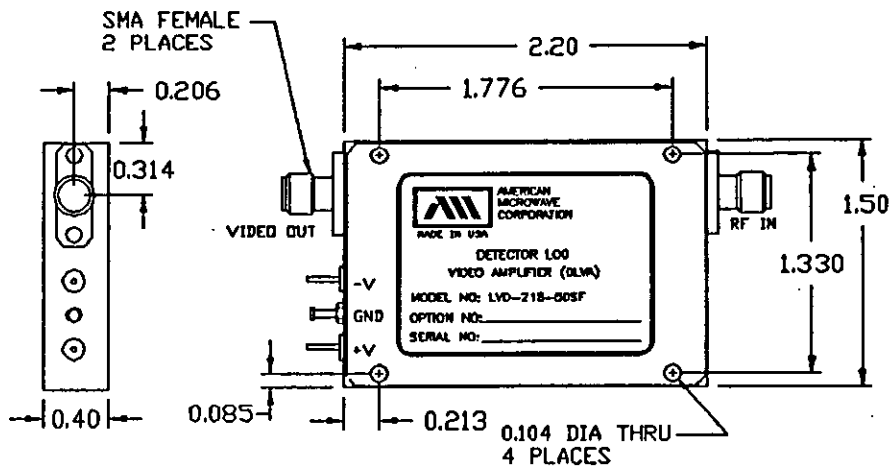
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS @-20dBM ..... ±1.5dB
- LOGGING RANGE ..... -40 TO 0dBM MINIMUM
- USEFUL RANGE ..... -40 TO +5dBM
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (-40 TO 0dBM)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM (0°C TO +60°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) ..... 10nS MAXIMUM, (5nS TYPICAL)
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL, 300nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) 3.0:1
- MAXIMUM RF INPUT ..... +15dBM
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (50Ω LOAD)
  - +V ..... 12V @ 120mA MAXIMUM
  - -V ..... 12V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/27/93
CHECKED	07/27/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

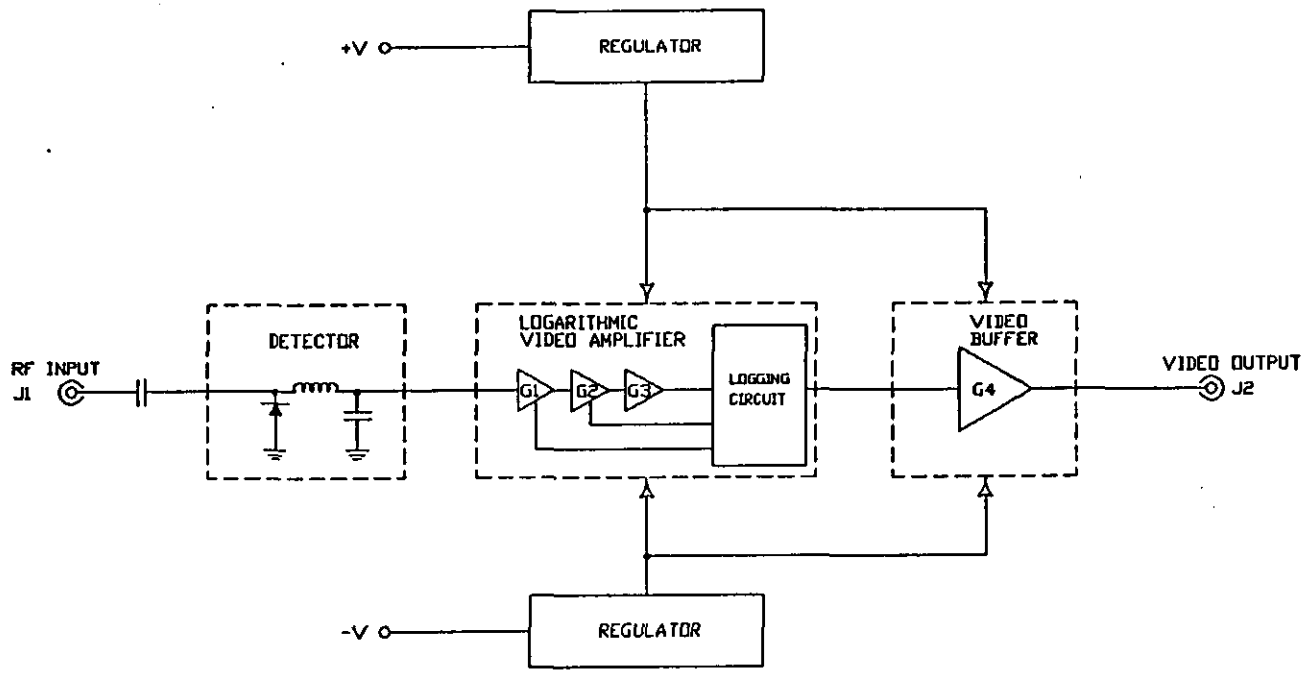
PRODUCT FEATURE

LVD-218-50SF (OPTION 0518)

0.5 TO 18 GHz, 40/45dB, SUPER-FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG # 100-3231

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/27/93	PRODUCT FEATURE LVD-218-50SF (OPTION 0518) 0.5 TO 18 GHz, 40/45dB, SUPER-FAST TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/27/93	SIZE A | SHEET 2 OF 2 | DWG. # 100-3231

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/12/92	

DESCRIPTION

AMC MODEL LVDN-0518-50 IS A 0.5 TO 18 GHz, TRULY DC COUPLED 40/45dB DETECTOR LOG VIDEO AMPLIFIER (DLVA) CONSTRUCTED USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. IT HAS RF INPUT NOISE/CW IMMUNE CIRCUITRY BUILT FOR SYSTEM NOISE CANCELLATION.

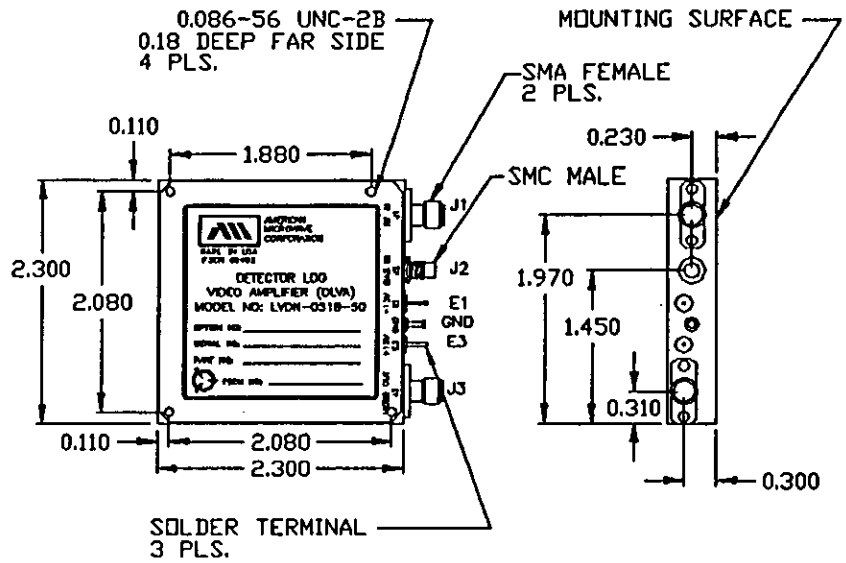
SPECIFICATIONS

• FREQUENCY RANGE	0.5 TO 18 GHz
• FREQUENCY FLATNESS	±1.0dB MAXIMUM
• TSS	−42dBm MINIMUM
• LOGGING RANGE	−40 TO 0 dBm MINIMUM
• USEFUL RANGE	−40 TO +5 dBm
• LOG ERROR	±0.5dB
• LOG SLOPE	50mV/dB OR AS DESIRED
• LOG SLOPE ACCURACY	±4% OF AVERAGE SLOPE, MAXIMUM
• LOG TEMPERATURE STABILITY	±1.0dB MAXIMUM (−54° TO +85°C)
• BASELINE STABILITY	±1.0dB MAXIMUM (−54° TO +85°C)
• RISE TIME	20nS MAXIMUM
• RECOVERY TIME	150nS TYPICAL, 300nS MAXIMUM
• SETTLING TIME	45 nS MAXIMUM
• VSWR (RF)	3:1 MAXIMUM
• VIDEO LOAD	50Ω TYPICAL, OR AS DESIRED
• VIDEO SOURCE IMPEDANCE	50Ω TYPICAL, OR AS DESIRED
• VIDEO OUTPUT RANGE	0 TO 2.5 VOLTS
• PULSE WIDTH TO CW	50nS
• DC POWER (NO LOAD)	±9V TO ±18V @ 75MA MAXIMUM
• SIZE	2.3" X 2.3" X 0.45"

AVAILABLE OPTIONS (SPECIFY)

A01	SELF OR EXTERNALLY BIASED NOISE/CW IMMUNITY
A02	EXTENDED FREQUENCY RANGE OF 0.2 TO 20 GHz
A03	EXTENDED DYNAMIC RANGE
A04	FASTER RISE AND RECOVERY TIMES
A05	HIGH CW/PULSED RF POWER PROTECTION
A06	ALTERNATE LOG SLOPES

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
X.XXX ±0.010
3) WEIGHT: 2.9 OZ

ENVIRONMENTAL RATINGS

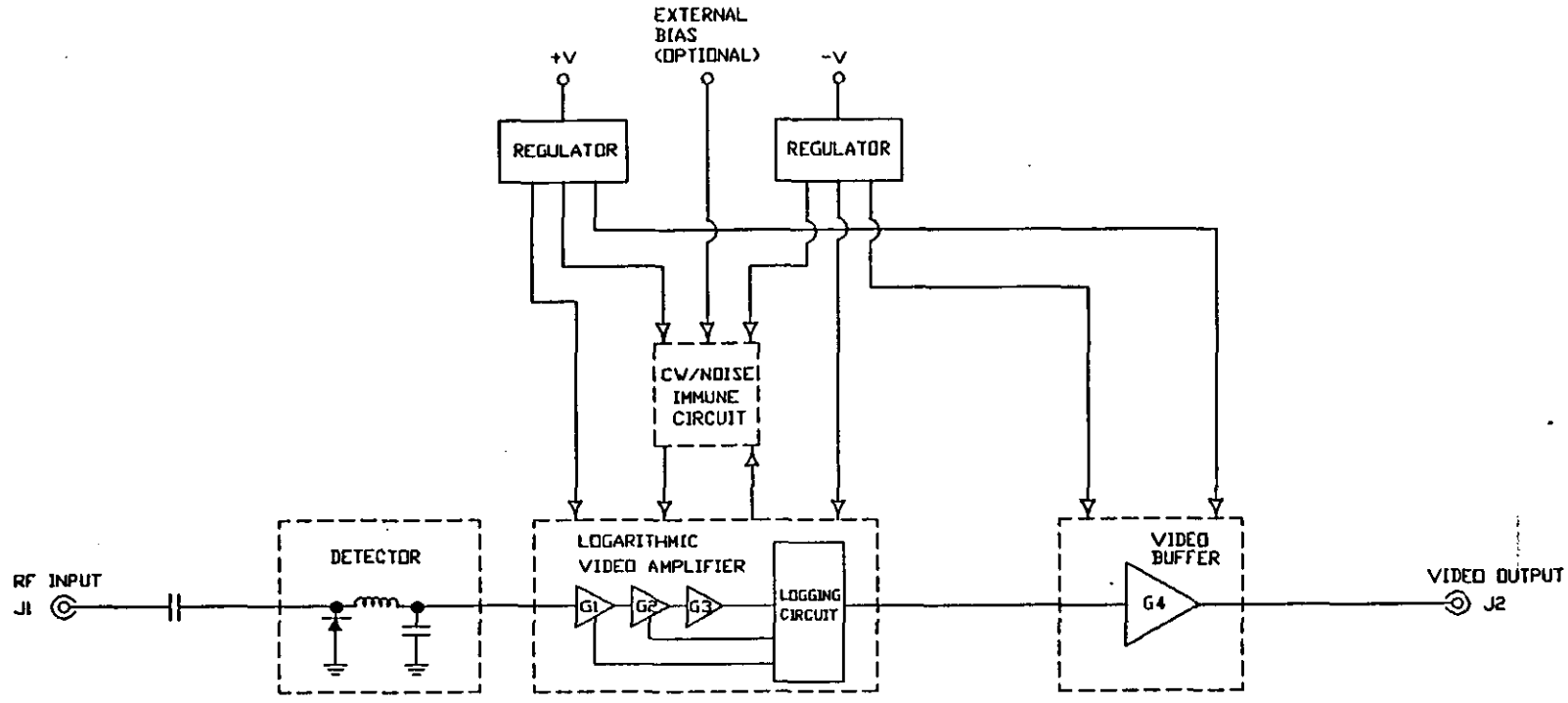
• TEMPERATURE	−54°C TO +85°C (OPERATING) −65°C TO +100°C (STORAGE)
• HUMIDITY	MIL-STD-202F, METHOD 103B COND. B
• SHOCK	MIL-STD-202F, METHOD 213B COND. B
• VIBRATION	MIL-STD-202F, METHOD 204D COND. B
• ALTITUDE	MIL-STD-202F, METHOD 105C COND. B
• TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN WSP	11/12/92
CHECKED	11/12/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
LVDN-0518-50
0.5 TO 18 GHz, NOISE IMMUNE, 40/45dB DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL SCHEMATIC



3-2

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN WSP	11/12/92	PRODUCT FEATURE LVDN-0518-50 0.5 TO 18 GHz, NOISE IMMUNE, 40/45dB DETECTOR LOG VIDEO AMPLIFIER
CHECKED MG	11/24/92	SIZE A | SHEET 2 OF 2 | DWG. # 100-2809

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/21/92	

DESCRIPTION

AMC'S 0.5 TO 18 GHz DLVA, MODEL LVDS-0518-50, OFFERS 3 SEPARATE SWITCHED VIDEO FILTERS. TTL CONTROL SIGNAL SWITCHES 30 MHz, 3 MHz, OR 300 KHz VIDEO BANDWIDTH FILTERS GIVING TSS OF -42dBm, -46dBm, AND -50dBm. SELECTING VIDEO FILTERS DOES NOT AFFECT THE -40dBm TO 0 dBM DYNAMIC LOGGING RANGE WHICH HAS A LINEARITY ERROR OF ±0.5dB, FREQUENCY FLATNESS FROM 0.5 TO 18 GHz OF ±1.0dB, AND TEMPERATURE STABILITY (-54° TO +85°C) OF ±1.0dB.

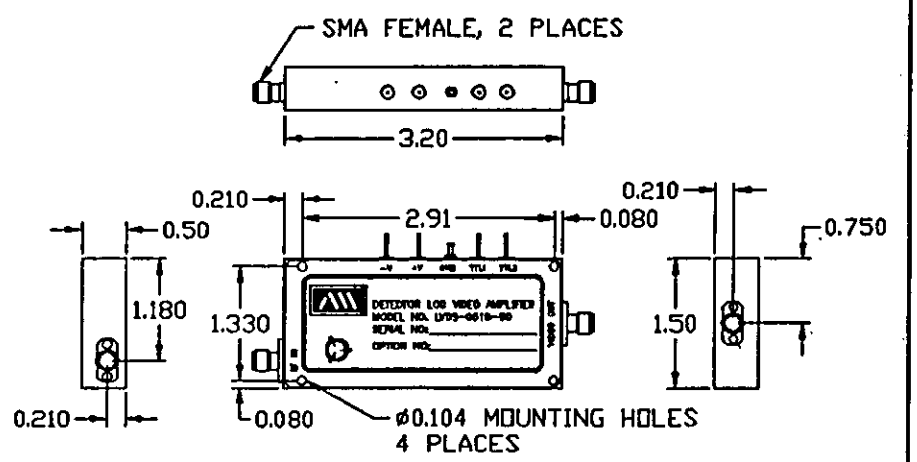
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.0dB MAXIMUM
- LOGGING RANGE ..... -40 TO 0 dBm MINIMUM
- USEFUL RANGE ..... -40 TO +5dBm
- LOG LINEARITY ERROR ..... ±0.5dB MAXIMUM
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0dB MAXIMUM (-54 TO +85C)
- TSS
  - VIDEO BANDWIDTH 1 (30 MHZ) ..... -42dBm MINIMUM
  - VIDEO BANDWIDTH 2 (3 MHZ) ..... -46dBm MINIMUM
  - VIDEO BANDWIDTH 3 (0.3 MHZ) ..... -50dBm MINIMUM
- PULSE RESPONSE ..... 50nS TO CW (VIDEO BANDWIDTH 1)
- RISE TIME ..... 20nS MAXIMUM (VIDEO BANDWIDTH 1)
- SETTLING TIME ..... 45nS MAXIMUM (VIDEO BANDWIDTH 1)
- RECOVERY TIME ..... 150nS TYPICAL 300nS MAXIMUM (VIDEO BANDWIDTH 1)
- VIDEO OUTPUT RANGE ..... 0 TO 2.5 VOLTS
- VIDEO OFFSET ..... 100mV MAXIMUM
- VSWR (RF) ..... 3:1 MAXIMUM
- MAXIMUM RF INPUT ..... +15dBm
- VIDEO LOAD ..... 50Ω MINIMUM
- DC POWER (NO LOAD)
  - +V ..... 9 TO 15V @ 100mA MAXIMUM
  - -V ..... 9 TO 15V @ 100mA MAXIMUM
- SIZE ..... 3.2" X 1.5" X 0.5"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... ALTERNATIVE LOG SLOPES, AS DESIRED
- A03 ..... ALTERNATIVE VIDEO BANDWIDTHS, AS DESIRED
- A04 ..... HIGH RF CW/PEAK POWER PROTECTION
- A05 ..... OTHER VIDEO LOADS
- A06 ..... EXTENDED DYNAMIC RANGE

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 2.9 OZ

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... -54C TO +85C (OPERATING)
  -65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN WSP	11/21/92
CHECKED	

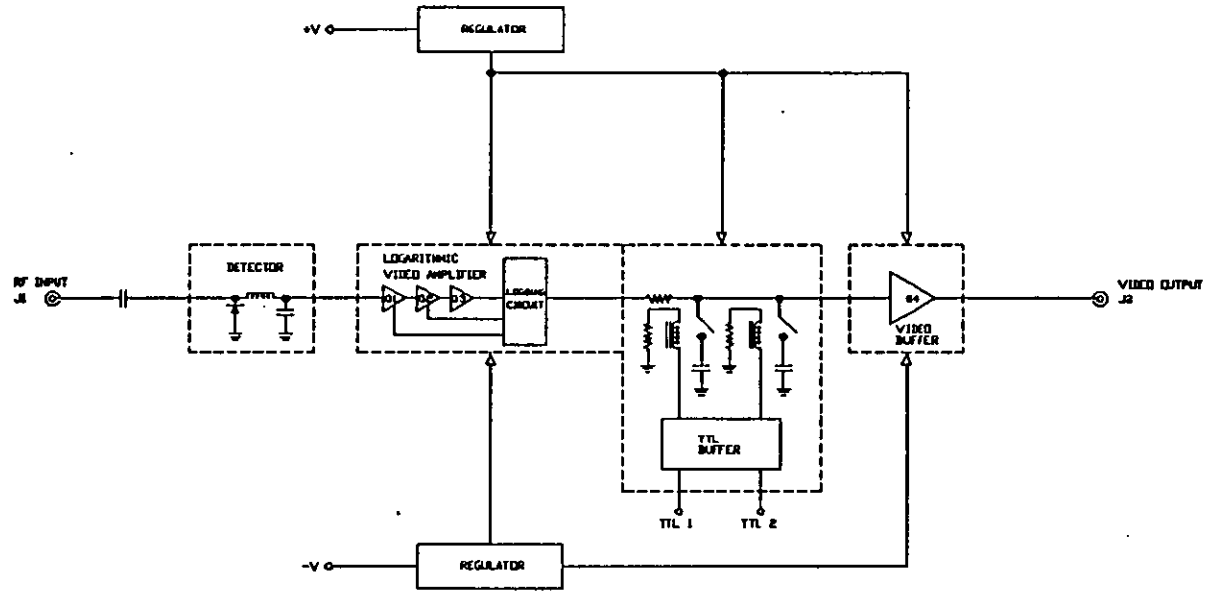
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVDS-0518-50

0.5 TO 18 GHz, 40/45dB DETECTOR LOG VIDEO AMPLIFIER (DLVA) WITH SWITCHABLE VIDEO FILTERING

FUNCTION L SCHEMATIC



4-2

	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938	
APPROVALS	DATE	PRODUCT FEATURE LVDS-0518-50 0.5 TO 18 GHz, 40/45dB DETECTOR LOG VIDEO AMPLIFIER (DLVA) WITH SWITCHABLE VIDEO FILTERING
DRAWN WSP	11/21/92	
CHECKED B. Baha	11/22/92	SIZE A / SHEET 2 OF 2 / DWG. # 100-2808

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 209247-1	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

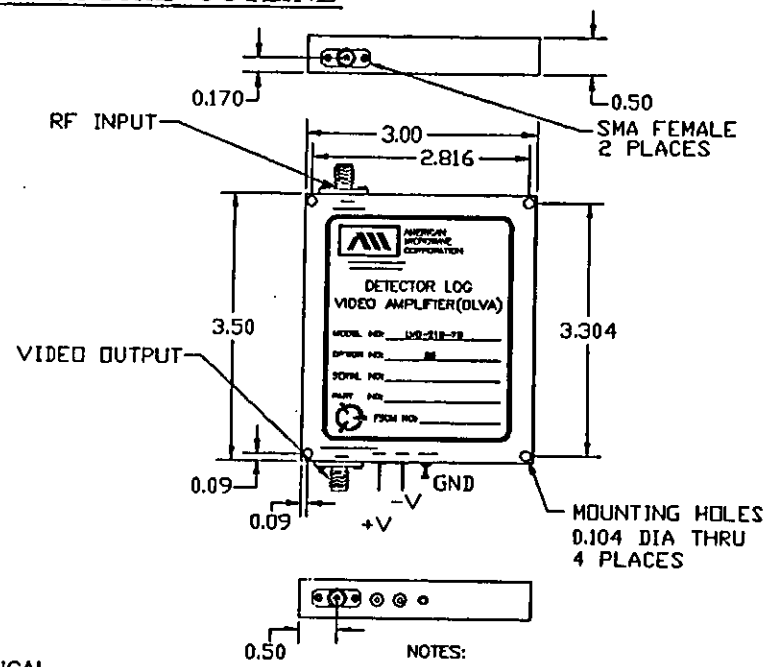
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 6 GHz
- FREQUENCY FLATNESS ..... ±1.75dB MAXIMUM, ±1.5dB TYPICAL
- TSS ..... -70dBm MINIMUM
- VSWR ..... 2.5:1 MAXIMUM
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB, ±1.5dB TYPICAL
- LOG SLOPE (±10% TOLERANCE) ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.75dB MAXIMUM (0°C TO 60°C), ±1.5dB TYPICAL
- RISE TIME (10% TO 90% POINTS) ..... 30nS MAXIMUM
- RECOVERY TIME ..... 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 15V @ 350mA MAXIMUM
  - -V ..... 15V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	OTHER SUPPLY VOLTAGES
A09	±1.0dB LOG LINEARITY
A10	±1.0dB FREQUENCY FLATNESS
A11	±1.5dB OUTPUT STABILITY
A12	-54°C TO +85°C OPERATION

MECHANICAL OUTLINE



NOTES:

1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3. WEIGHT: 7.2 OZ
4. UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN R.A	07/24/93
CHECKED	

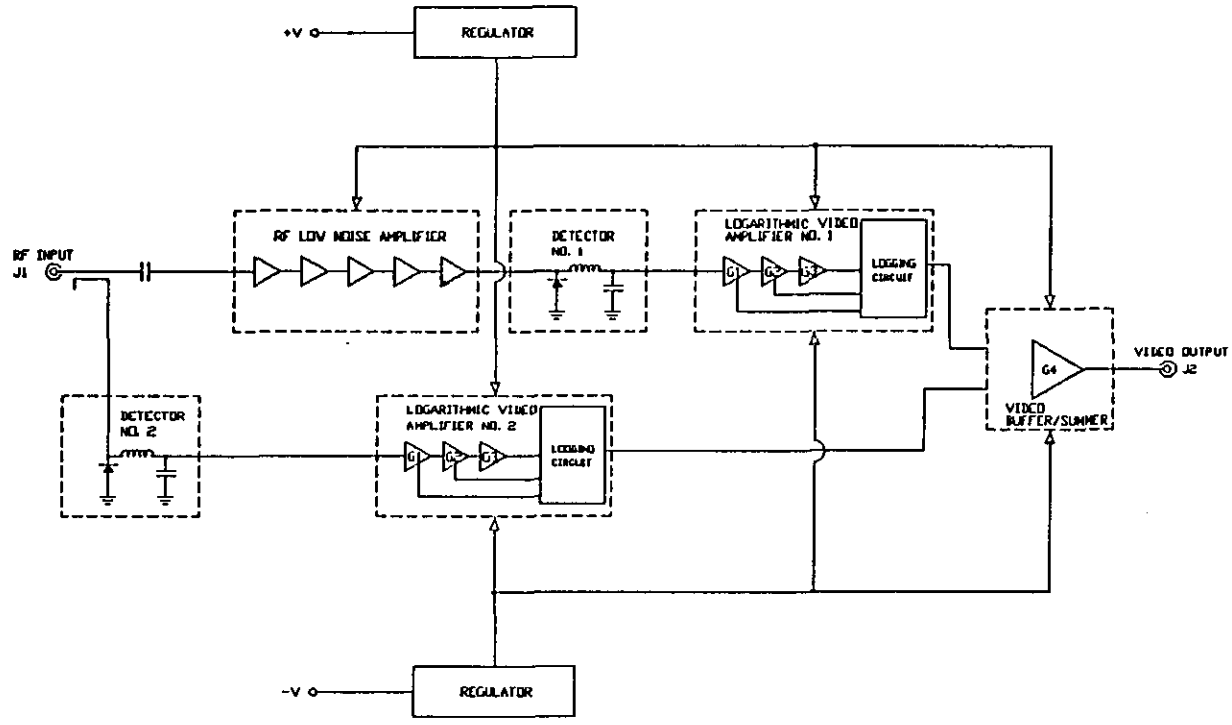
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 26)

2 TO 6 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-2

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	07/29/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 26)

2 TO 6 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3228

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 209247-2	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

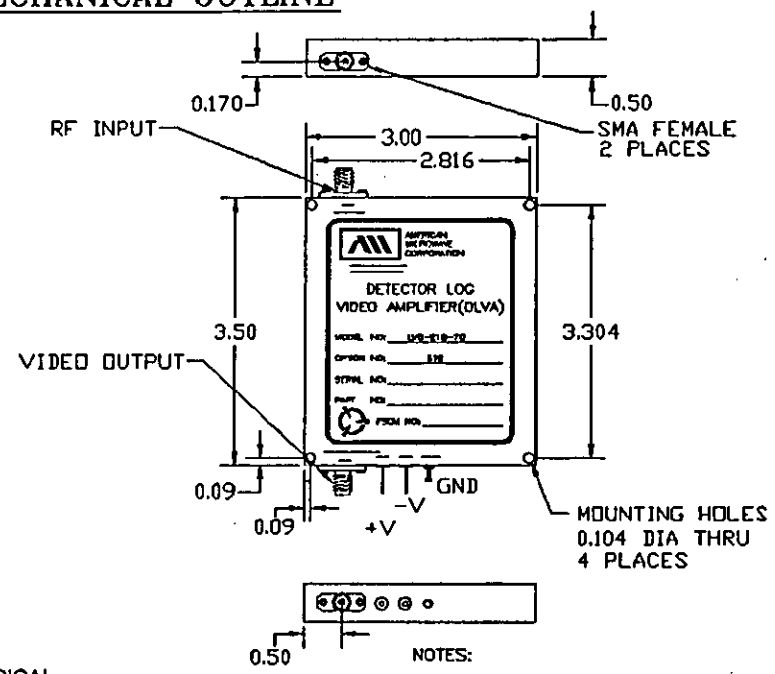
SPECIFICATIONS

- FREQUENCY RANGE ..... 6 TO 10 GHz
- FREQUENCY FLATNESS ..... ±1.75dB MAXIMUM, ±1.5dB TYPICAL
- TSS ..... -70dBm MINIMUM
- VSWR ..... 2.5:1 MAXIMUM
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB, ±1.5dB TYPICAL
- LOG SLOPE (±10% TOLERANCE) ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.75dB MAXIMUM (0°C TO 60°C), ±1.5dB TYPICAL
- RISE TIME (10% TO 90% POINTS) ..... 30nS MAXIMUM
- RECOVERY TIME ..... 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 15V @ 350mA MAXIMUM
  - -V ..... 15V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	OTHER SUPPLY VOLTAGES
A09	±1.0dB LOG LINEARITY
A10	±1.0dB FREQUENCY FLATNESS
A11	±1.5dB OUTPUT STABILITY
A12	-54°C TO +85°C OPERATION

MECHANICAL OUTLINE



NOTES:
1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3. WEIGHT: 7.2 OZ
4. UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN R.A	07/24/93
CHECKED	07/29/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

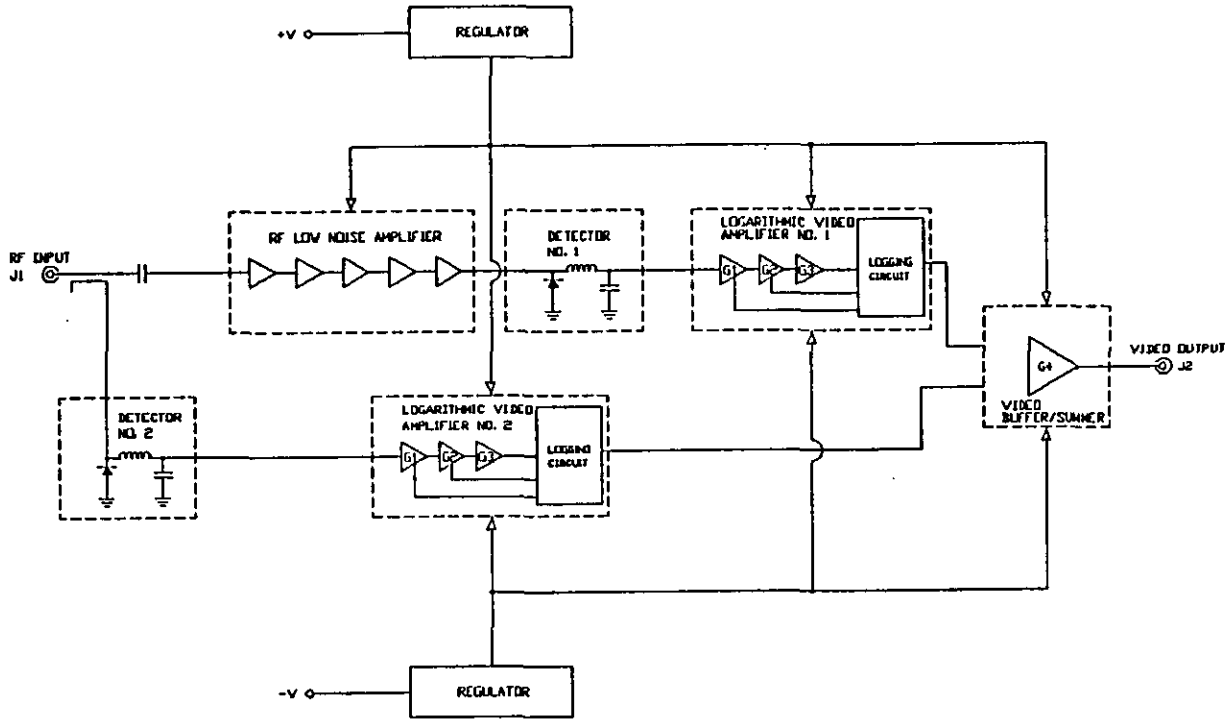
PRODUCT FEATURE

LVD-218-70/75 (OPTION 610)

6 TO 10 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG. # 100-3179

FUNCTIONAL BLOCK DIAGRAM



5-4

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/24/93	PRODUCT FEATURE LVD-218-70/75 (OPTION 610) 6 TO 10 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	8/24/93	SIZE A | SHEET 2 OF 2 | DWG. # 100-3179

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 209247-3	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

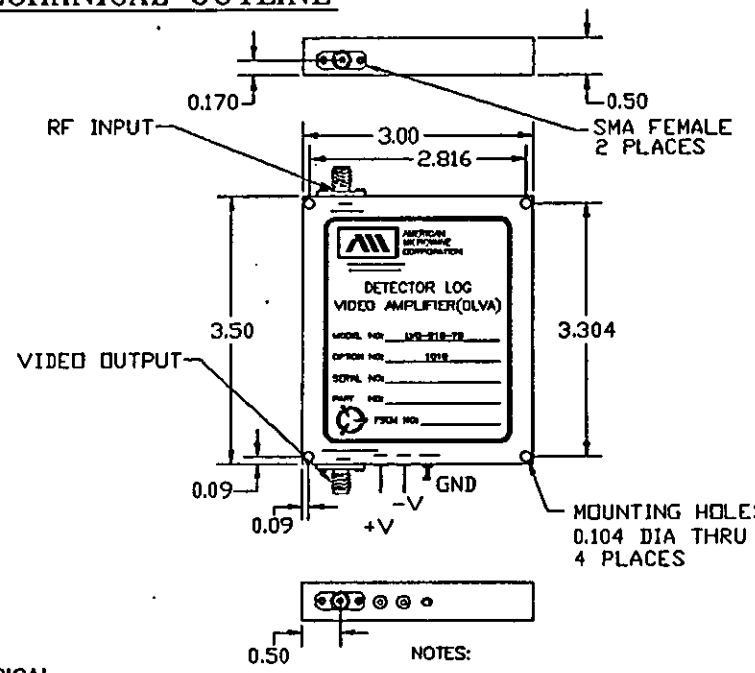
SPECIFICATIONS

- FREQUENCY RANGE ..... 10 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.75dB MAXIMUM, ±1.5dB TYPICAL
- TSS ..... -70dBm MINIMUM
- VSWR ..... 2.5:1 MAXIMUM
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB, ±1.5dB TYPICAL
- LOG SLOPE (±10% TOLERANCE) ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.75dB MAXIMUM (0°C TO 60°C), ±1.5dB TYPICAL
- RISE TIME (10% TO 90% POINTS) ..... 30nS MAXIMUM
- RECOVERY TIME ..... 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 15V @ 350mA MAXIMUM
  - -V ..... 15V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	OTHER SUPPLY VOLTAGES
A09	±1.0dB LOG LINEARITY
A10	±1.0dB FREQUENCY FLATNESS
A11	±1.5dB OUTPUT STABILITY
A12	-54°C TO +85°C OPERATION

MECHANICAL OUTLINE



NOTES:

1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3. WEIGHT: 7.2 OZ
4. UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	

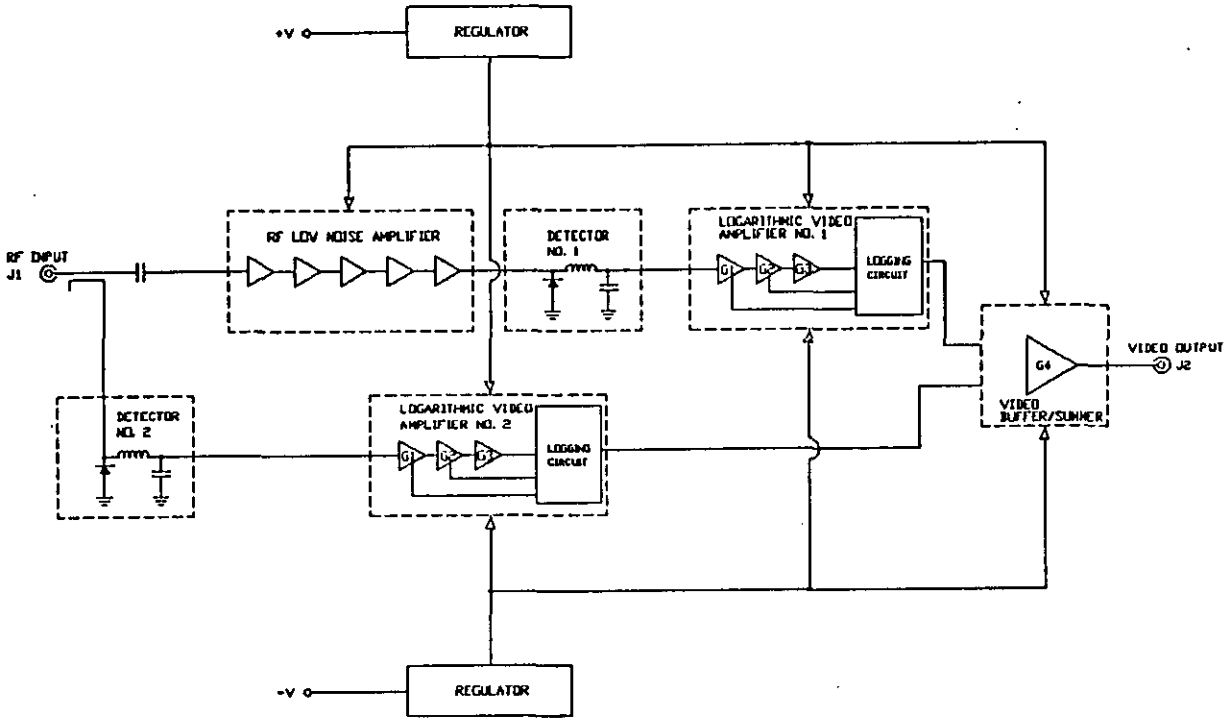
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 1018)

10 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-6

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/24/93	PRODUCT FEATURE LVD-218-70/75 (OPTION 1018) 10 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/24/93	SIZE A / SHEET 2 OF 2 / DWG. # 100-3227

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/22/92	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

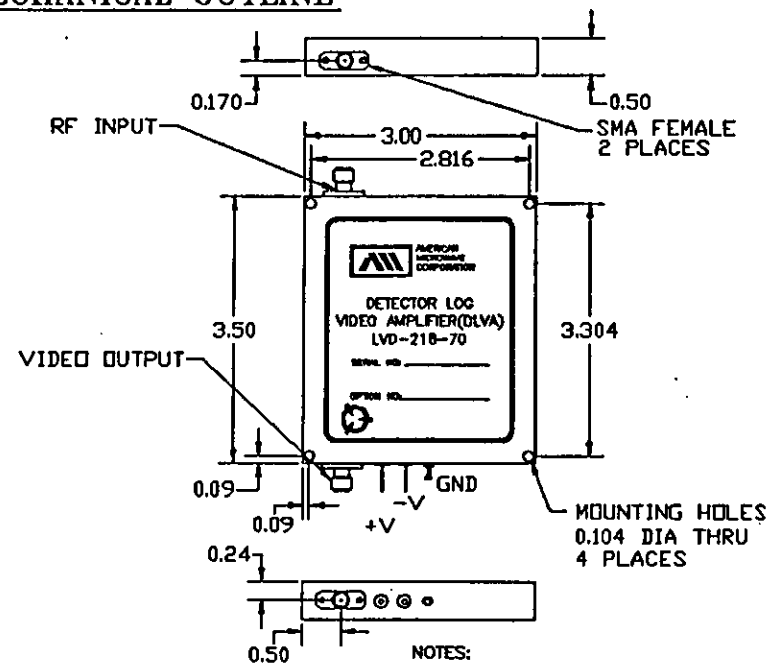
SPECIFICATIONS

- FREQUENCY RANGE ..... 6 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.75dB (±1.5dB TYPICAL)
- TSS ..... -70dBm (-72dBm TYPICAL)
- VSWR 2.5:1
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB (±1.5dB TYPICAL)
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.75dB (±1.5dB TYPICAL)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 200nS TYPICAL, 300nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (MINIMUM), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	11/22/92
CHECKED	

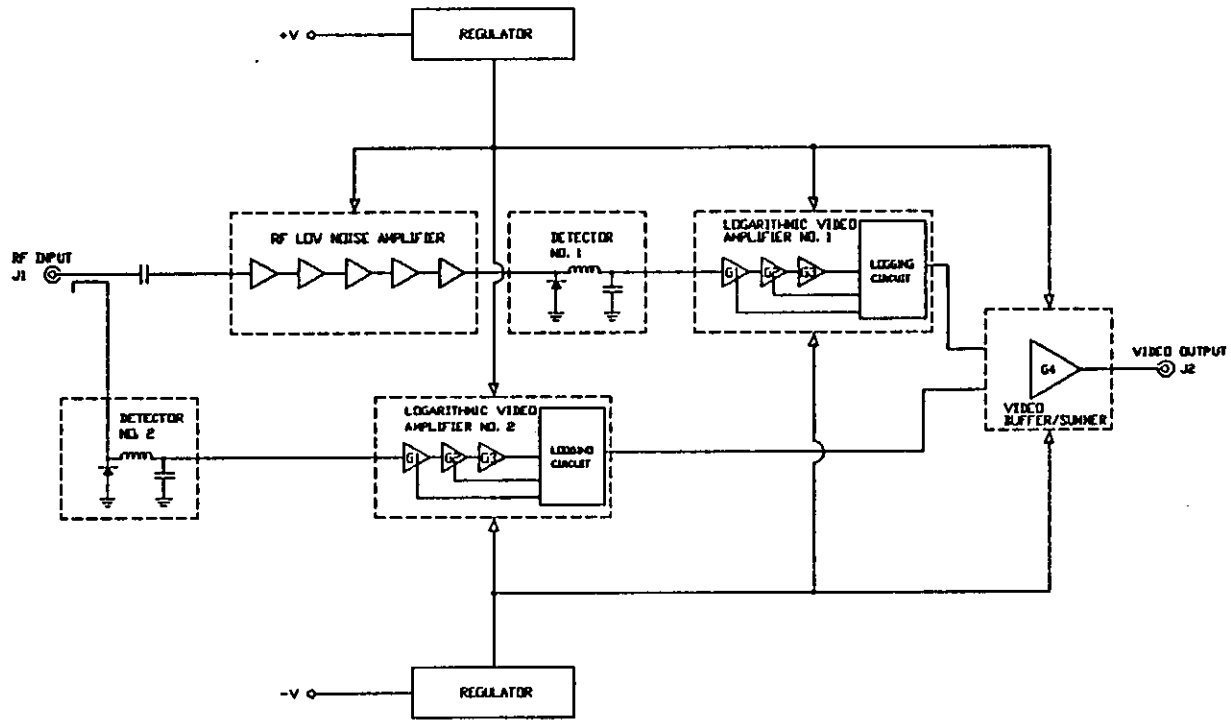
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 618)

6 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-8

APPROVALS	DATE
DRAWN RA	11/22/92
CHECKED	11/24/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 618)

6 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-3258

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 306139	07/31/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

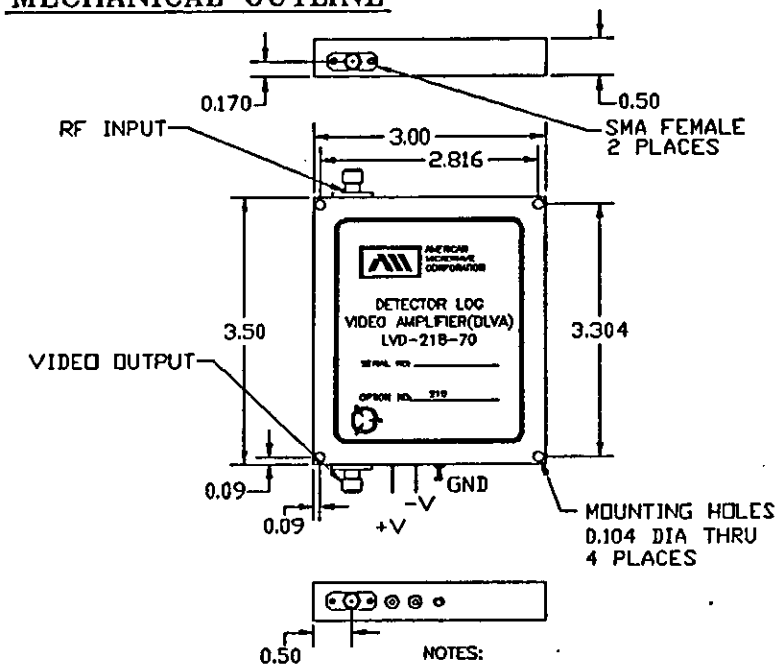
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 10 GHz
- FREQUENCY FLATNESS ..... ±1.75dB TYPICAL (±2.0dB MAXIMUM)
- TSS ..... -68dBm
- VSWR ..... 2.5:1 TYPICAL (2.75:1 MAXIMUM)
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB MAXIMUM (±1.5dB TYPICAL)
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.5dB MAXIMUM, ±1.0dB TYPICAL (0°C TO 50°C)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 250nS TYPICAL, 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA TYPICAL, 375mA MAXIMUM
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	-54°C TO +85°C WITH LOG TEMPERATURE STABILITY OF ±1.75dB MAXIMUM

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/31/93
CHECKED	

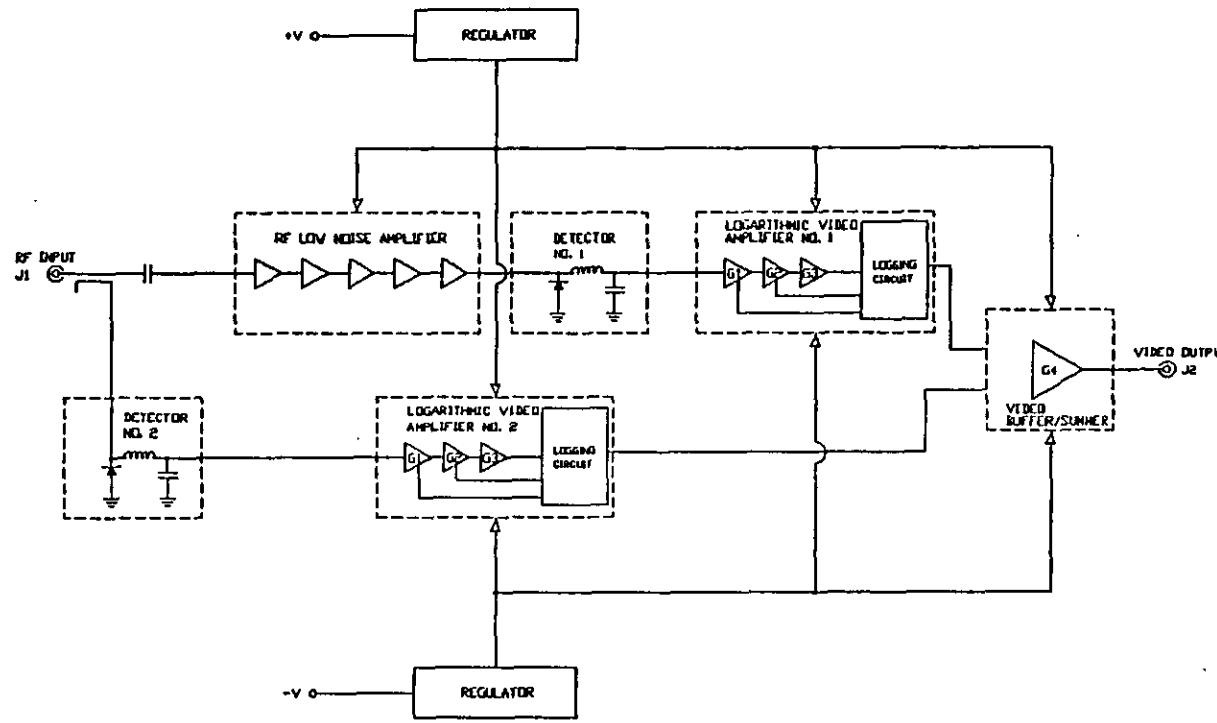
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 210)

2 TO 10 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-10

APPROVALS	DATE
DRAWN RA	07/31/95
CHECKED	08/10/95

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 210)

2 TO 10 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG # 100-3280

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 306129	11/22/92	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

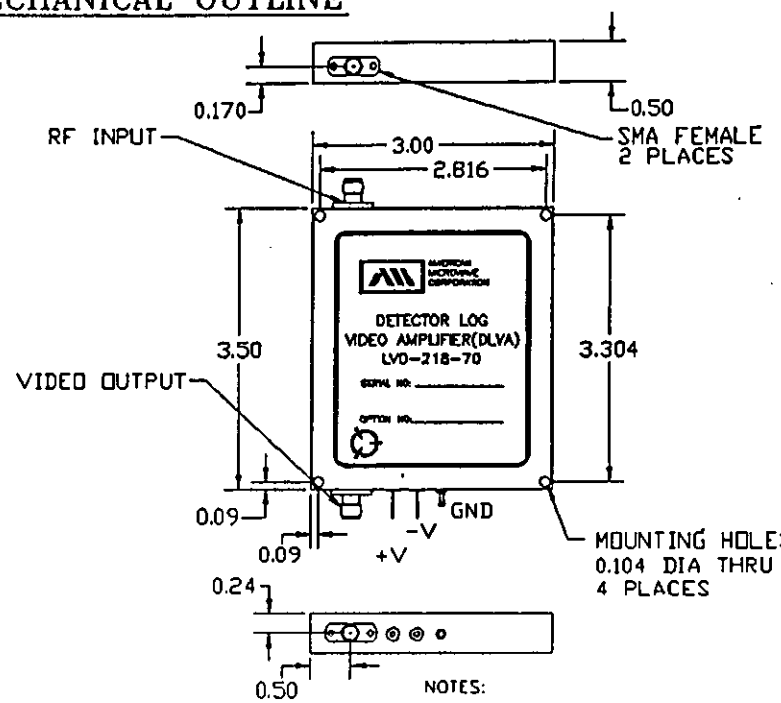
SPECIFICATIONS

- FREQUENCY RANGE ..... 2 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.75 (±1.5dB 6-18 GHz)
- TSS ..... -68dBm (-70dBm 6-18 GHz)
- VSWR 2.5:1
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB (±1.5dB 6-18 GHz)
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.75dB (±1.5dB 6-18 GHz)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 200nS TYPICAL, 300nS MAXIMUM
- VIDEO LOAD ..... 100 OHMS (Typical)
- DC POWER (NO LOAD)
  - +V ..... 15V @ 350mA
  - -V ..... 15V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:

1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN WSP	11/22/92
CHECKED	

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

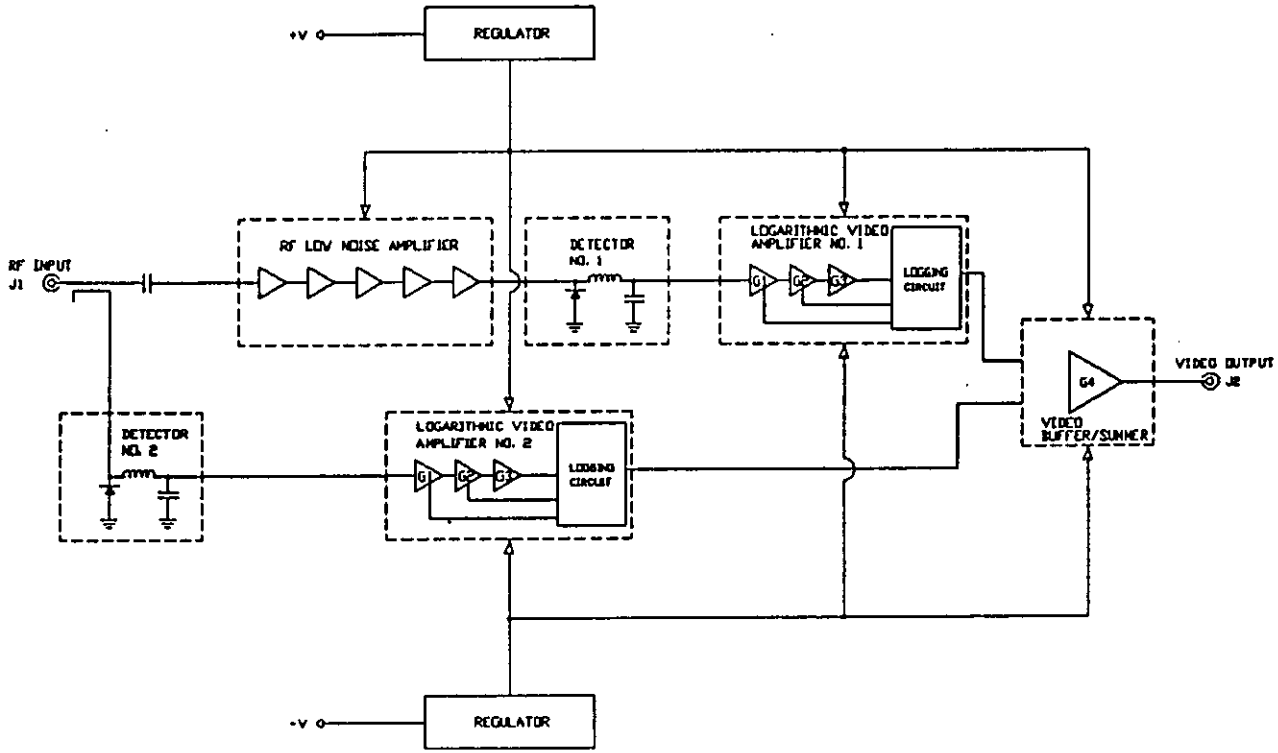
PRODUCT FEATURE

LVD-218-70/75

2 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 1 OF 2	DWG. # 100-2827

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE
DRAWN WJP	11/22/92
CHECKED	

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75

2 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-2827

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 307165	08/10/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 0.5-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

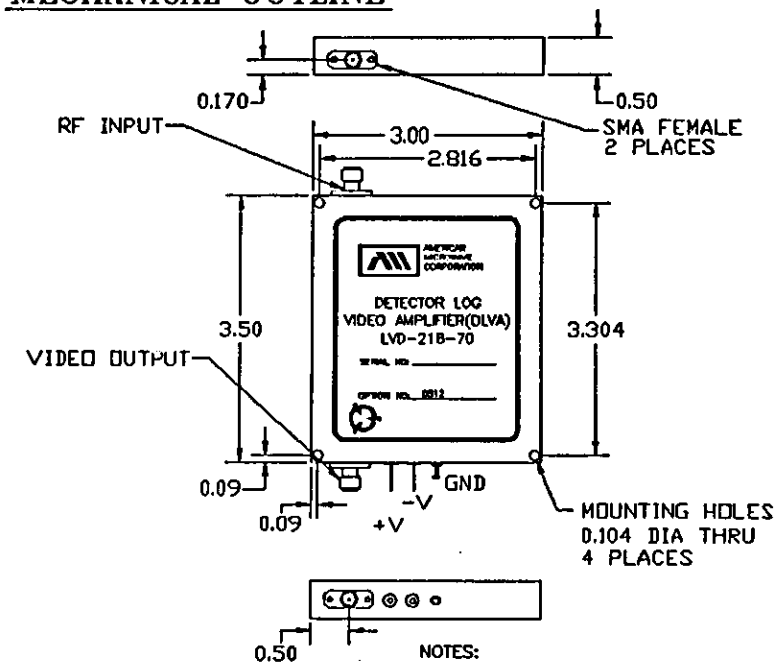
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 12 GHz
- FREQUENCY FLATNESS ..... ±2.0dB MAXIMUM
- TSS ..... -68dBm
- VSWR ..... 3.0:1 MAXIMUM (2.5:1 TYPICAL)
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.5dB (0°C TO 60°C)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 250nS TYPICAL, 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA TYPICAL, 375mA MAXIMUM
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS
- A08 ..... -54°C TO +85°C WITH LOG TEMPERATURE STABILITY OF ±1.75dB

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN R.A	08/10/93
CHECKED	

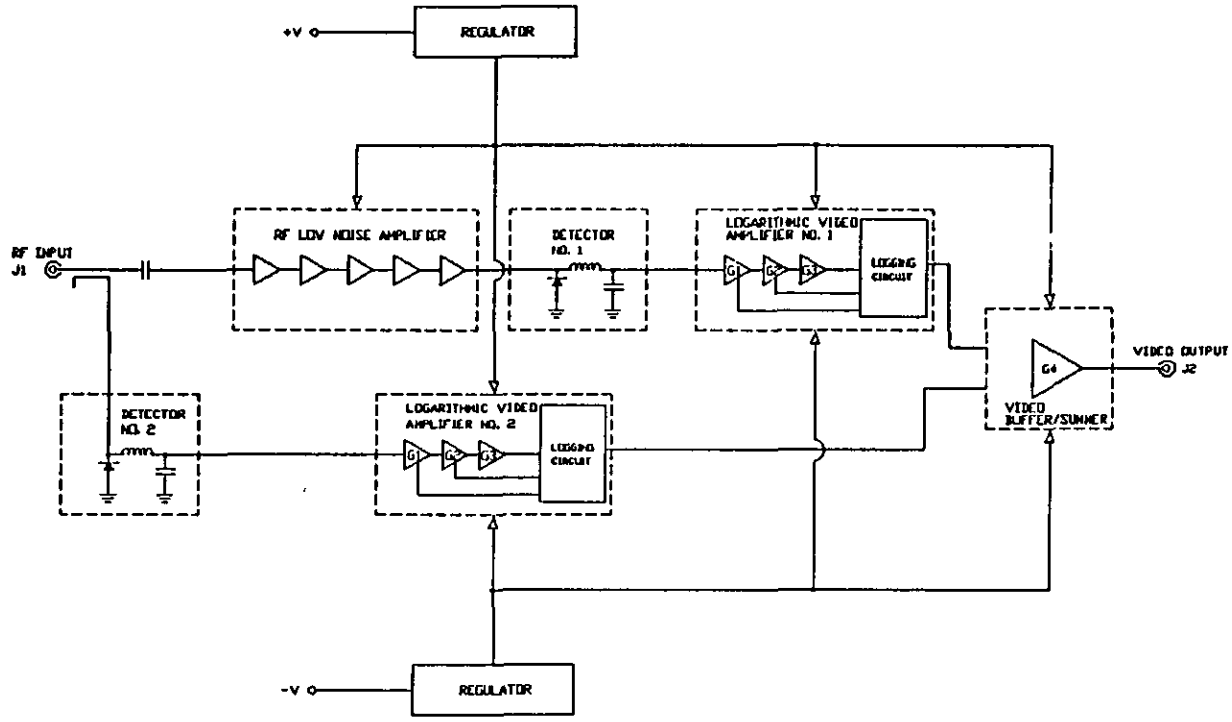
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 0512)

0.5 TO 12 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-14

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN R.A	08/10/93	PRODUCT FEATURE LVD-218-70/75 (OPTION 0512) 0.5 TO 12 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	08/10/93	SIZE A | SHEET 2 OF 2 | DWG. # 100-3279

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 307165	08/09/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 0.5-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

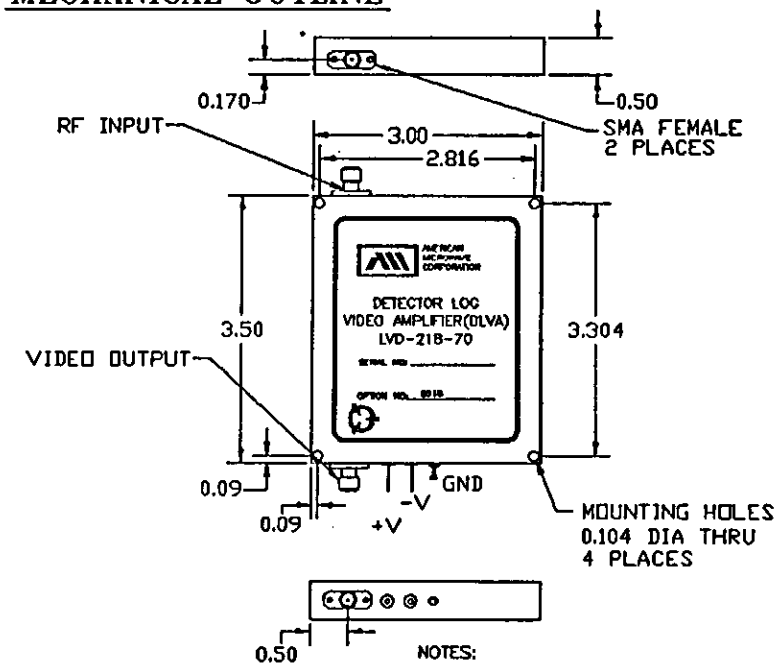
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS ..... ±2.0dB TYPICAL (±2.5dB MAXIMUM)
- TSS ..... -68dBm (-70dBm 6-18 GHz)
- VSWR ..... 3.0:1 MAXIMUM (2.5:1 TYPICAL)
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.5dB (0°C TO 60°C)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 250nS TYPICAL, 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA TYPICAL, 375mA MAXIMUM
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	-54°C TO +85°C WITH LOG TEMPERATURE STABILITY OF ±1.75dB

MECHANICAL OUTLINE



NOTES:

1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	08/09/93
CHECKED	

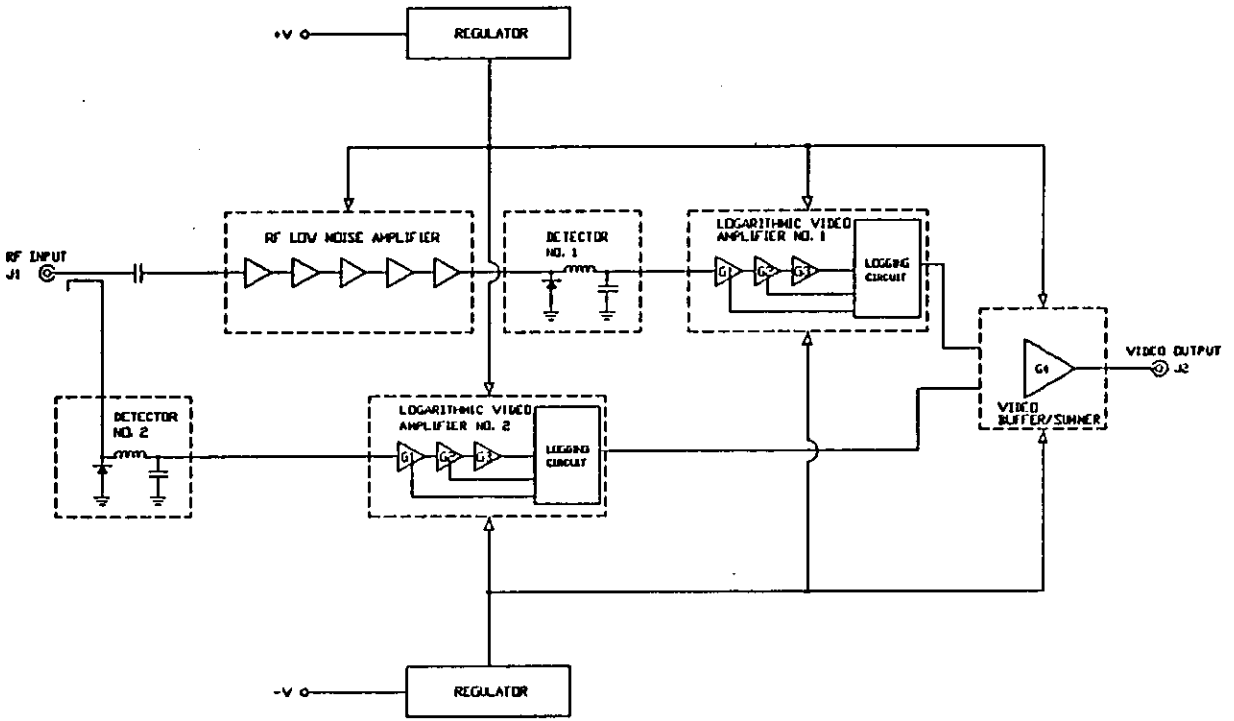
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 0518)

0.5 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-16

APPROVALS	DATE
DRAWN RA	08/09/93
CHECKED	08/10/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 0518)

0.5 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE	SHEET	DWG. #
A	2 OF 2	100-3278

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 0.2-20 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

SPECIFICATIONS

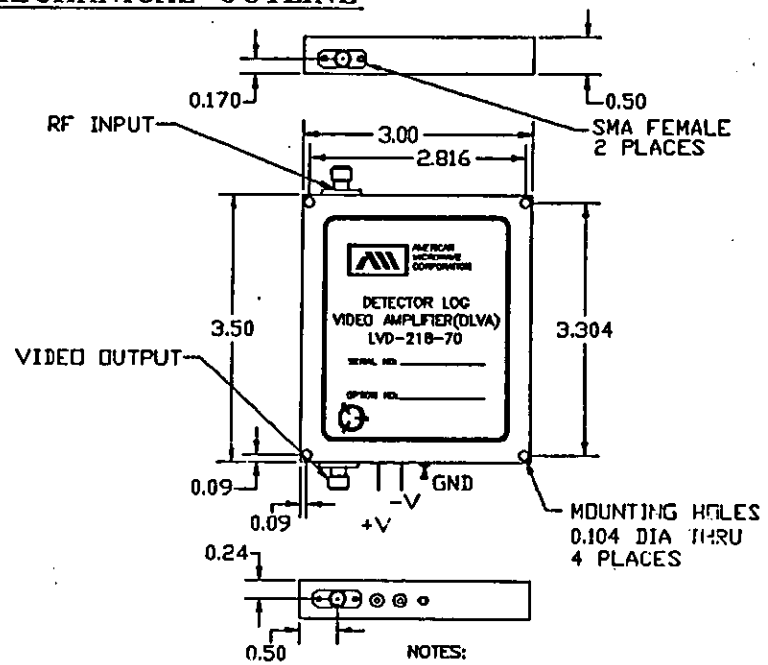
- FREQUENCY RANGE ..... 0.2 TO 20 GHz
- FREQUENCY FLATNESS ..... ±2.0dB (±1.75dB TYPICAL)
- TSS ..... -60dBm (-62dBm TYPICAL)
- VSWR 3.0:1
- DYNAMIC RANGE 70dB
- LOGGING RANGE ..... -65dBm TO +10dBm
- LOG LINEARITY ..... ±2.0dB
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±2.0dB (±1.75dB TYPICAL)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 200nS TYPICAL, 300nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (MINIMUM), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	2 TO 18 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/22/92	

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	11/22/92
CHECKED	

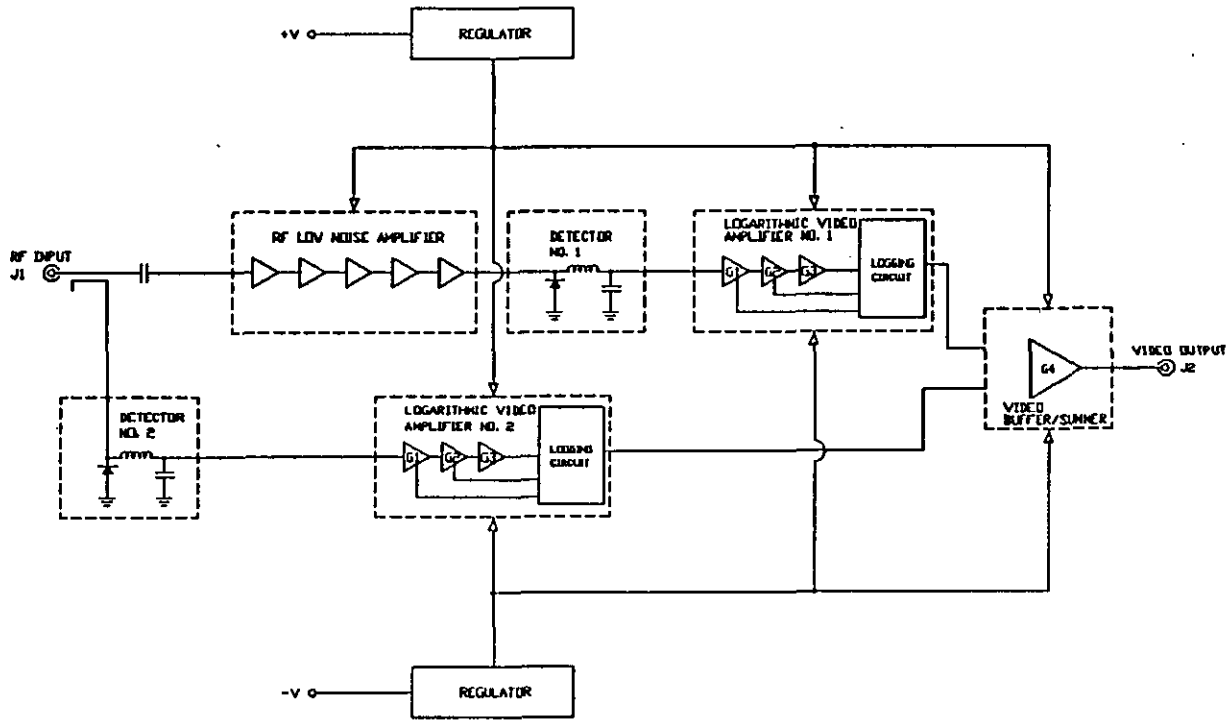
AMERICAN MICROWAVE CORPORATION
7311C GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 0220)

0.2 TO 20 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL BLOCK DIAGRAM



5-18

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN R.A	11/22/92	PRODUCT FEATURE LVD-218-70/75 (OPTION 0220) 0.2 TO 20 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	11/22/92	SIZE A / SHEET 2 OF 2 / DWG. # 100-3259

DESCRIPTION

THE LVD-218-70 (OPTION NI) SERIES DLVA'S HAVE EXTENDED DYNAMIC RANGE OVER THE FULL 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING AND WITH INTERNAL BUILT-IN CW/NOISE IMMUNE CIRCUITRY. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5: x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

SPECIFICATIONS

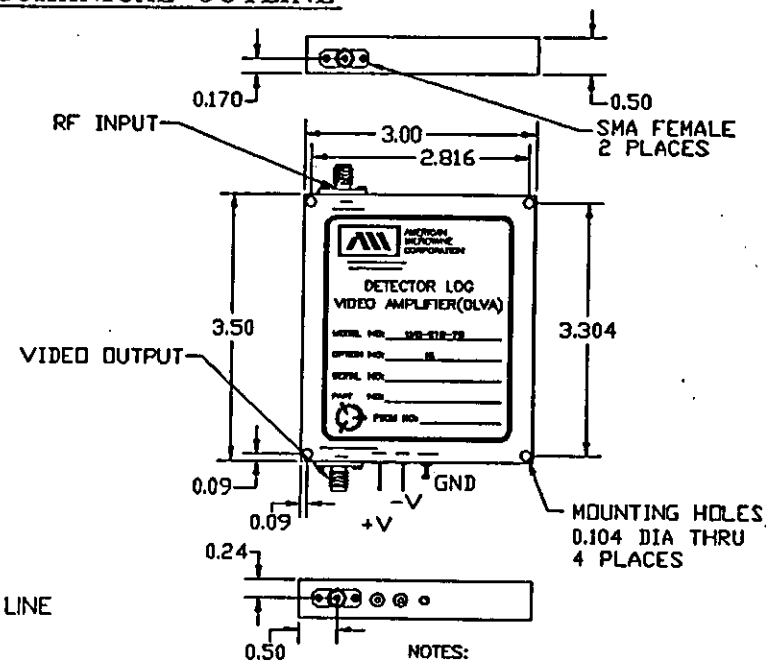
- FREQUENCY RANGE ..... 2 TO 18 GHz
- FREQUENCY FLATNESS ..... ±2.5dB MAXIMUM (±2.0dB TYPICAL)
- TSS ..... -68dBm MINIMUM
- VSWR ..... 2.5:1 MAXIMUM
- DYNAMIC RANGE ..... 68dB MINIMUM
- LOGGING RANGE ..... -68dBm TO 0dBm (MINIMUM)
- LOG LINEARITY ..... ±2.0dB MAXIMUM (±1.5 dB TYPICAL)
- LOG SLOPE ..... 70 ±5mV/dB
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM, SLOPE OF BEST FIT STRAIGHT LINE
- LOG LINEARITY @10 GHz ..... ±1.5dB MAXIMUM (±1.0dB TYPICAL)
- LOG LINEARITY OVER FREQUENCY ..... ±2.25dB MAXIMUM (±1.75dB TYPICAL)
- LOG TEMPERATURE STABILITY ..... ±1.75dB (MAXIMUMU) -54 TO +85°C
- RISE TIME (10% TO 90% POINTS) ..... 35nS TYPICAL, 40nS MAXIMUM
- RECOVERY TIME ..... 250nS TYPICAL, 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS, MINIMUM
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA MAXIMUM
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- CW IMMUNITY (OPTIONAL) ..... CANCELATION TO -46dBM (MINIMUM) FOR SIGNALS ≥ 100uS PULSE WIDTH OR CW
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	EXTERNAL CW IMMUNE CIRCUITRY
A09	COMPLEMENTARY VIDEO OUTPUTS

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 206151	07/24/93	

MECHANICAL OUTLINE



NOTES:

1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3. WEIGHT: 7.2 OZ
4. UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
- ..... -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B

TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

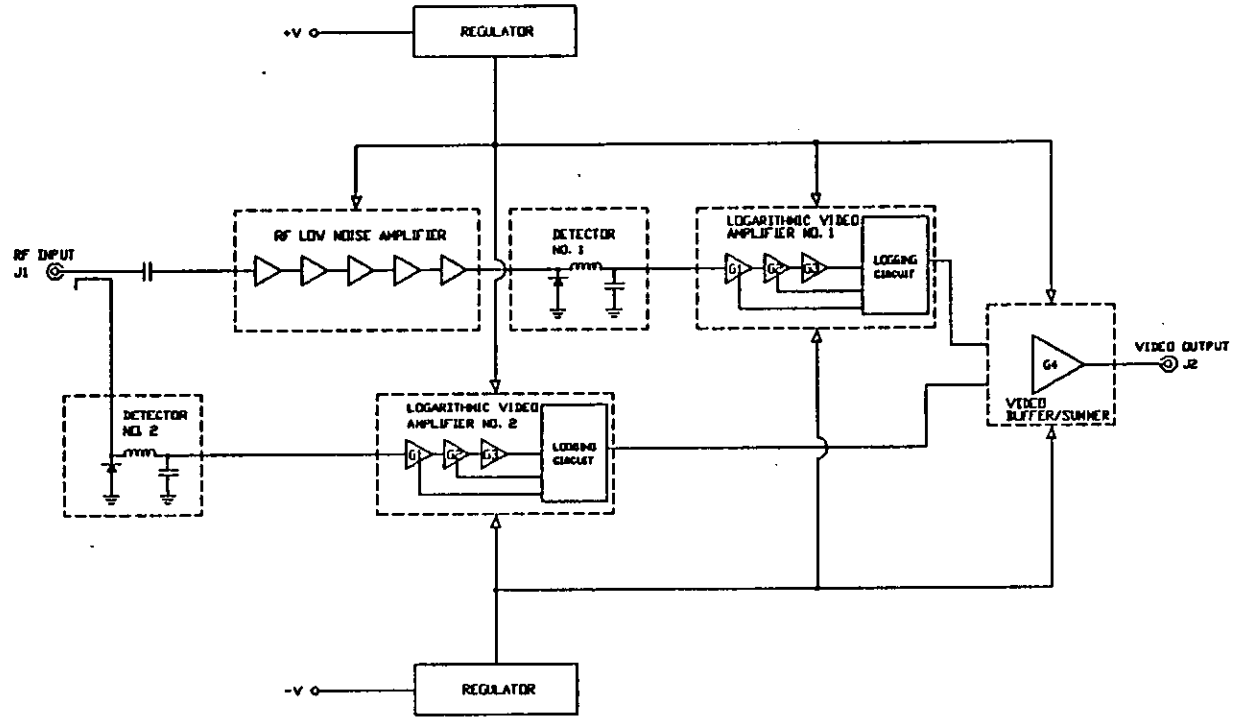
APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	

PRODUCT FEATURE

LVD-218-70/75 (OPTION NI)

2 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER WITH INTERNAL CW IMMUNE CIRCUITRY

FUNCTIONAL BLOCK DIAGRAM



6-2

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (3D1) 662-4700
DRAWN RA	07/24/93	PRODUCT FEATURE LVD-218-70/75 (OPTION NI) 2 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER WITH INTERNAL CW IMMUNE CIRCUITRY
CHECKED	07/24/93	SIZE A | SHEET 2 OF 2 | DWG. # 100-3178

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/12/92	

DESCRIPTION

AMC MODEL LVD-910-85 DETECTOR LOG VIDEO AMPLIFIER HAS A LOGGING RANGE OF -80 TO -40/-35dBm (TSS -82 dBm), FROM 9 TO 11 GHz, WITH LINEARITY ERROR OF LESS THAN ±0.5dB AND FREQUENCY FLATNESS OF ±1.0dB. OTHER OCTAVE OR 2-18 GHz BAND UNITS ARE AVAILABLE. RISE AND RECOVERY TIMES ARE 50 AND 300nS RESPECTIVELY. DC POWER REQUIREMENTS ARE ONLY +5V@90mA AND -5V@35mA. SIZE IS 1.3" x 2.3" x 0.3".

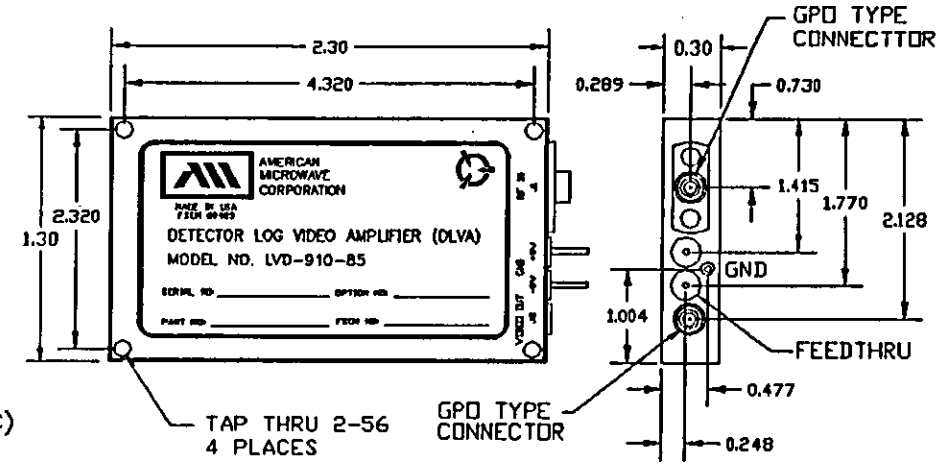
SPECIFICATIONS

- FREQUENCY RANGE ..... 9 TO 11 GHz
- FREQUENCY FLATNESS ..... ±1.0dB MAXIMUM
- LOGGING RANGE ..... -80 TO -40dBm
- LOG LINEARITY ERROR ..... ±0.5dB MAXIMUM
- LOG SLOPE 30mV/dB
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM (0° TO +60°C)
- VIDEO OFFSET ..... 50mV MAXIMUM
- PULSE RESPONSE ..... 100nS TO CW
- RISE TIME ..... 50nS MAXIMUM
- RECOVERY TIME ..... 300nS MAXIMUM
- TSS ..... -85dBm MINIMUM
- VSWR (RF) ..... 2:1 MAXIMUM
- POWER SUPPLY (NO VIDEO LOAD)
  - +V ..... 5VDC @ 90mA MAXIMUM
  - -V ..... 5VDC @ 35mA MAXIMUM
- VIDEO LOAD ..... 100Ω MINIMUM
- CONNECTORS
  - RF ..... GILBERT GPO #946-3
  - VIDEO ..... GILBERT GPO #944-3
  - POWER ..... SOLDER PIN
- SIZE ..... 2.3" X 1.3" X 0.3"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... ALTERNATE RF FREQUENCY RANGES
- A02 ..... IMPROVED TSS
- A03 ..... -54 TO +85C OPERATING TEMPERATURE
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... FASTER PULSE RESPONSE
- A06 ..... SMA (FEMALE) CONNECTORS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.5 OZ

ENVIRONMENTAL RATINGS

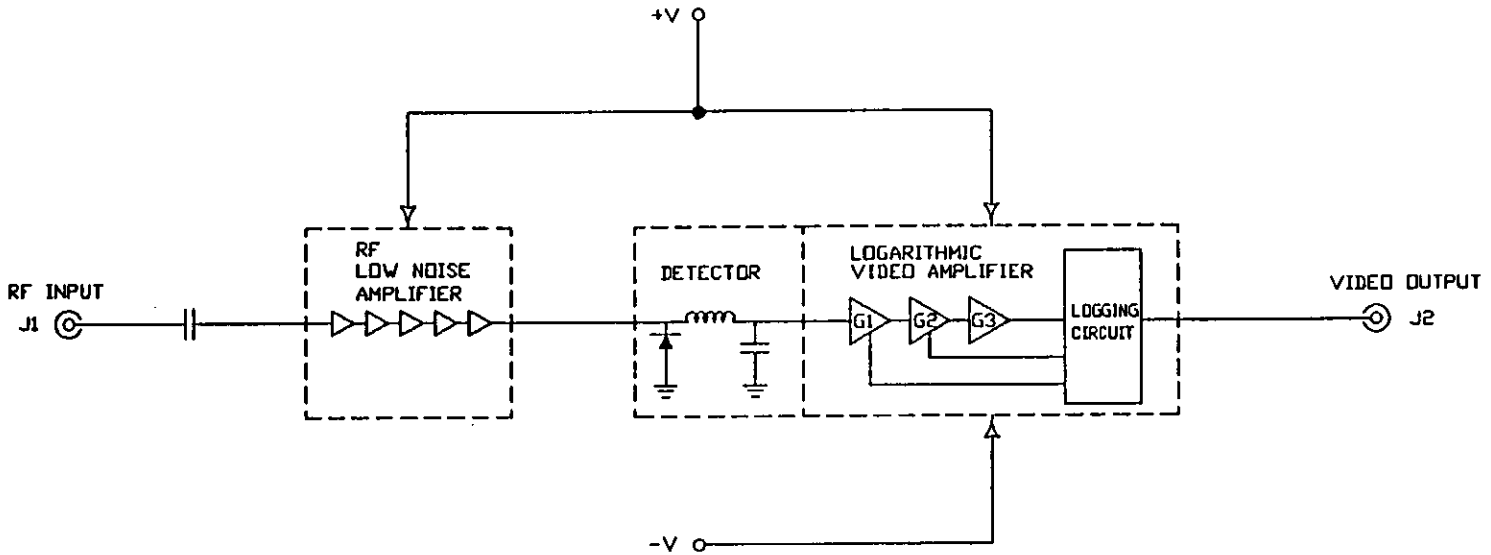
- TEMPERATURE ..... 0°C TO +60°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN WSP	11/12/92
CHECKED	

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
LVD-910-85
9 TO 11 GHz, HIGH EFFICIENCY, SMALL SIZE 40/45dB DLVA WITH PICOWATT SENSITIVITY

FUNCTIONAL SCHEMATIC



7-2

APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN WSP	11/12/92	PRODUCT FEATURE LVD-910-85 9 TO 11 GHz, HIGH EFFICIENCY, SMALL SIZE 40/45dB DLVA WITH PICOWATT SENSITIVITY
CHECKED		SIZE A | SHEET 2 OF 2 | DWG. # 100-2803

LVD-218-70(OPTION 15) DLVA WITH POSITIVE AND NEGATIVE COMPLIMENTARY OUTPUTS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 30364	07/24/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB DYNAMIC RANGE OVER THE RANGE OF 2-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

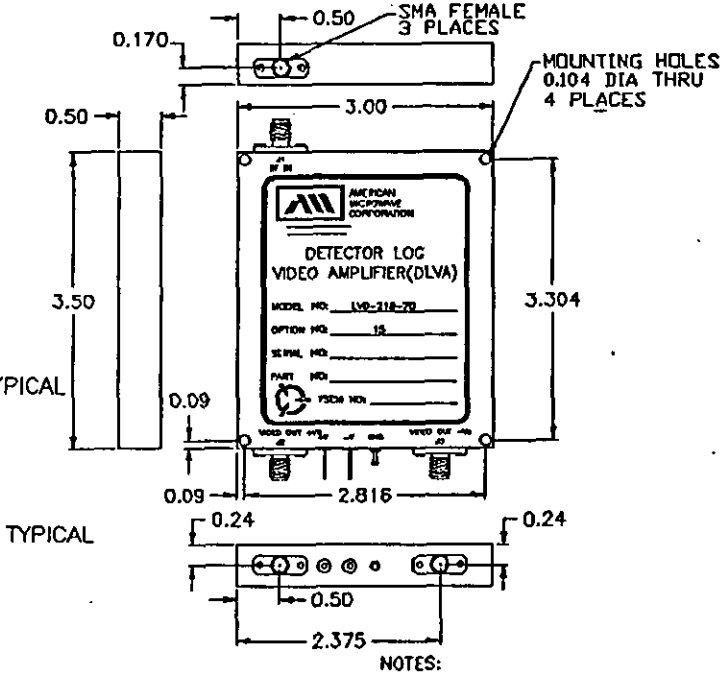
SPECIFICATIONS

- FREQUENCY RANGE ..... 15 GHz ±0.5 GHz
- FREQUENCY FLATNESS ..... ±1.50dB MAXIMUM (15GHz ±0.5GHz), ±1.0dB TYPICAL
- TSS ..... -80dBm (15 GHz ±0.5 GHz)
- VSWR ..... 2.5:1 MAXIMUM (@-20dBm, 15GHz ±0.5GHz), 2.0:1 TYPICAL
- LOGGING RANGE ..... -75 dBm TO -30dBm
- LOG LINEARITY ..... ±2.5dB MAXIMUM (-75dBM TO -30dBM), 1.5dB TYPICAL
- LOG SLOPE (POSITIVE) ..... 50mV/dB (±10% TOLERANCE IN 75 OHM LOAD)
- LOG SLOPE (NEGATIVE) ..... 50mV/dB (±10% TOLERANCE IN 75 OHM LOAD)
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±2.5dB (0°C TO 60°C), ±1.5dB TYPICAL
- RISE TIME (10% TO 90% POINTS) ..... 50nS TYPICAL
- RECOVERY TIME ..... 250nS TYPICAL (-80 TO -40 dBm)
- OUTPUT VIDEO SOURCE IMPEDANCE ..... 75 OHMS ±10% TOLERANCE
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 250mA MAXIMUM
  - -V ..... 9 TO 18V @ 100mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... ANY FREQUENCY VALUE IN THE 0.2 TO 20 GHz RANGE
- A02 ..... ±1dB FREQUENCY FLATNESS AT ANY FREQUENCY IN THE 0.2 TO 20 GHz RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS
- A08 ..... OTHER RF BANDWIDTH
- A09 ..... LOG LINEARITY OF ±1.5dB MAXIMUM
- A10 .....

MECHANICAL OUTLINE



NOTES:
1. DIMENSIONS ARE IN INCHES
2. TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3. WEIGHT: 7.2 OZ
4. UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	07/24/93
CHECKED	

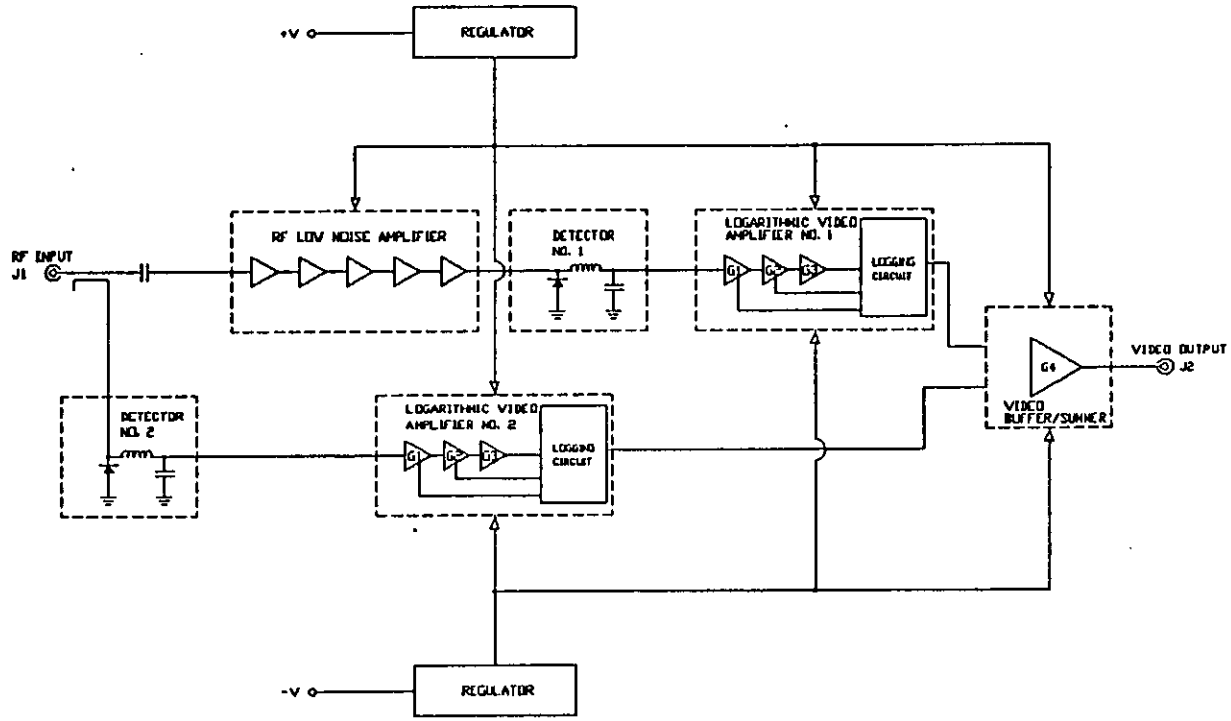
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 15)

15GHz ±0.5GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER WITH INVERTING(NEGATIVE) AND NON-INVERTING(POSITIVE) VIDEO OUTPUTS

FUNCTIONAL BLOCK DIAGRAM



7-4

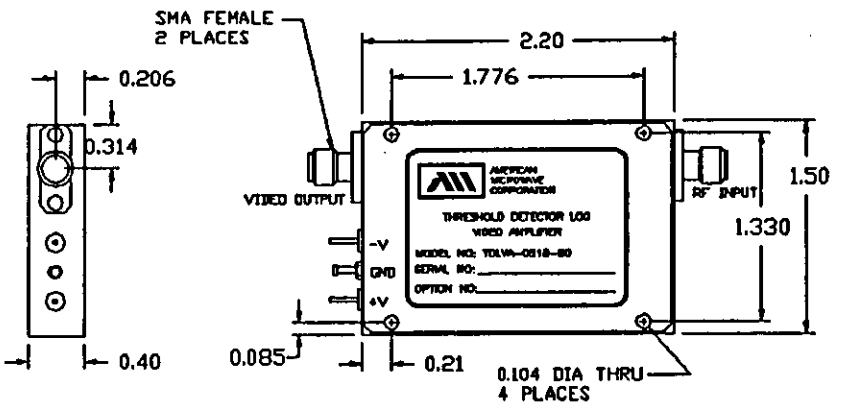
APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700
DRAWN R.A	07/24/93	PRODUCT FEATURE LVD-218-70/75 (OPTION 15) 1.5GHz ±0.5GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER WITH INVERTING(NEGATIVE) AND NON-INVERTING(POSITIVE) VIDEO OUTPUTS
CHECKED	07/24/93	SIZE A | SHEET 2 OF 2 | DWG. # 100-3180

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/12/92	

DESCRIPTION

AMC MODEL TDLVA-0518-50 HAS 30/35dB LOGGING DYNAMIC RANGE WITH THRESHOLD DETECTION CAPABILITY. VIDEO OUTPUT BELOW THRESHOLD IS WITHIN ±20mV DC AND WITH A NOISE LEVEL OF UNDER 25mV RMS. LOGGING ABOVE THRESHOLD IS INSTANTANEOUS WITH A DYNAMIC RANGE OF 30/35dB MINIMUM. DIFFERENT THRESHOLD LEVELS FROM −35dBm TO −10dBm ARE AVAILABLE WITH A TYPICAL INPUT VSWR OF 1.5:1. LOG LINEARITY ABOVE THRESHOLD IS ±0.5dB (−55°C TO +85°C) WITH ±1.0dB LOG STABILITY. AMC'S TDLVA'S OFFER PULSE RESPONSE FROM 50nS TO CW AND WITH RISE TIMES OF 20nS AND RECOVERY TIMES OF UNDER 50nS. FREQUENCY RANGE IS 0.5 TO 18 GHz, WITH FLATNESS OF ±1.0dB TYPICAL. SIZE OF THE UNIT IS 2.2" x 1.5" x 0.4".

MECHANICAL OUTLINE



SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.0dB MAXIMUM
- THRESHOLD ..... −35dBm ±1.0dB TOLERANCE (OVER TEMPERATURE ±1.5dB)
- LOGGING RANGE ..... −35 TO 0 dBm (NOMINAL)
- USEFUL RANGE ..... −35 TO +5dBm
- LOG LINEARITY ERROR ..... ±0.5dB MAXIMUM
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.0dB MAXIMUM (−54° TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME ..... 20nS MAXIMUM
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 50nS MAXIMUM
- VSWR ..... 2:1 MAXIMUM
- VIDEO OUTPUT
  - DC ..... ±20mV MAXIMUM (BELOW THRESHOLD)
  - AC ..... 25mV RMS MAXIMUM (BELOW THRESHOLD)
- VIDEO LOAD ..... 50Ω MINIMUM
- MAXIMUM RF INPUT ..... +15dBm
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 75mA MAXIMUM
  - −V ..... 9 TO 18V @ 75mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- **TEMPERATURE** ..... −54°C TO +85°C (OPERATING)
  −65°C TO +100°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

OPTIONS (SPECIFY)

- A01 ..... ALTERNATE THRESHOLD LEVELS −35 TO −10dBm
- A02 ..... 0.2 TO 20 GHz RF EXTENDED FREQUENCY RANGE
- A03 ..... ALTERNATE LOG SLOPE
- A04 ..... HIGH RF CW/PEAK POWER PROTECTION

APPROVALS	DATE
DRAWN WJP	11/12/92
CHECKED /	/ /

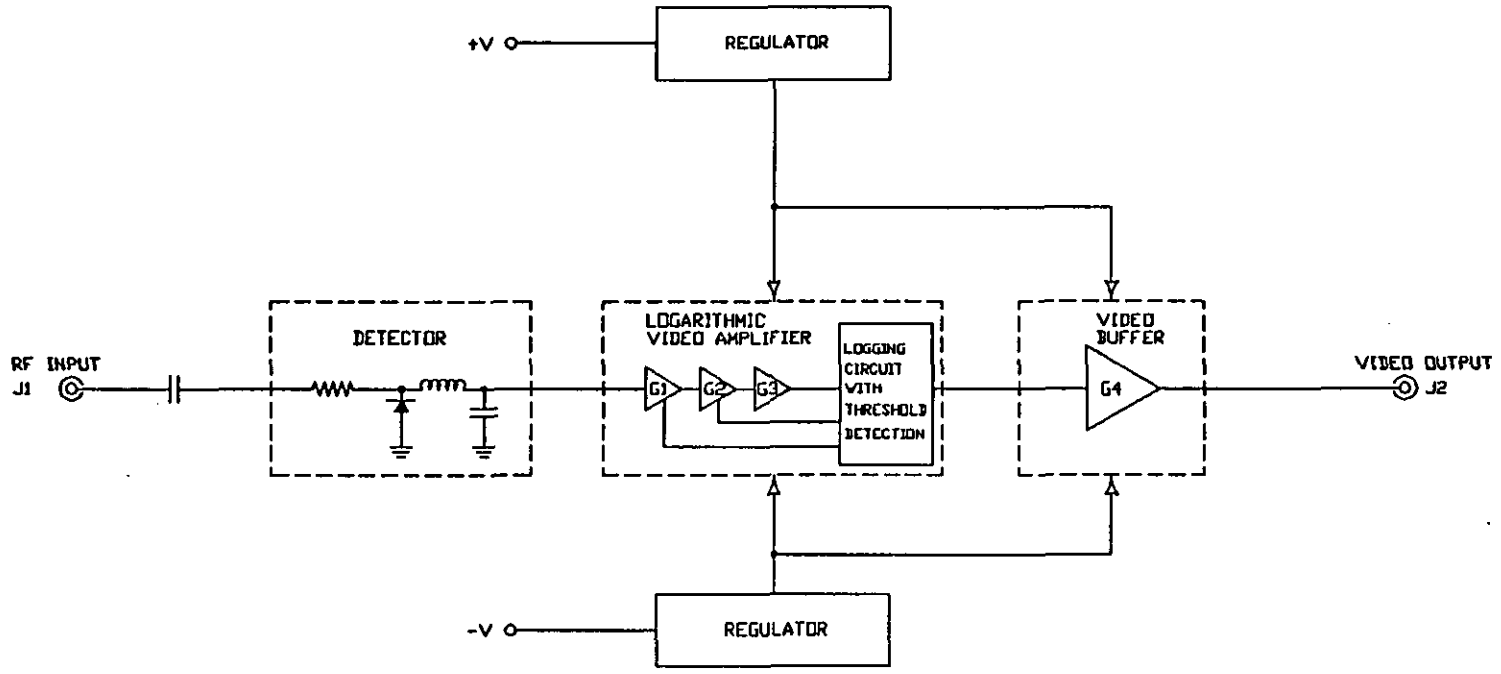
AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

TDLVA-0518-50

0.5 TO 18 GHz, 30/35dB THRESHOLD DETECTOR LOG VIDEO AMPLIFIER

FUNCTIONAL SCHEMATIC



8-2

APPROVALS	DATE
DRAWN WYP	11/12/92
CHECKED B. Baha	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

TDLVA-0518-50

0.5 TO 18 GHz, 30/35dB THRESHOLD DETECTOR LOG VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-2810

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/22/92	

DESCRIPTION

AMC MODEL DVA-50 PROVIDES A LINEAR AMPLIFIED VIDEO OUTPUT VOLTAGE PROPORTIONAL TO THE INPUT RF VOLTAGE, WHERE THE VIDEO OUTPUT = K x VIN. (A TYPICAL VALUE FOR K IS 6, FOR A VIDEO OUTPUT BETWEEN 0 AND 5 VOLTS.) THIS UNIT OPERATES FROM 6 TO 18 GHz WITH TYPICAL TRANSFER LAW LINEARITY OF ±0.5dB BETWEEN INPUT POWER LEVELS OF −5 AND +15dBm. FREQUENCY FLATNESS OVER THE 6 TO 18 GHz RANGE IS ±1.5dB WITH A SIGNAL TO NOISE RATIO GREATER THAN 60db AT −5dBm INPUT POWER. INPUT VSWR IS BETTER THAN 2.0:1. CURRENT DRAW IS UNDER 30mA PER SUPPLY BETWEEN ±9 AND ±18 VOLTS. SIZE IS 2.2" x 1.5" x 0.4".

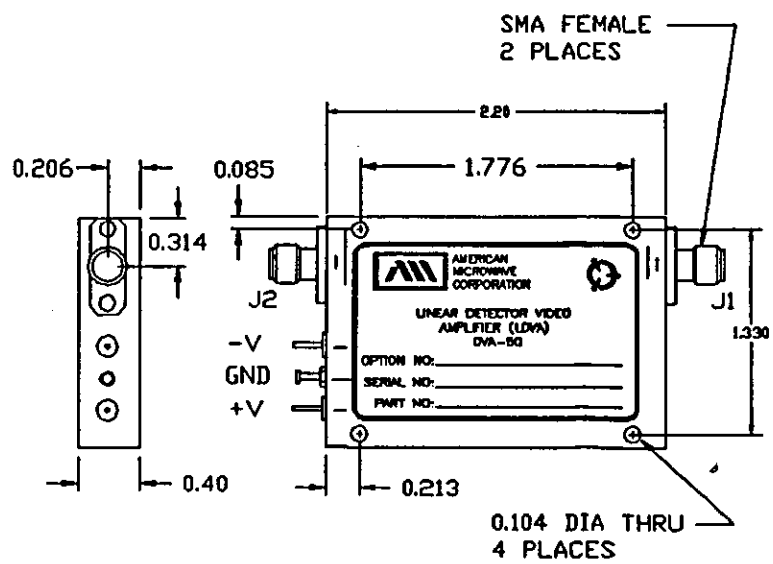
SPECIFICATIONS

- FREQUENCY RANGE ..... 6 TO 18 GHz
- FREQUENCY FLATNESS ..... ±1.5dB MAXIMUM
- VSWR (RF) ..... 2:1 MAXIMUM
- INPUT POWER RANGE ..... −5 TO +15 dBm
- MAXIMUM INPUT POWER ..... +20dBm
- VIDEO OUTPUT ..... 0 TO 5 VOLTS MAXIMUM
- VIDEO LOAD ..... 50Ω MINIMUM
- SIGNAL TO NOISE RATIO ..... 60dB MINIMUM, @ −5 dBm INPUT
- OUTPUT LINEARITY ..... ±0.5dB TYPICAL, ±0.7 MAXIMUM
- RISE TIME ..... 20nS MAXIMUM
- FALL TIME ..... 50nS MAXIMUM
- BASELINE STABILITY ..... ±10mV
- OUTPUT STABILITY ..... ±0.75dB MAXIMUM (0 TO 60°C)
- DC POWER (NO VIDEO LOAD)
  - +V ..... +9 TO 18 VOLTS @ 30mA MAXIMUM
  - −V ..... −9 TO 18 VOLTS @ 30mA MAXIMUM
- CONNECTORS
  - RF INPUT/VIDEO OUTPUT ..... SMA (FEMALE)
  - POWER SUPPLY ..... SOLDER PIN
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED FREQUENCY RANGE (0.5 TO 18 GHz)
A02	−54° TO +85° OPERATING TEMPERATURE
A03	ALTERNATE VIDEO TRANSFER GAIN
A04	OTHER RISE/FALL TIMES

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 2.9 OZ

ENVIRONMENTAL RATINGS

• TEMPERATURE	0°C TO +60°C (OPERATING) −65°C TO +100°C (STORAGE)
• HUMIDITY	MIL-STD-202F, METHOD 103B COND.
• SHOCK	MIL-STD-202F, METHOD 213B COND.
• VIBRATION	MIL-STD-202F, METHOD 204D COND.
• ALTITUDE	MIL-STD-202F, METHOD 105C COND.
• TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D COND.

APPROVALS	DATE
DRAWN WSP	11/22/92
CHECKED B.B.	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

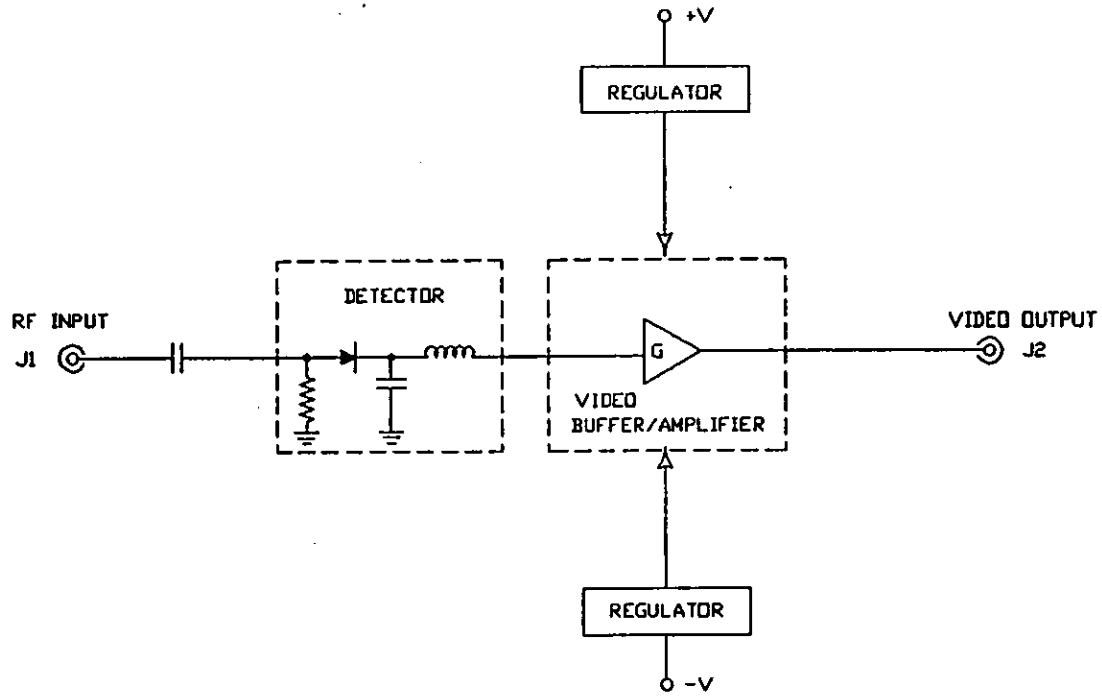
PRODUCT FEATURE

DVA-50

6 TO 18 GHz, DC-COUPLED LINEAR DETECTOR VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG. # 100-2836

FUNCTIONAL SCHEMATIC



9-2

APPROVALS	DATE
DRAWN WSP	11/22/92
CHECKED B. B.	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
DVA-50
6 TO 18 GHz, DC-COUPLED LINEAR DETECTOR VIDEO AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-2836

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11/21/92	

DESCRIPTION

AMC MODEL VA-100 IS A HIGH SPEED VIDEO BUFFER AMPLIFIER WHICH OFFERS EXCELLENT SIGNAL FIDELITY IN A 50 OHM SYSTEM. THE -3dB BANDWIDTH IS DC TO 120 MHz WITH LINEAR PHASE/AMPLITUDE CHARACTERISTICS. SLEW RATE LIMITING OCCURS AT 2000 V/µS, WITH SETTLING TIME OF UNDER 15 nS TO 0.2% AND A MAXIMUM OF 15% FOR 0 TO 2V STEP. INPUT AND OUTPUT CONNECTORS ARE SMA (FEMALE) WITH VSWR OF 1.5:1 MAXIMUM AND OPERATING RANGE IS -54°C TO +85°C. UNIT OPERATES FROM ±9V TO ±18V @ ±25mA. SIZE IS 3.0" x 2.0" x 1.0".

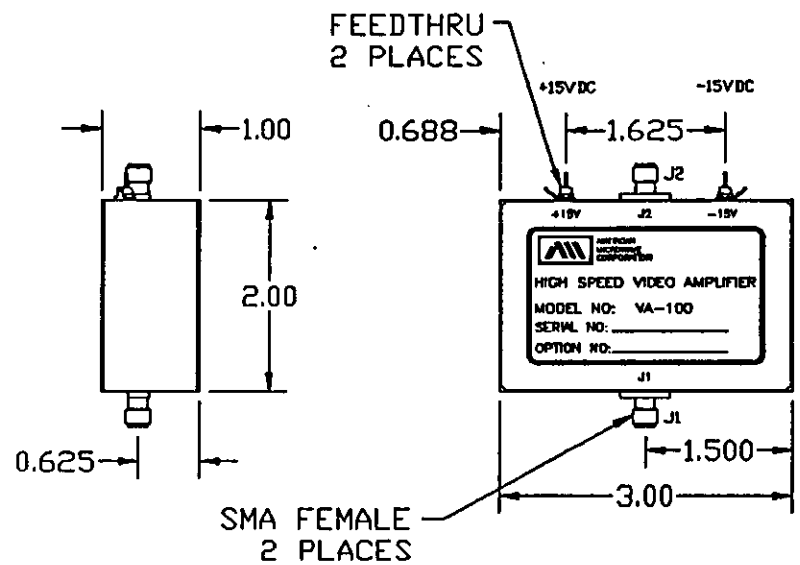
SPECIFICATIONS

- GAIN ..... 1.00 ±2.5% (DC)
- -3dB BANDWIDTH ..... 120MHz (MINIMUM)
- SLEW RATE ..... 2000 V/µS (MINIMUM)
- RISE TIME (0 TO 2V STEP) ..... 3nS (MAXIMUM)
- OVERSHOOT ..... 15% (MAXIMUM)
- SETTLING TIME ..... 15nS (MAXIMUM TO 0.2%)
- DC OFFSET ..... ±25mV (MAXIMUM)
- INPUT/OUTPUT IMPEDANCE ..... 50Ω (NOMINAL)
- INPUT/OUTPUT VSWR ..... 1.5:1 (MAXIMUM)
- POWER SUPPLY (QUIESCENT)
  - +V ..... 9 TO 18V @ 25mA (MAXIMUM)
  - -V ..... 9 TO 18V @ 25mA (MAXIMUM)
- PROPAGATION DELAY (DC TO 100MHz) ..... 3nS (MAXIMUM)
- SIZE ..... 3.0" X 2.0" X 1.0"

OPTIONS

A01 ..... AVAILABLE GAIN TO 3X
A02 ..... MATCHING TO ALTERNATE LOADS INPUT/OUTPUT

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 6.48 OZ

ENVIRONMENTAL RATINGS

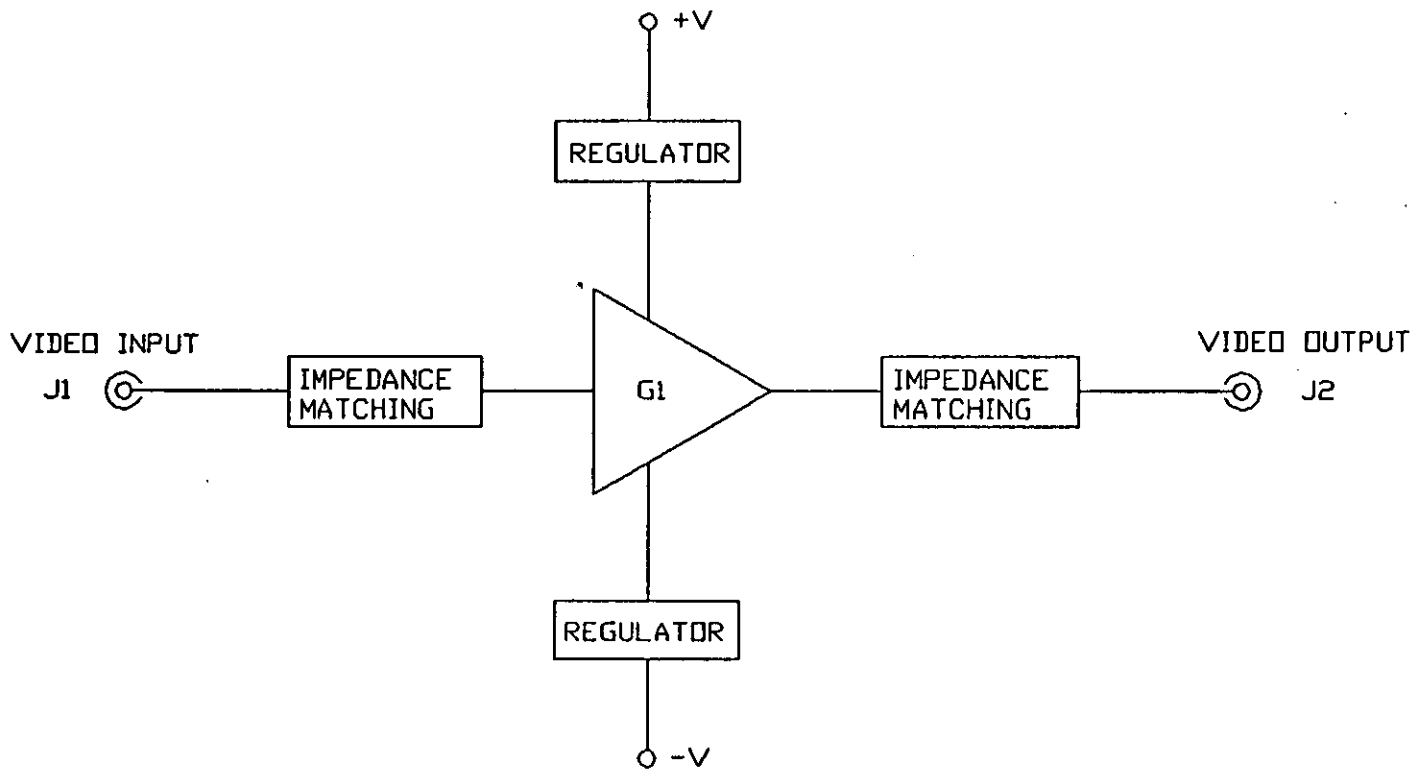
- **TEMPERATURE** ..... -54°C TO +85°C (OPERATING)
  -65°C TO +125°C (STORAGE)
- **HUMIDITY** ..... MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** ..... MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** ..... MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** ..... MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** ..... MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN WSP	11/21/92
CHECKED	

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
VA-100
DC TO 120 MHz, HIGH SPEED VIDEO BUFFER AMPLIFIER

FUNCTIONAL SCHEMATIC



10-2

APPROVALS	DATE
DRAWN WSP	11/21/92
CHECKED BBuber	11/22/92

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

VA-100

DC TO 120 MHz, HIGH SPEED VIDEO BUFFER AMPLIFIER

SIZE A	SHEET 2 OF 2	DWG. # 100-2802

TEST DATA

ON

100 MHz TO 18 GHz

45dB DYNAMIC RANGE

DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

MODEL No: LVD-218-50A-0118

(Serial No: DL50210)

BY
AMERICAN MICROWAVE CORPORATION

MARCH 11, 1995

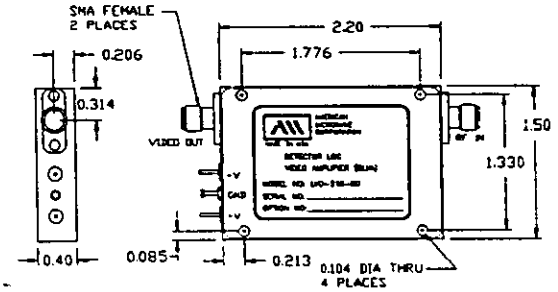
7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

AMERICAN MICROWAVE CORPORATION

100MHz TO 18GHz 45dB DYNAMIC RANGE DETECTOR LOG VIDEO AMPLIFIER

(DLVA)

- TRULY DC-COUPLED
- 40/45dB DYNAMIC RANGE
- ULTRA-WIDE BANDWIDTHS
- SHORT RECOVERY TIMES
- FAST RISE TIMES
- SMALL SIZE



AMC MODEL No: LVD-218-50-0118

SPECIFICATIONS:

FREQUENCY RANGE	: 100MHz TO 18.0 GHz
TSS	: -40dBm MIN.
INPUT VSWR	: 3.0:1 @ -20dBm (0.1 to 18.0GHz)
FLATNESS	: ±1.0dB MAX. @ -20dBm (0.1 to 18.0GHz)
LOG SLOPE	: 50mV/dB (Other Slopes Available)
SLOPE ACCURACY	: ±4% OF AVERAGE SLOPE
LOG LINEARITY	: ±1.0dB MAX.(@-40dBm TO 0dBm)
RISE TIME	: 20nS MAX.(10% TO 90% POINTS)
SETTLING TIME	: 45nS MAX.
RECOVERY TIME	: 200nS Typical (300nS MAX.)
OUTPUT STABILITY	: ±1.0dB MAX. (-54°C TO +85°C)
DC POWER SUPPLY	: +15vdc @ 120mA MAX. (Other Voltages Available)
	: -15vdc @ 80mA MAX.
RF INPUT POWER	: +13dBm MAX.
SIZE	: 1.5" X 2.2" X 0.4"

OTHER FREQUENCY BANDWIDTHS AVAILABLE

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

FORM: DLVA-66/0295

AMERICAN MICROWAVE CORPORATION

JOB NO: 50229

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: ARCATA
JOB NO: 50229
MODEL NO: LVD-218-50A
SERIAL NO: DL 50210

TESTED BY: B.B.
TEMPERATURE: -54°C TO +85°C
DATE: 3/2/95

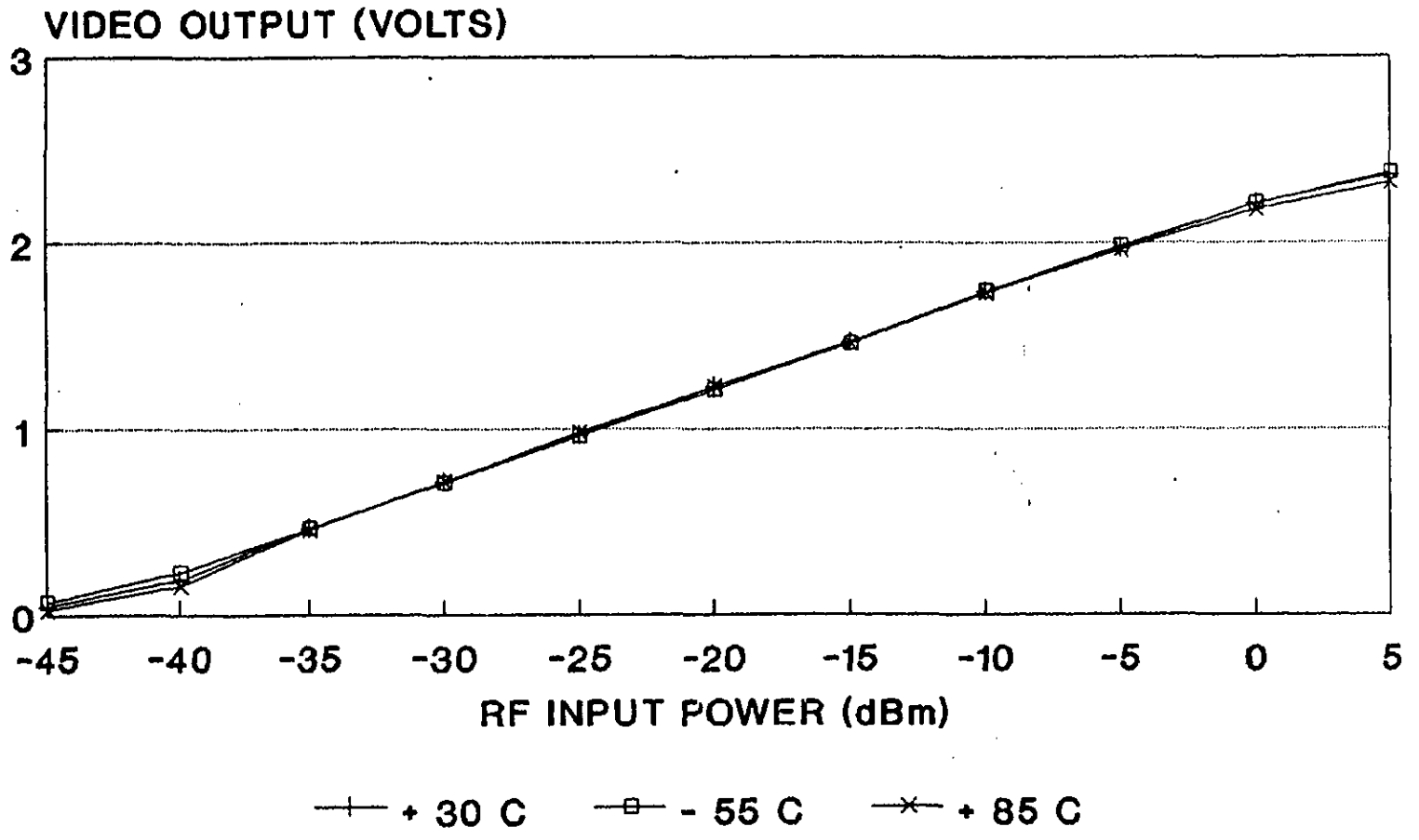
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (0.1 - 18 GHz)	3.0:1	2.9:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to 0 dBm	PLOT ATTACHED	0.2 TO 2.2 VOLTS	
3	TSS (0.1 - 18 GHz)	-40 dBm (min)	-42dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	49 to 52 mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.0 dB (max)	-0.87dB	
6	FREQUENCY FLATNESS (0.1 - 18 GHz) @ -20 dBM	±1.0 dB (max)	±0.5dB	
7	RECOVERY TIME (typical) -40 to 0 dBm	150 nS TYP 200 nS (max)	200nSEC	
8	OUTPUT STABILITY (-54°C to +85°C)	±1.0 dB (max)	±0.7dB	
9	RISE TIME (10% TO 90% POINTS)	20 nS (max)	18nSEC	
10	D.C. POWER @ +15 V	120 mA (max)	67mA	
11	D.C. POWER @ -15 V	80 mA (max)	61mA	

PRODUCTION MANAGER APPROVAL: R. Afeld DATED: 3/2/95

QA/QC APPROVAL: NS DATED: 3/2/95

LVD-218-50A: S/N DL50210
LOG TRANSFER
WITH TEMPERATURE

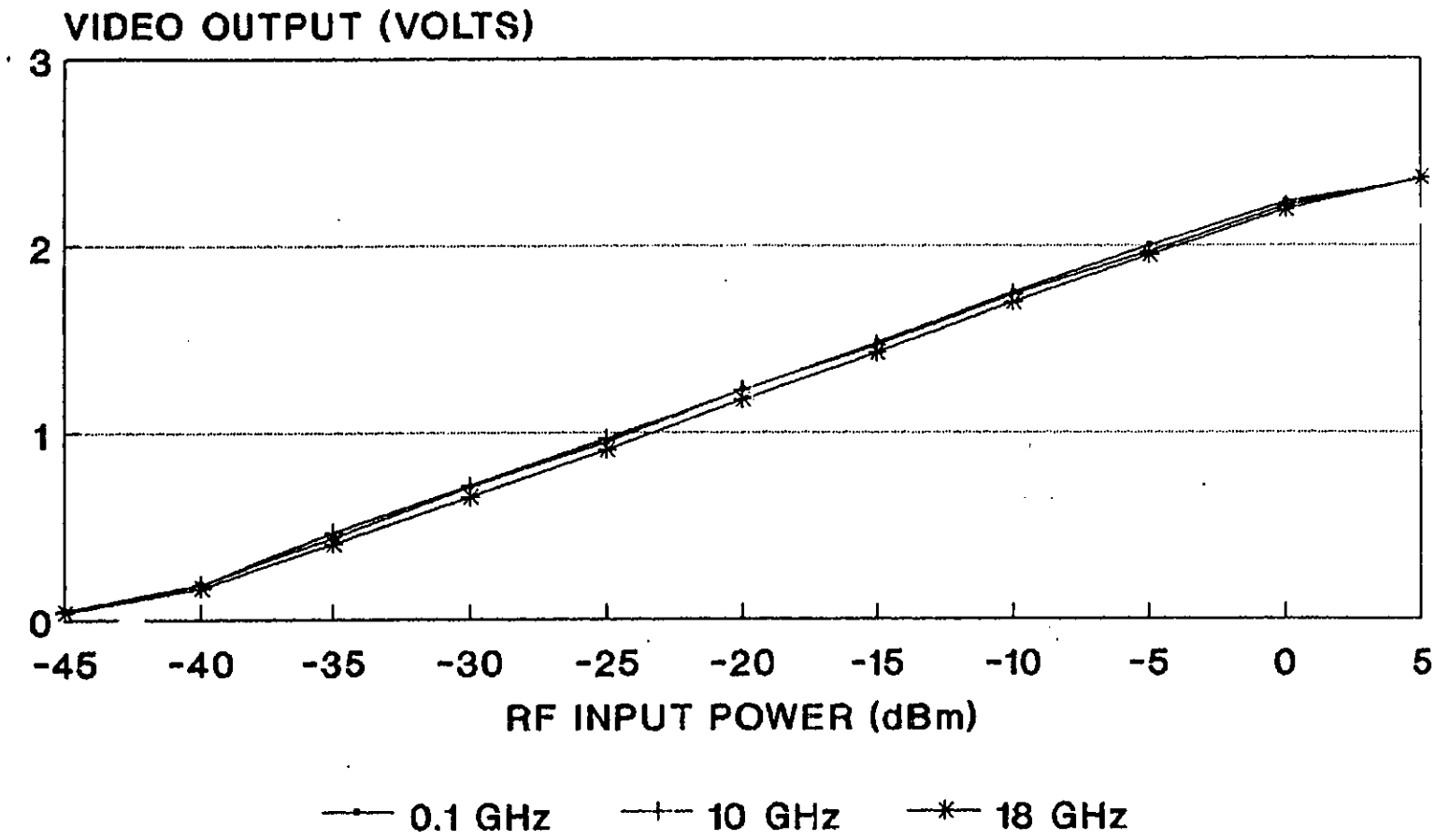
AMERICAN
MICROWAVE
CORPORATION



TESTED BY: B.B., 3/2/95
10 GHz

LVD-218-50A: S/N DL50210
LOG TRANSFER
WITH FREQUENCY

AMERICAN
MICROWAVE
CORPORATION



TESTED BY: B.B., 3/2/95
+ 30 C

TEST DATA

ON

0.5 to 18 GHz

ULTRA - WIDEBAND

40/45 dB

TRULY DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

AMC MODEL NO: LVD-218-50 (Option 0518)

(SERIAL NO: DL30468)

BY

AMERICAN MICROWAVE CORPORATION

10 SEPTEMBER 1993

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB# 308187	07/26/93	

DESCRIPTION

THE LVD-218-50 (OPTION 0518) SERIES DLVA'S ARE AVAILABLE IN STANDARD 50dB AND EXTENDED 70/75dB DYNAMIC RANGE OVER THE FULL 0.5-18GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 1.75 OZ WEIGHT

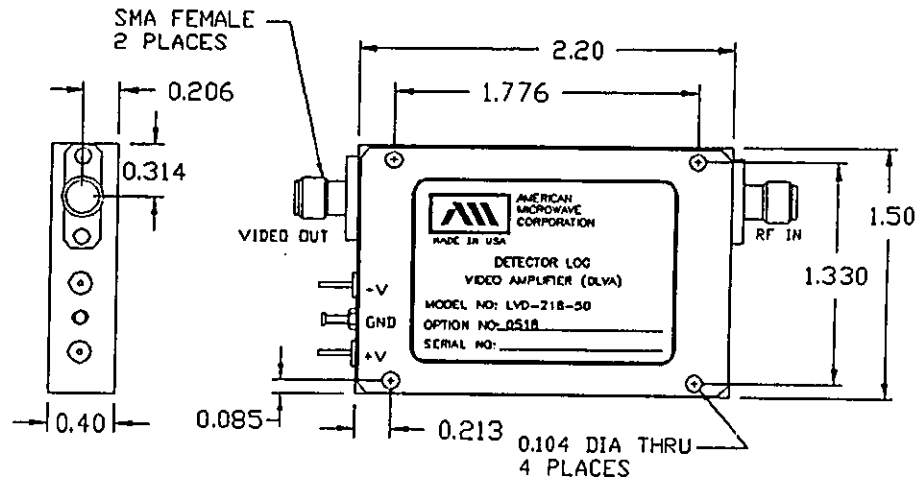
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS @-20dBM ..... ±1.5dB (±1.0dB TYPICAL)
- LOGGING RANGE ..... -40 TO 0dBm MINIMUM
- USEFUL RANGE ..... -40 TO +5dBm
- LOG LINEARITY ERROR ..... ±1.0dB MAXIMUM (±0.5dB TYPICAL) (-40dBm TO 0dBm)
- LOG SLOPE 50mV/dB
- LOG SLOPE ACCURACY ..... ±4% OF AVERAGE SLOPE
- TEMPERATURE STABILITY ..... ±1.0 dB MAXIMUM, ±0.5dB TYPICAL (-54°C TO +85°C)
- PULSE RESPONSE ..... 50nS TO CW
- RISE TIME (10% TO 90% POINTS) ..... 20nS MAXIMUM, (15nS TYPICAL)
- SETTLING TIME ..... 45nS MAXIMUM
- RECOVERY TIME ..... 150nS TYPICAL, 200nS MAXIMUM
- TSS ..... -40dBm MINIMUM
- VSWR (RF) 2.5:1
- MAXIMUM RF INPUT ..... +15dBm
- VIDEO OUTPUT LEVEL ..... 0 TO 2.5 VOLTS (50Ω MINIMUM LOAD)
- DC POWER (100Ω LOAD)
  - +V ..... 12V @ 120mA MAXIMUM
  - -V ..... 12V @ 80mA MAXIMUM
- SIZE ..... 2.2" X 1.5" X 0.4"

AVAILABLE OPTIONS (SPECIFY)

- A01 ..... EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
- A02 ..... EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
- A03 ..... FASTER RISE/RECOVERY TIMES
- A04 ..... ALTERNATE LOG SLOPES
- A05 ..... HIGH POWER RF CW/PEAK PROTECTION
- A06 ..... EXTENDED LOGGING RANGE
- A07 ..... OTHER VIDEO LOADS

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
   X.XXX ±0.010
3) WEIGHT: 1.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -54°C TO +85°C (OPERATING)
  -65°C TO +100°C (STORAGE)
- HUMIDITY ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE ..... MIL-STD-202F, METHOD 107D COND. A

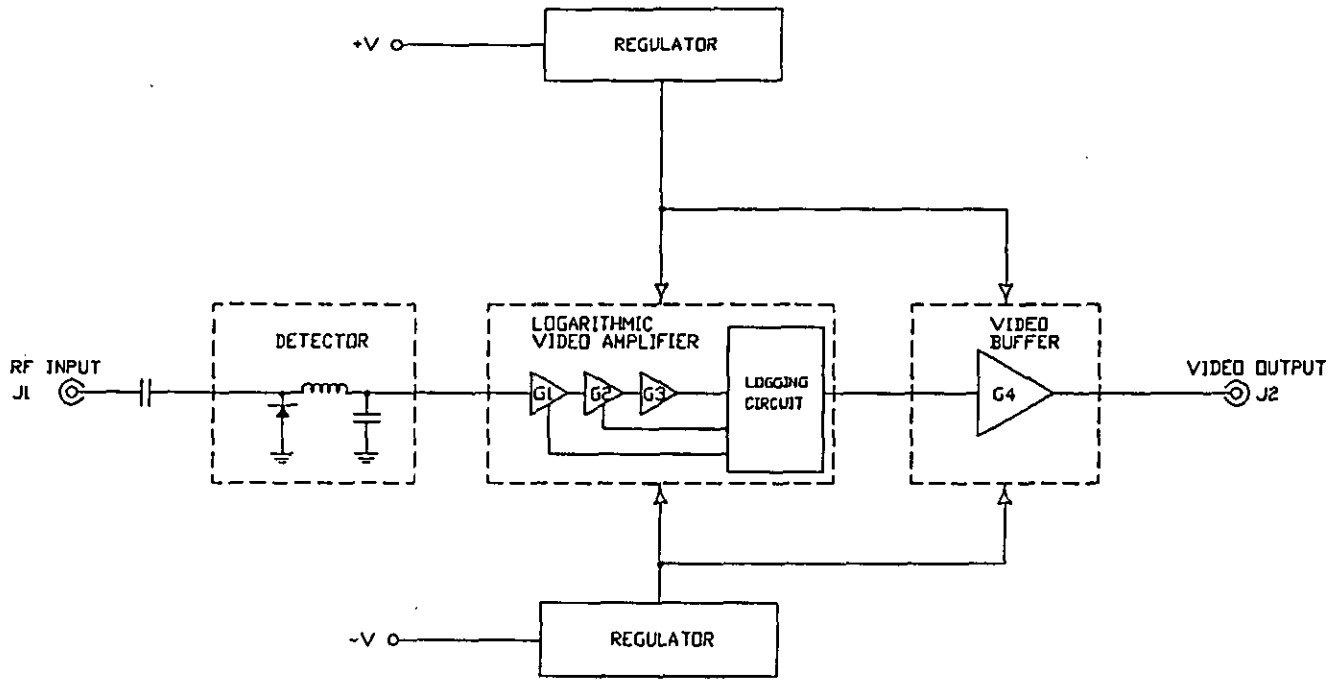
APPROVALS	DATE
DRAWN RA	07/26/93
CHECKED JKG	07/26/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE
LVD-218-50 (OPTION 0518)
0.5 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE A | SHEET 1 OF 2 | DWG. # 100-3267

FUNCTIONAL BLOCK DIAGRAM



APPROVALS	DATE	AMERICAN MICROWAVE CORPORATION 7311G GROVE RD., FREDERICK, MD. 21701 TEL: (301) 662-4700 FAX: (301) 662-4938
DRAWN RA	07/24/97	PRODUCT FEATURE LVD-218-50 (OPTION 0518) 0.5 TO 18 GHz, 40/45dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER
CHECKED	07/24/97	SIZE A | SHEET 2 OF 2 | DWG 00-3267

FORM: DLVA-20/0693

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: AMC

TESTED BY: B. BAKER

JOB NO: 9996

DATE: 6/10/93

MODEL NO: LVD -218-50

SERIAL NO: DL30468

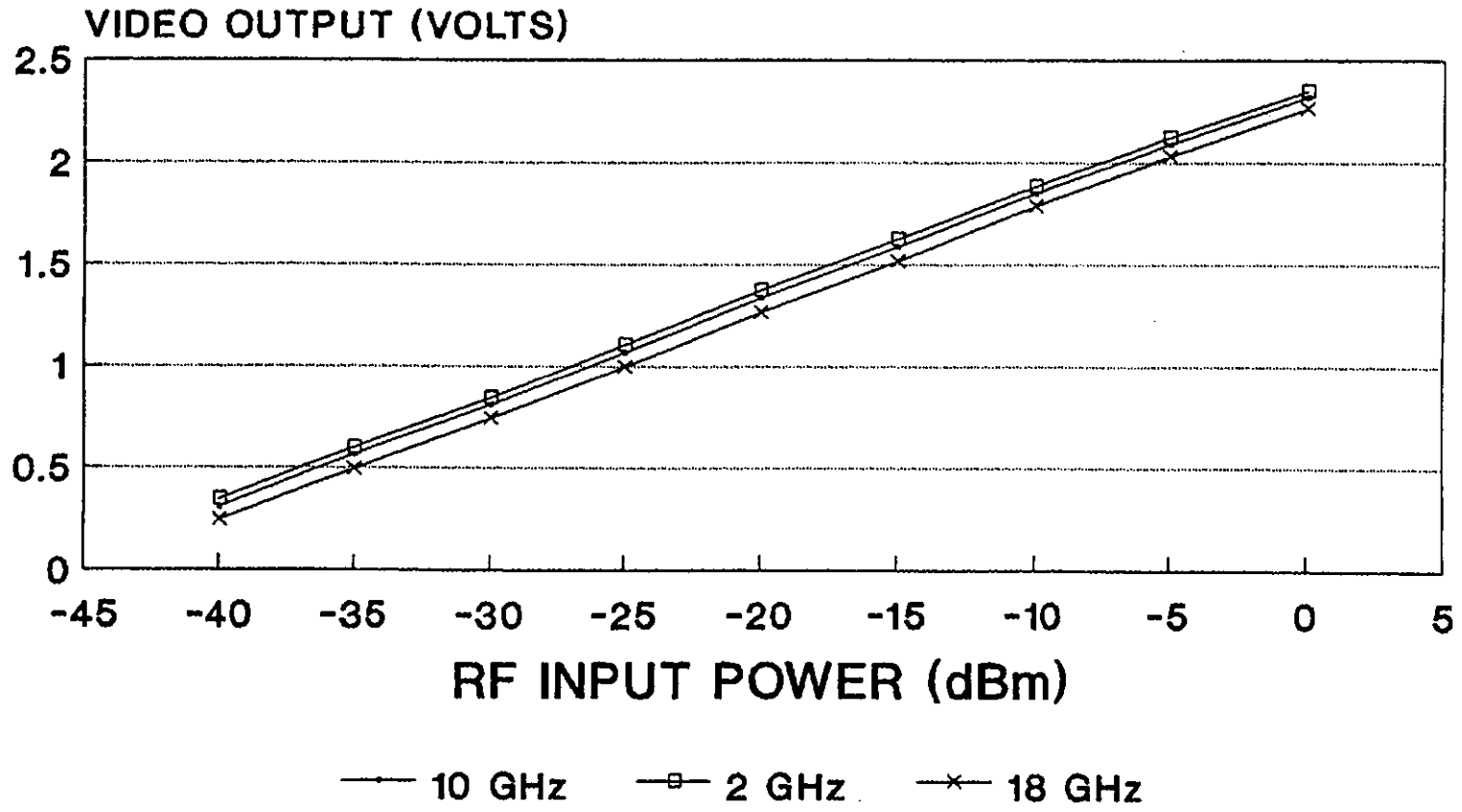
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.5:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +0 dBm	PLOT ATTACHED	0.3 to 2.3 VOLTS	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-42dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	50 to 51mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.0 dB (max)	-0.5dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±1.5 dB at -20 dBm (max)	±1.1dB	
7	RECOVERY TIME (max) -40 to 0 dBm	150 nseconds	100nS	
8	OUTPUT STABILITY (-54°C to +85°C)	±1.0 dB (max)	±0.6dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	17nS	
10	D.C. POWER @ +12 V with 100 ohm load	120 mA (max)	87.5mA	
11	D.C. POWER @ -12 V with 100 ohm load	80 mA (max)	69.2mA	

PRODUCTION MANAGER APPROVAL: SPR DATED: 6/25/93

QA/QC APPROVAL: [signature] DATED: 6/25/93

S\N DL30468
LOG TRANSFER
WITH FREQUENCY

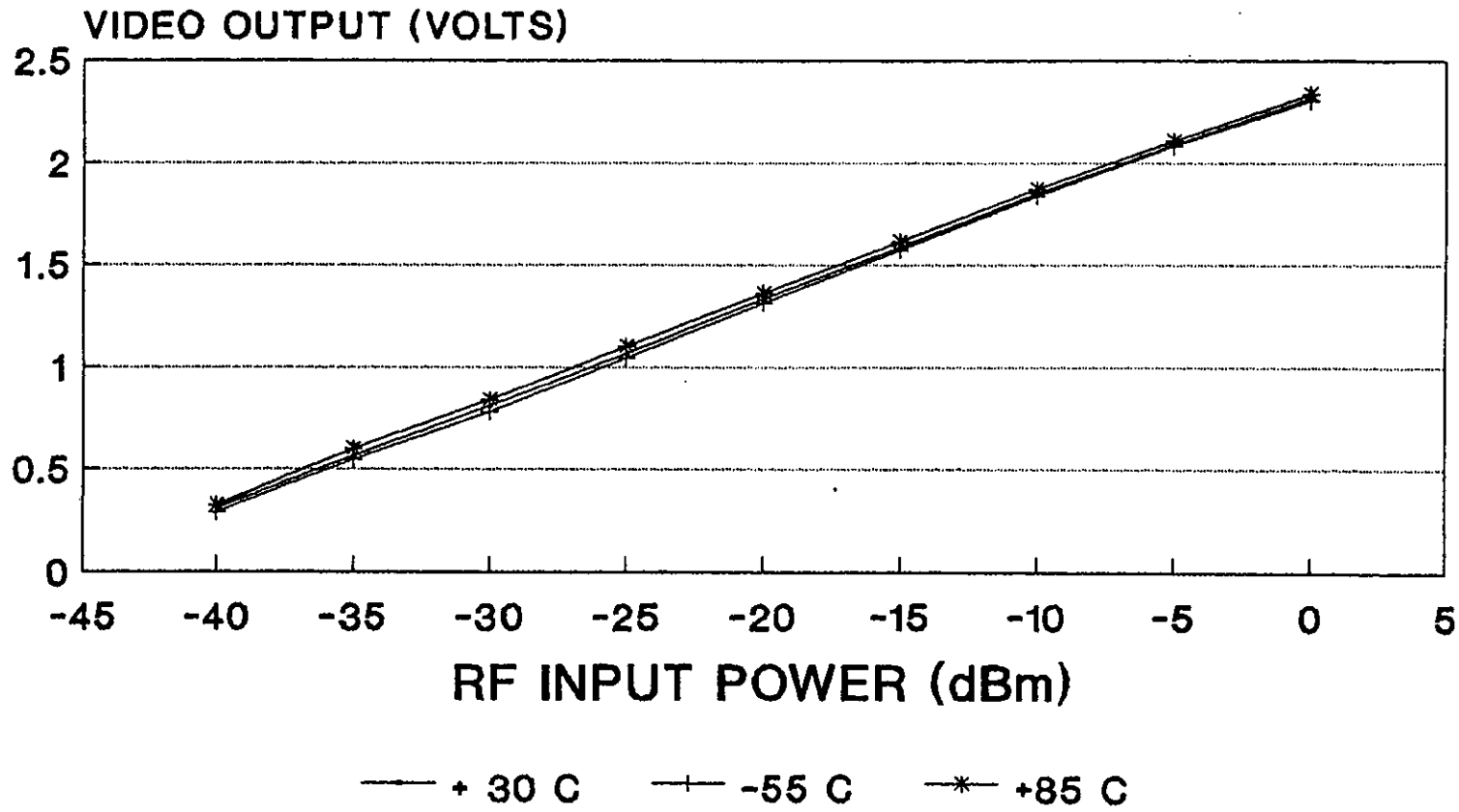
AMERICAN
MICROWAVE
CORPORATION



TESTED BY: B.B., 6/10/93
+ 30 C

S\N DL30468
LOG TRANSFER
WITH TEMPERATURE

AMERICAN
MICROWAVE
CORPORATION



TESTED BY: B.B., 6/10/93
10 GHz

AMERICAN MICROWAVE CORPORATION

TEST DATA

FOR

WIDEBAND

2 - 18 GHz DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

MODEL: LVD-218-50A

(SERIAL NO: BG40192)

BY

AMERICAN MICROWAVE CORPORATION

17 FEBRUARY 1992

7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

LVD-218-50A
TABLE OF CONTENTS

TEST DATA

ADDITIONAL TEST DATA

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG40192

TESTED BY B. Baker

TEMPERATURE -54°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	—	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-42dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	48mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	±0.48dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	±0.25dB	
7	RECOVERY TIME (max) -40 to 0 dBm	300nS	300nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	12nS	
10	D.C. POWER @ +12 V	120 mA (max)	100.7mA	
11	D.C. POWER @ -12 V	80 mA (max)	53.8mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG 40192

TESTED BY B. Baker

TEMPERATURE -30°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	SJL
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	———	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-41dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	48mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	±0.53dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	±0.35dB	
7	RECOVERY TIME (max) -40 to 0 dBm	300nS	250nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	12nS	
10	D.C. POWER @ +12 V	120 mA (max)	101.5mA	
11	D.C. POWER @ -12 V	80 mA (max)	67.3mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG40192

TESTED BY B. Baker

TEMPERATURE 0°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	—	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-41dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	49mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	±0.56dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	±0.5dB	
7	RECOVERY TIME (max) -40 to 0 dBm	300nS	250nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	12nS	
10	D.C. POWER @ +12 V	120 mA (max)	101.9mA	
11	D.C. POWER @ -12 V	80 mA (max)	63.8mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG40192

TESTED BY B. Baker

TEMPERATURE +30°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	—	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-41dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	49mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	±0.65dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	±0.3dB	
7	RECOVERY TIME (max) -40 to 0 dBm	150nS	130nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	16nS	
10	D.C. POWER @ +12 V	120 mA (max)	101.5mA	
11	D.C. POWER @ -12 V	80 mA (max)	64.4mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG 40192

TESTED BY B. Baker

TEMPERATURE +60°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	_____	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-41dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	49mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	± 0.52dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	± 0.34dB	
7	RECOVERY TIME (max) -40 to 0 dBm	150nS	120nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	12nS	
10	D.C. POWER @ +12 V	120 mA (max)	99.9mA	
11	D.C. POWER @ -12 V	80 mA (max)	64.6mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

FORM: DLVA-3/0192

TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

JOB NO: _____

MODEL NO: LVD-218-50A

DATE 2/10/92

SERIAL NO: BG40192

TESTED BY B. Baker

TEMPERATURE +85°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (2 - 18 GHz)	2.7:1	2.6:1	
2	TYPICAL OUTPUT VOLTAGE @ -40 dBm to +5 dBm	PLOT ATTACHED	____	
3	TSS (2 - 18 GHz)	-40 dBm (min)	-40dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	49mV/dB	
5	LOG LINEARITY @ -40 dBm TO 0 dBm	±1.5 dB (max)	±0.6dB	
6	FREQUENCY FLATNESS (2 - 18 GHz)	±2.0 dB at -20 dBm (max)	±0.25dB	
7	RECOVERY TIME (max) -40 to 0 dBm	150nS	120nS	
8	OUTPUT STABILITY (-54 to +85°C)	±1.0 dB (max)	±0.65dB	
9	RISE TIME (10% TO 90% POINTS)	20 NS (max)	13nS	
10	D.C. POWER @ +12 V	120 mA (max)	98.9mA	
11	D.C. POWER @ -12 V	80 mA (max)	64.7mA	V

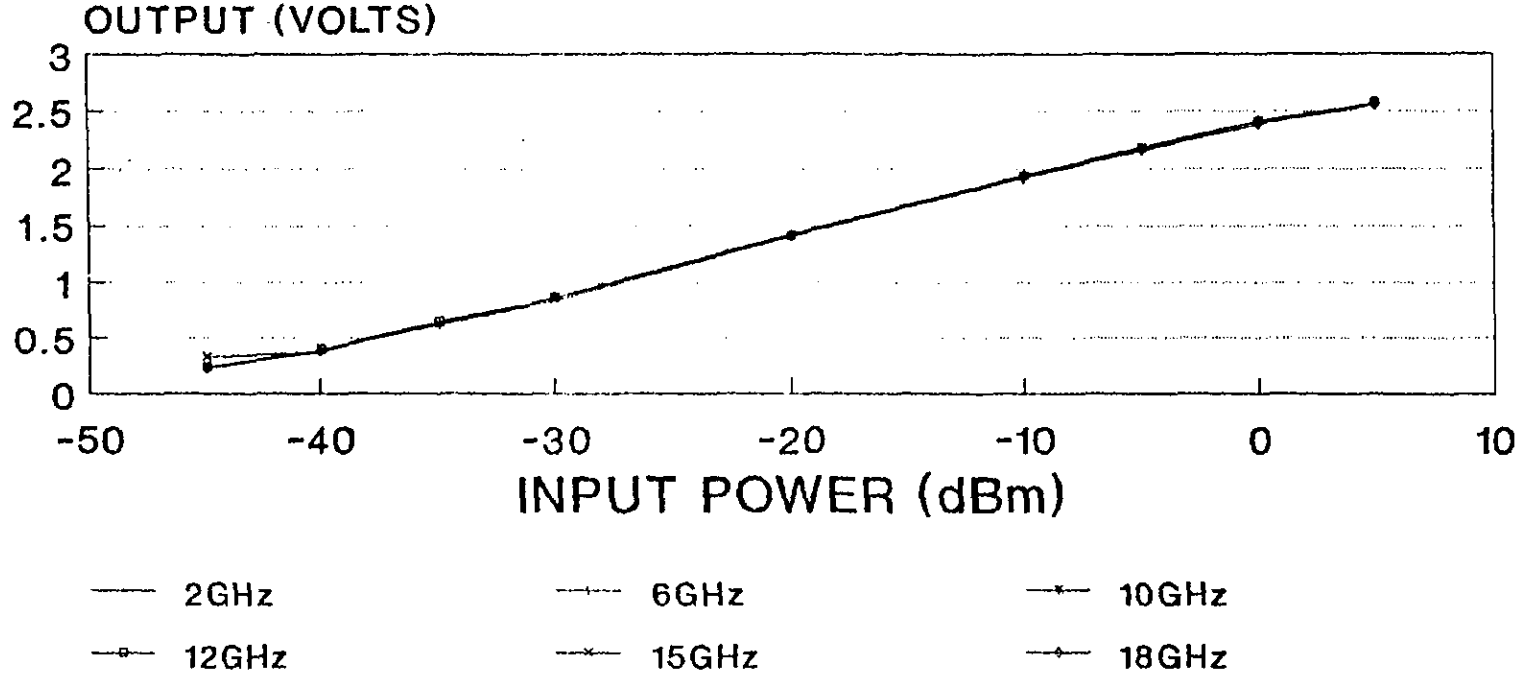
PRODUCTION MANAGER APPROVAL: _____ DATED: 2/11/92

QA/QC APPROVAL: _____ DATED: 2/11/92

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE VS. FREQUENCY

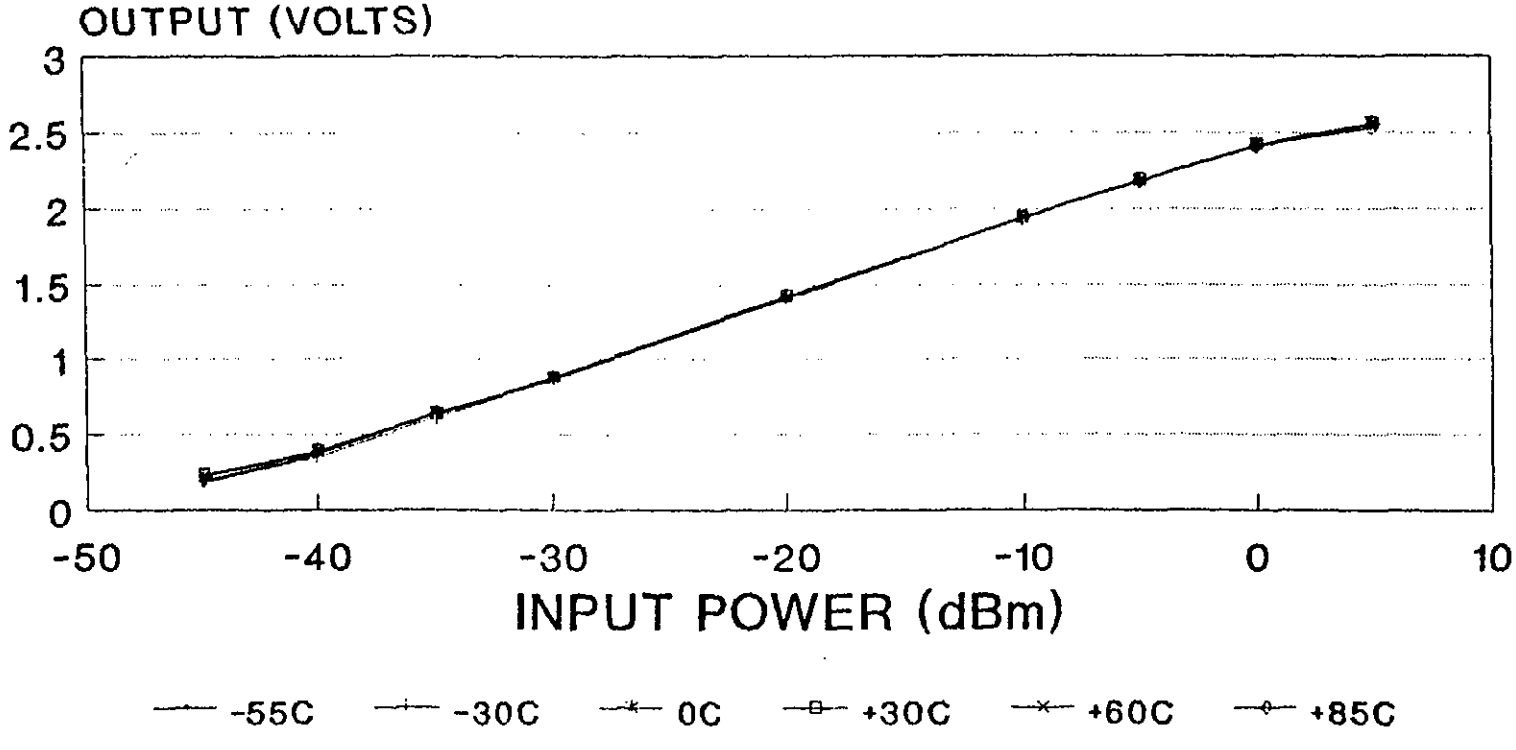


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE VS. TEMPERATURE - 2GHz

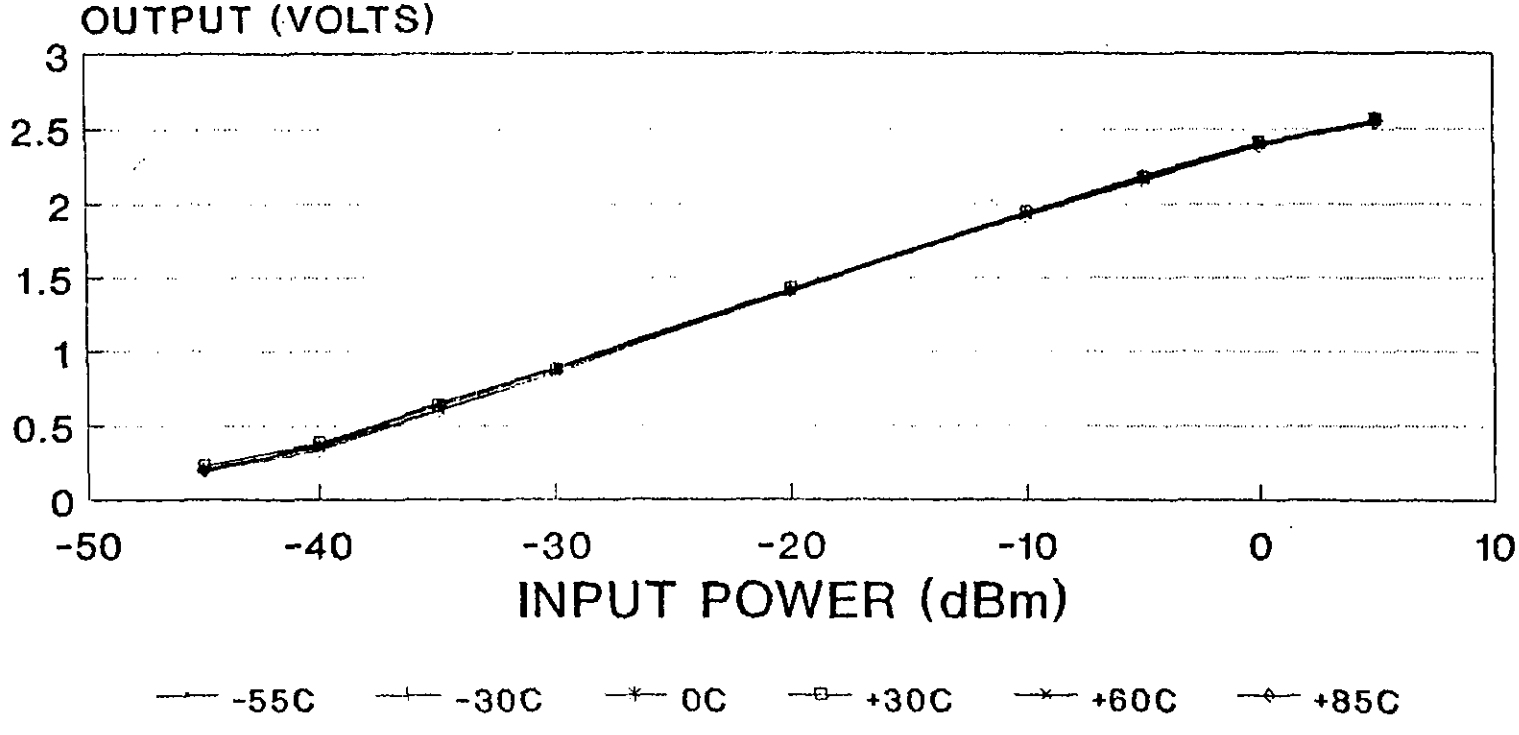


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE VS. TEMPERATURE - 10GHz

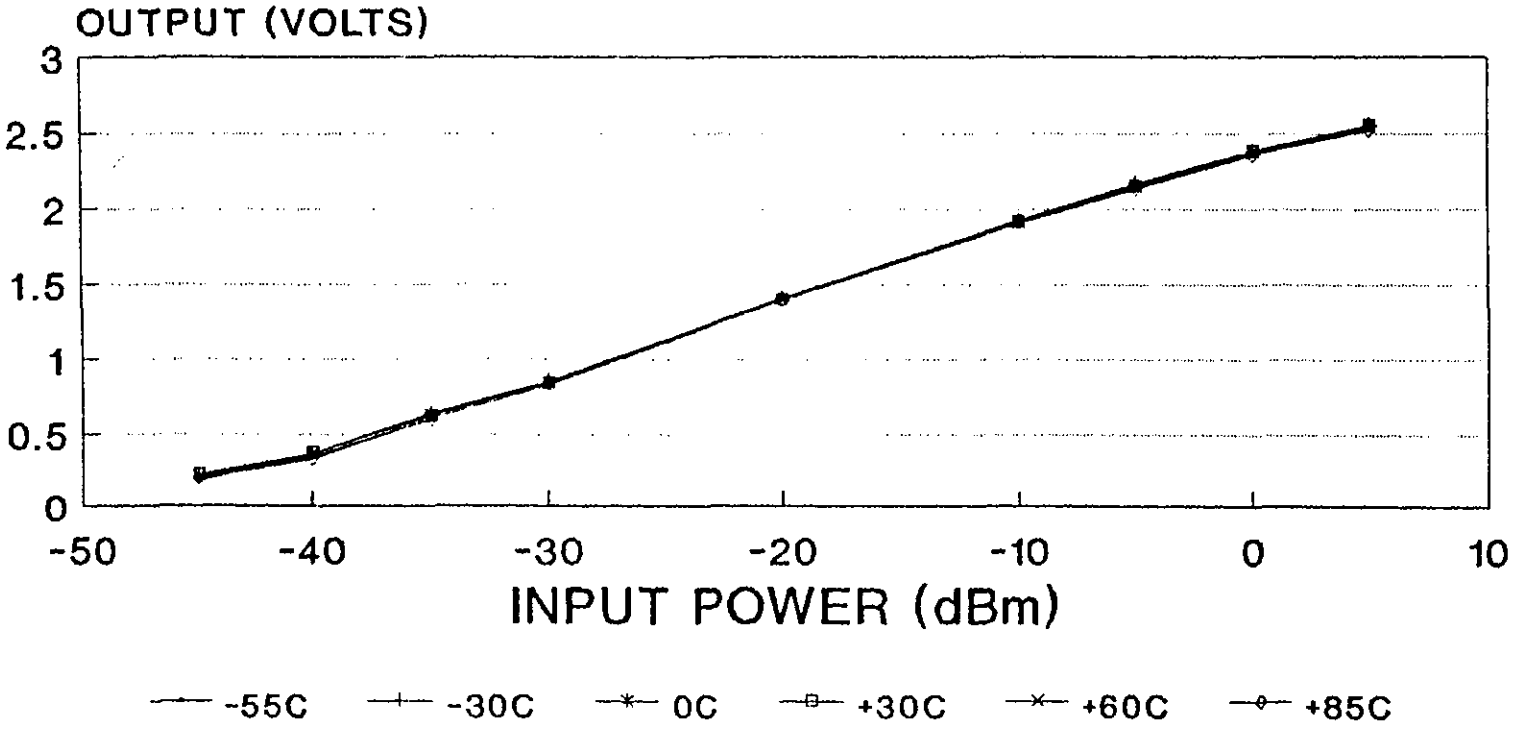


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE VS. TEMPERATURE - 18GHz

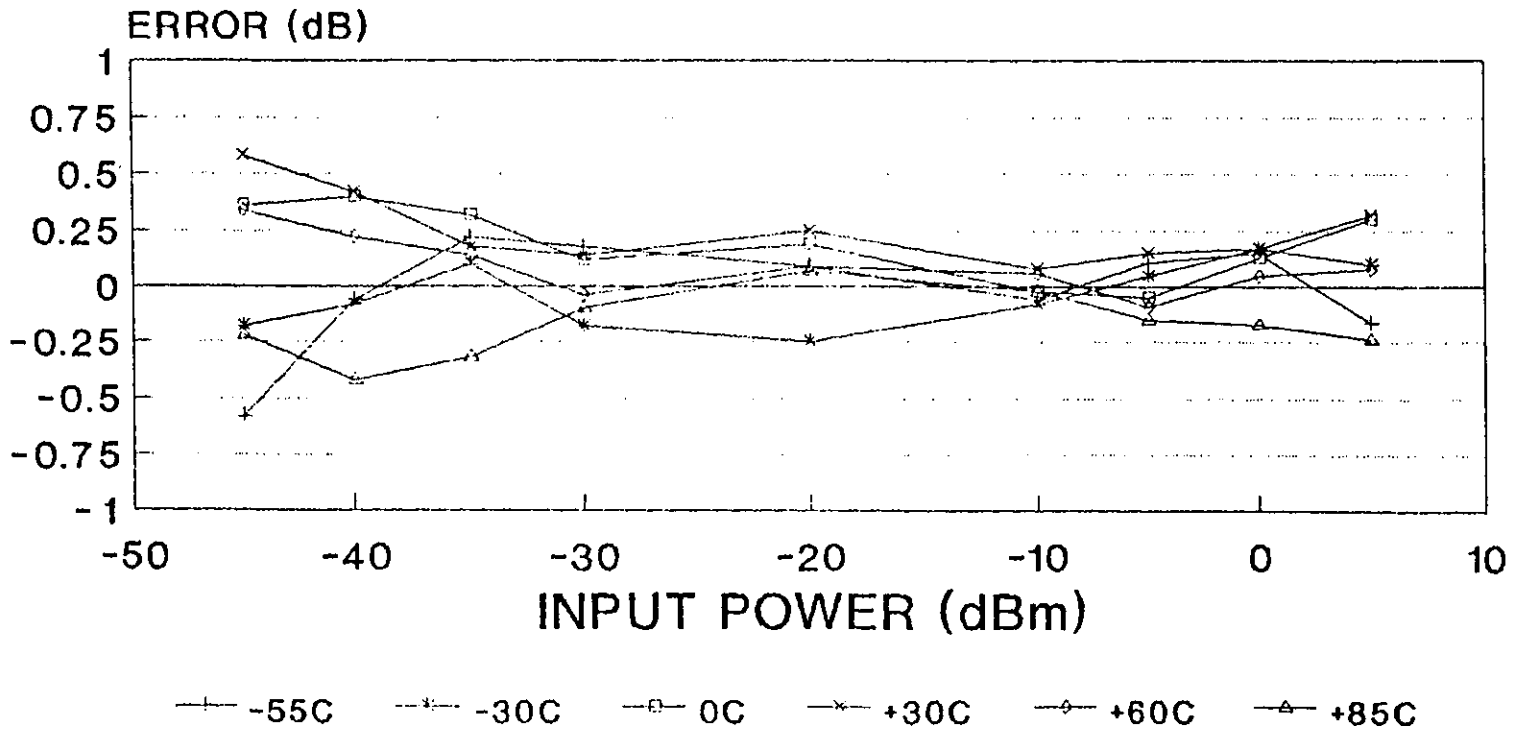


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE ERROR VS. TEMPERATURE - 2GHz

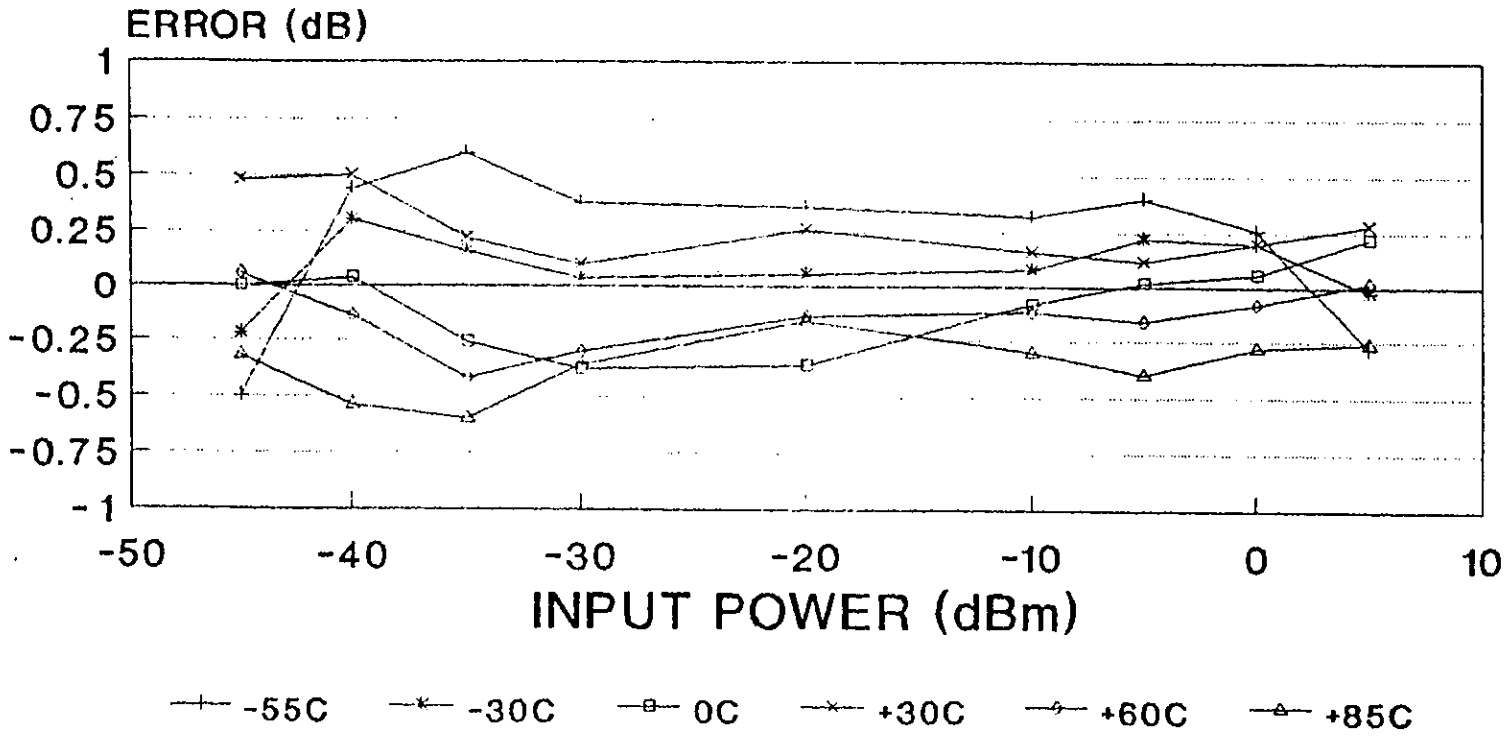


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE ERROR VS. TEMPERATURE - 10GHz

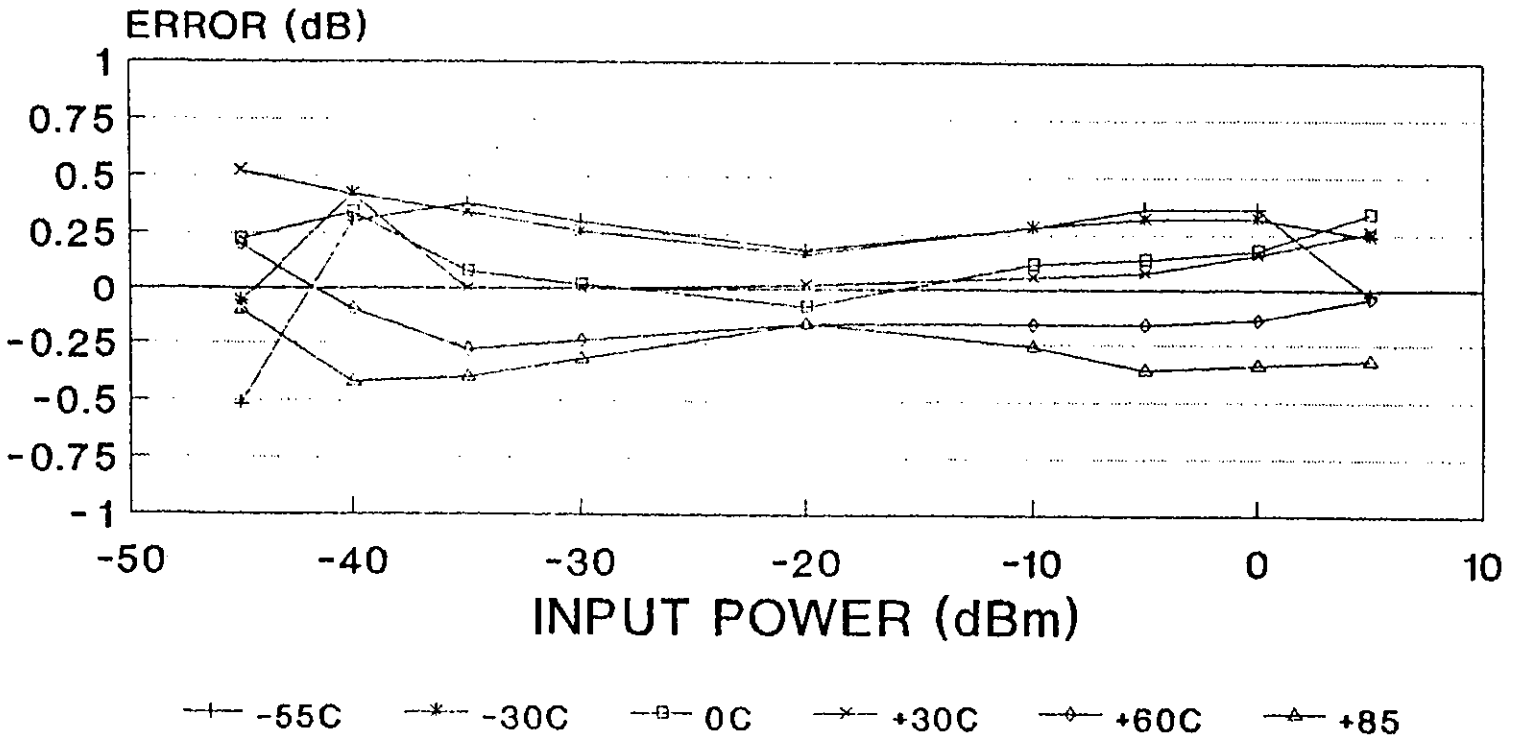


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG TRANSFER RESPONSE ERROR VS. TEMPERATURE - 18GHz

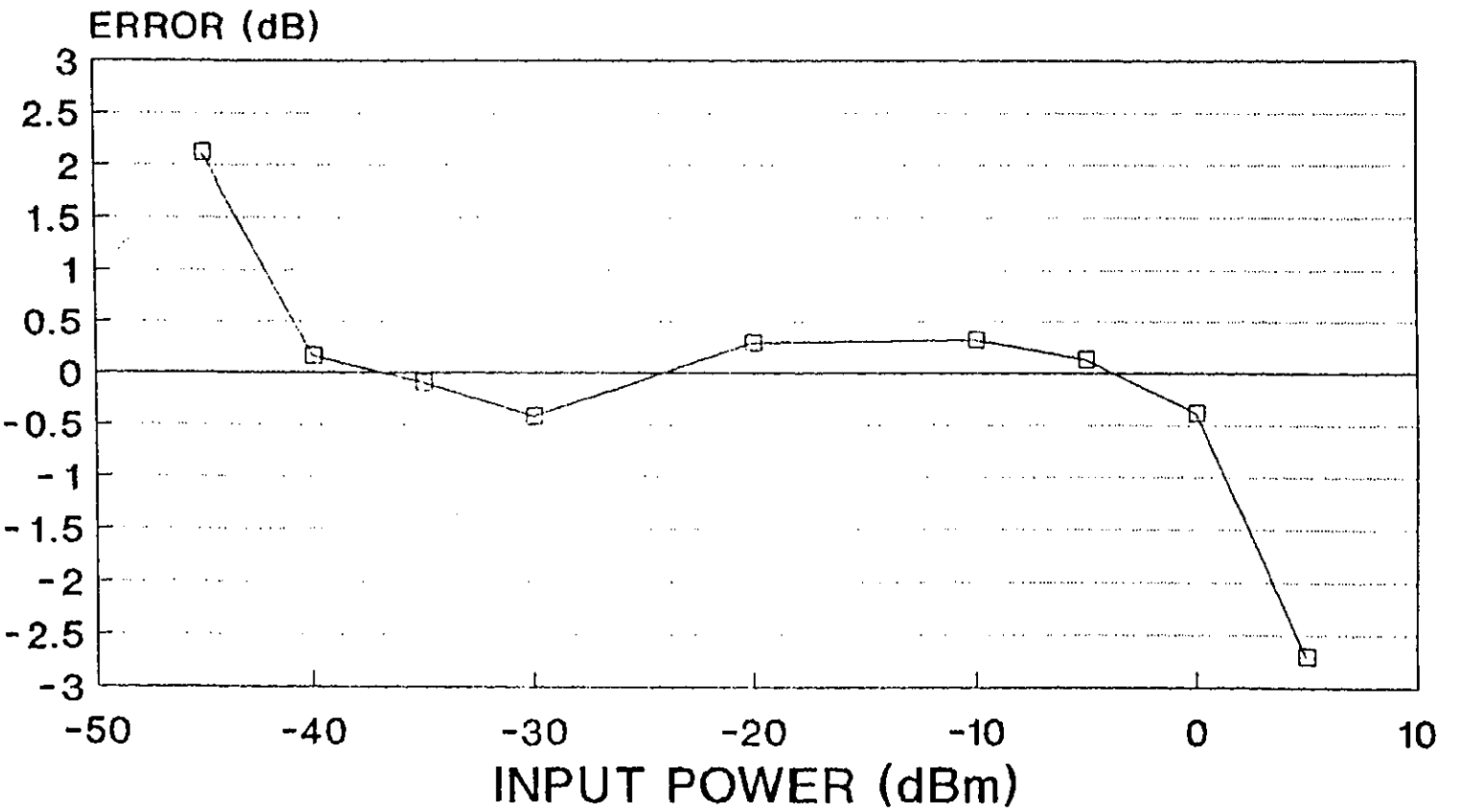


S/N:BG40192 2/10/92
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY - 2GHz

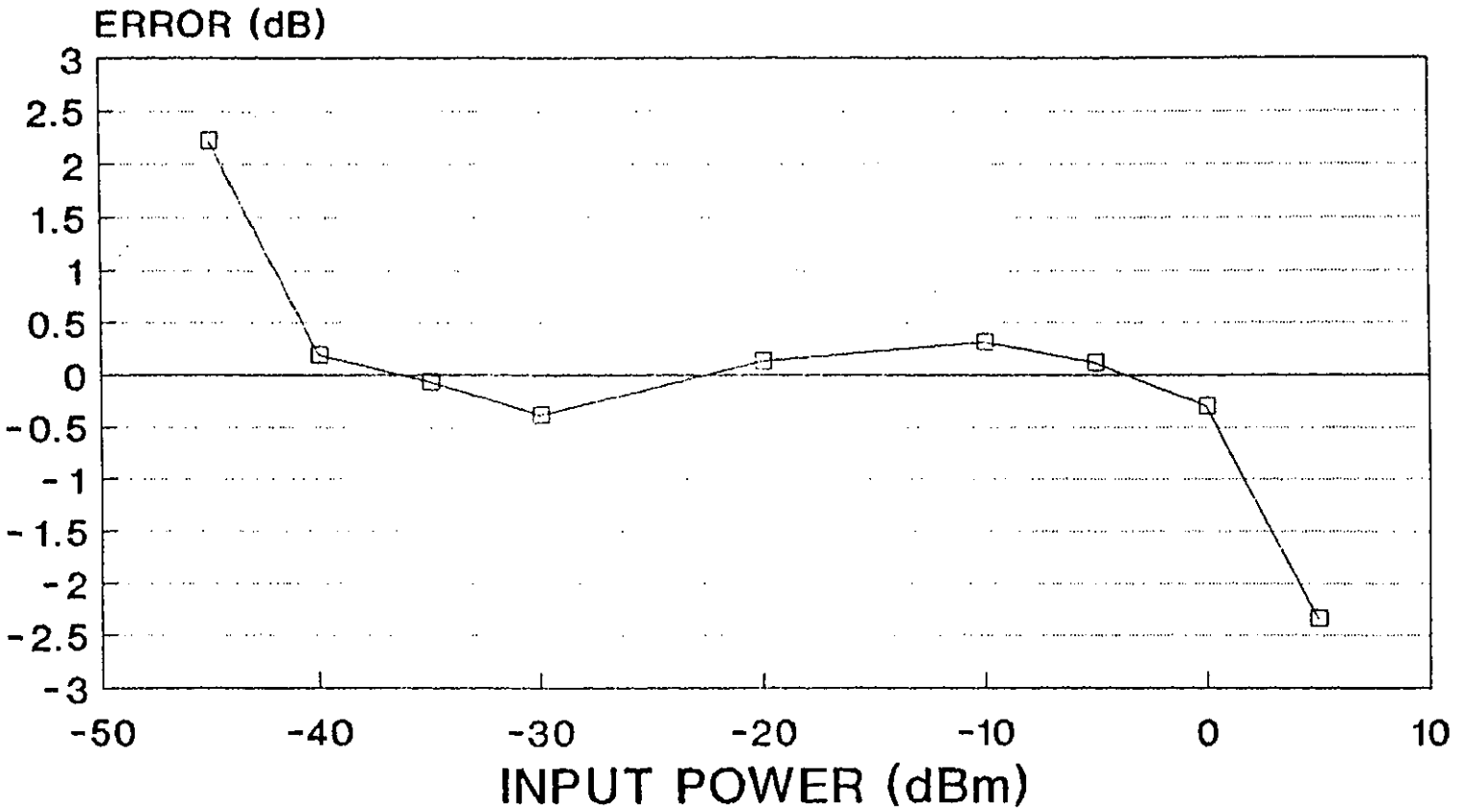


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY - 6GHz

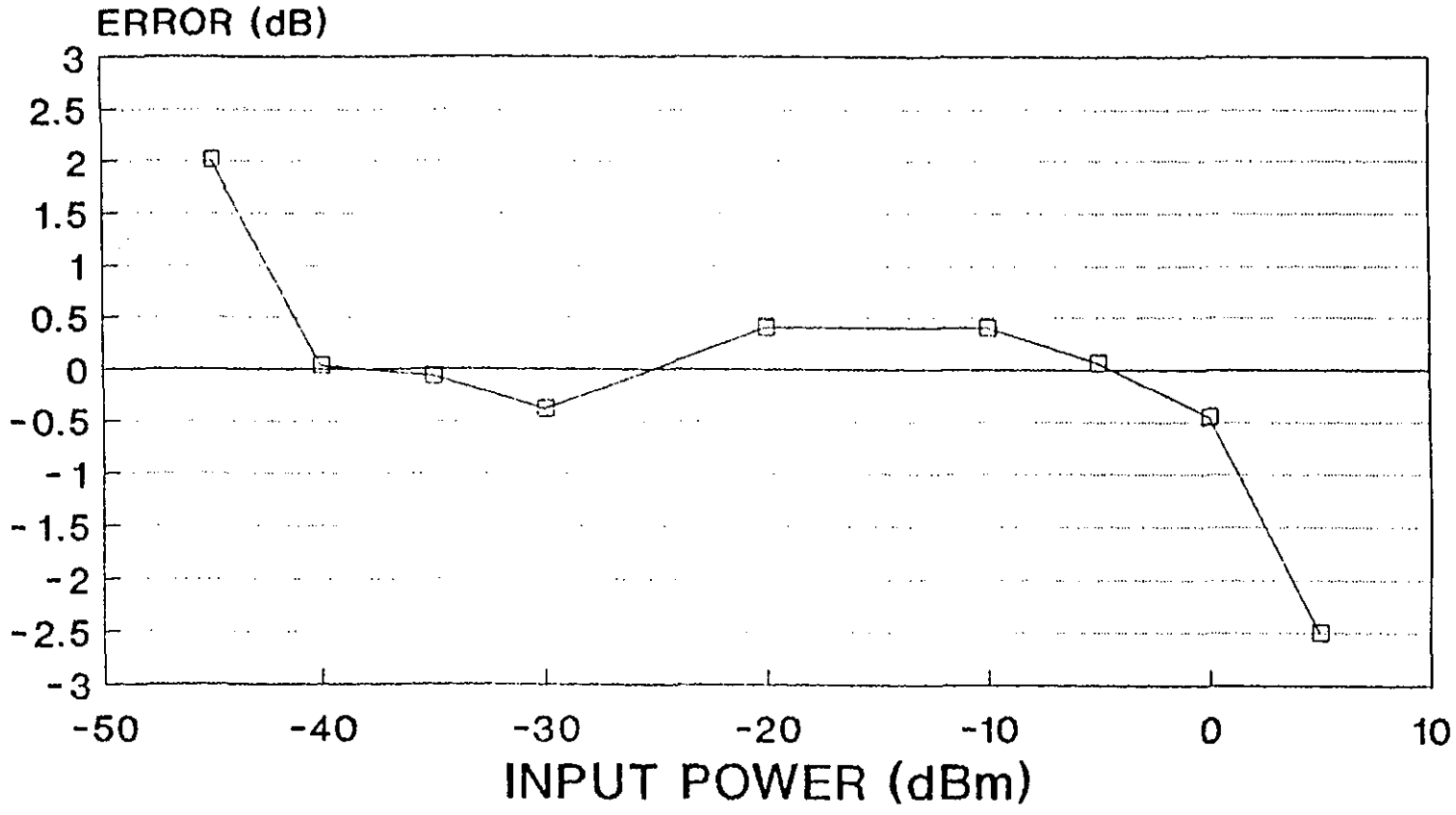


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY - 10GHz

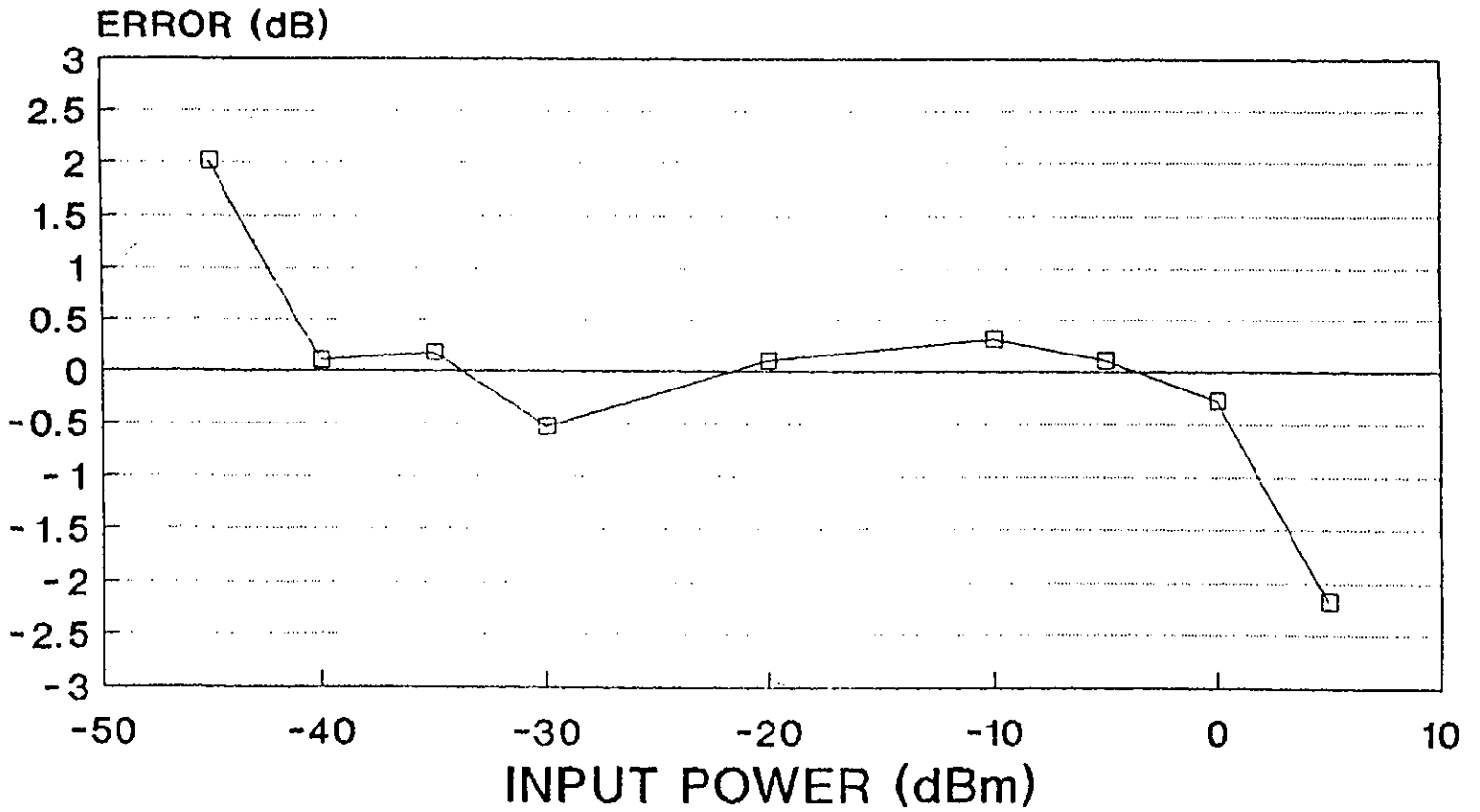


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY - 12GHz

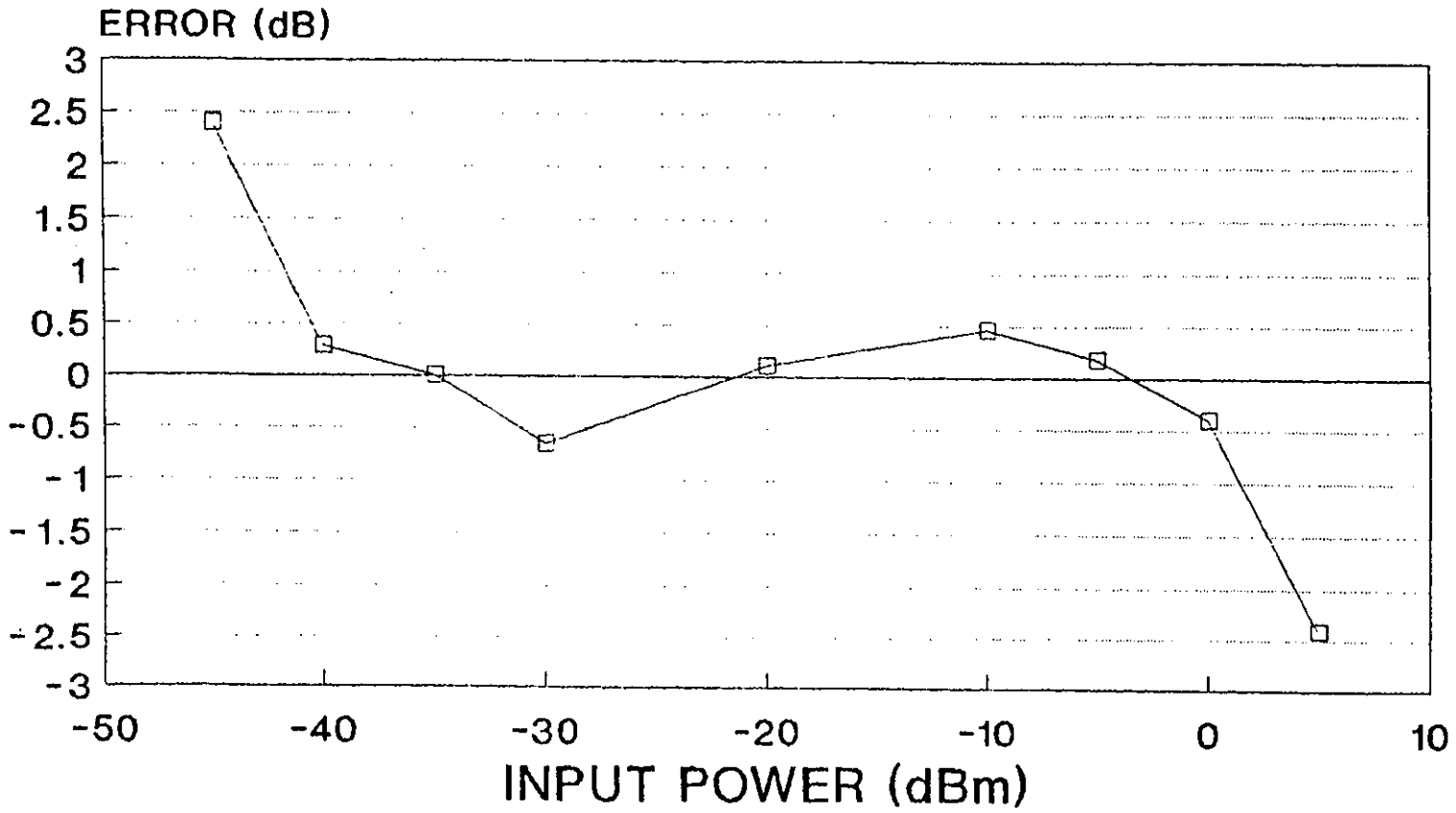


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY - 15GHz

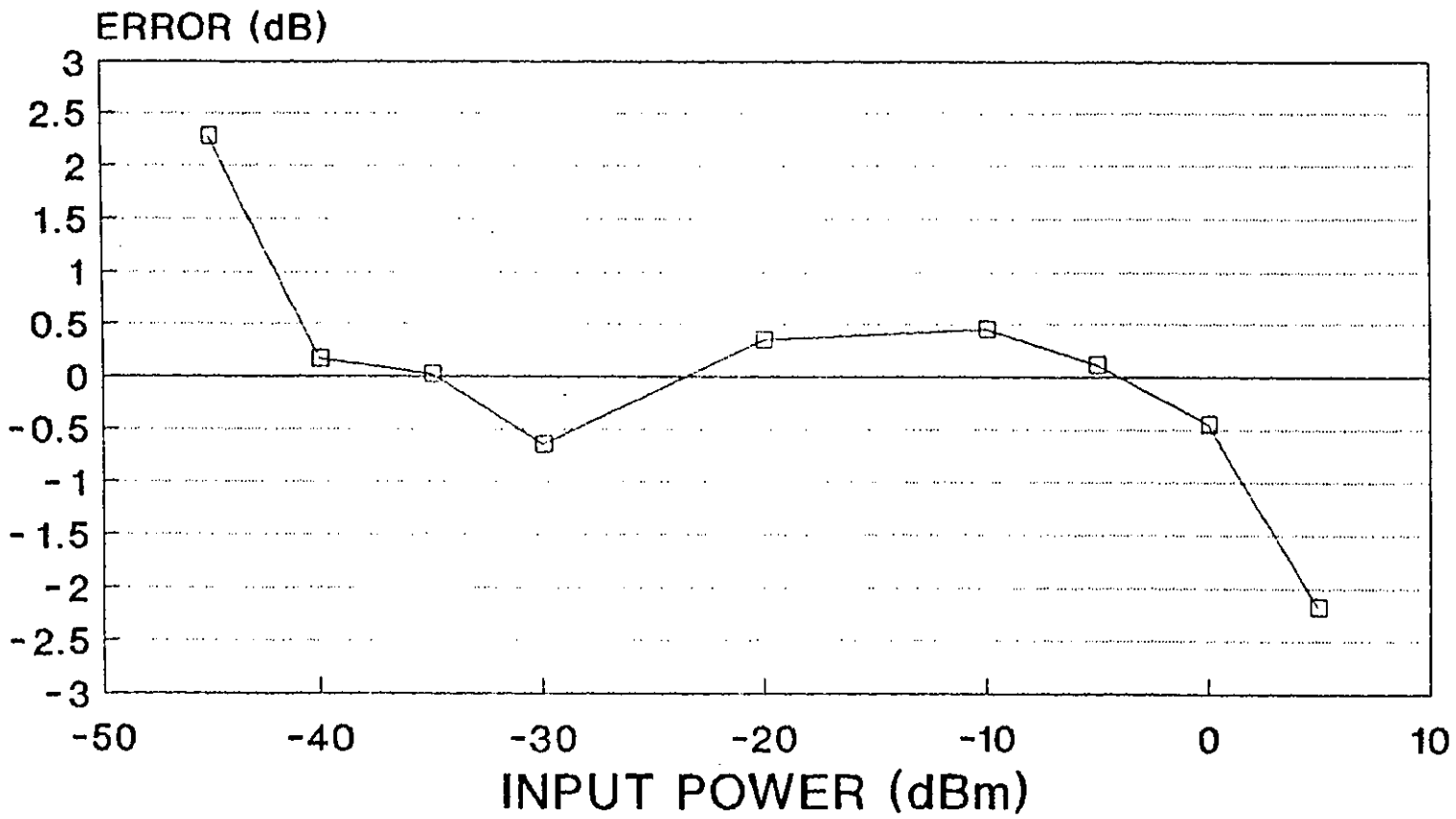


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

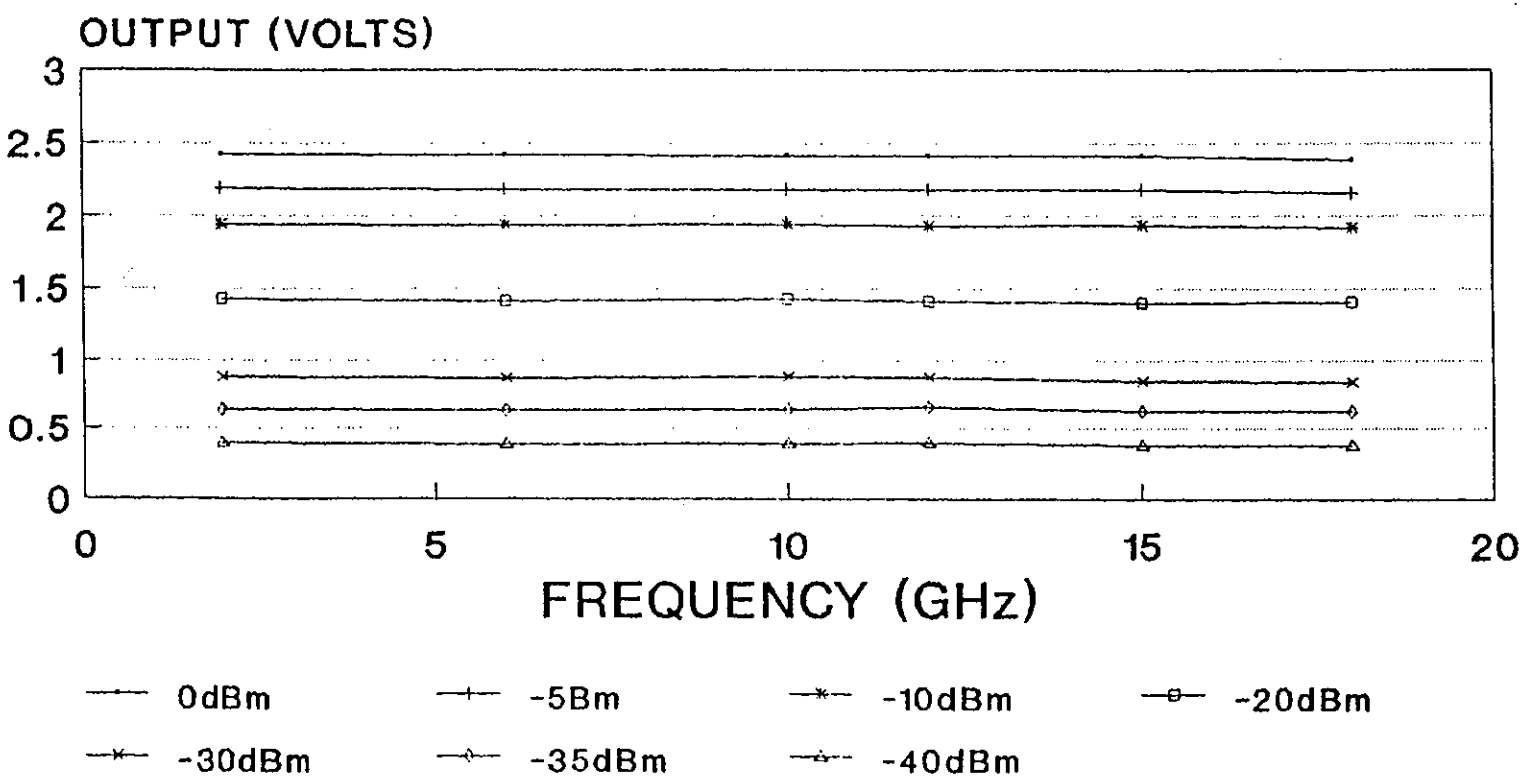
LOG LINEARITY - 18GHz



S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A
FREQUENCY RESPONSE

AMERICAN MICROWAVE CORPORATION

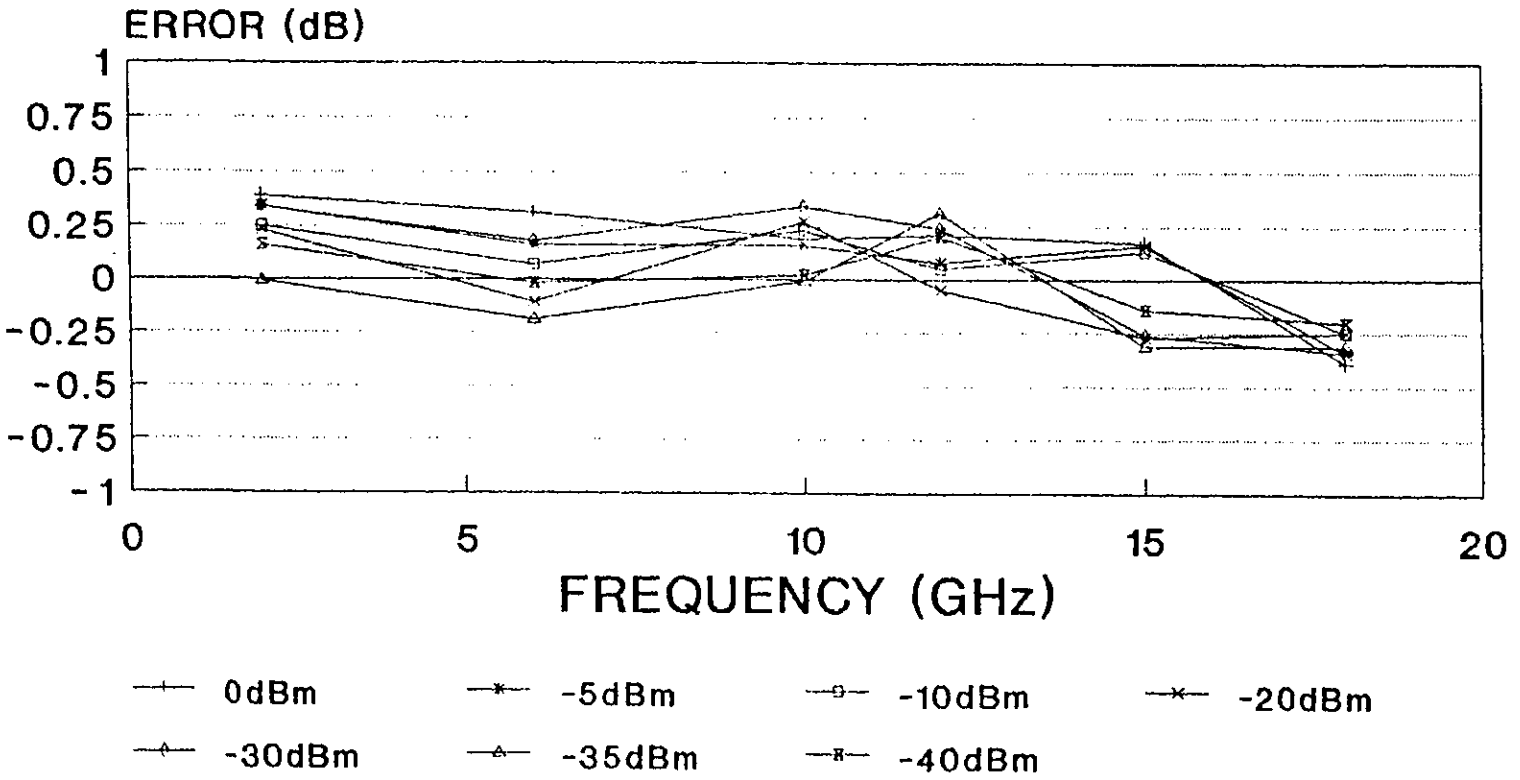


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

FREQUENCY FLATNESS - ERROR

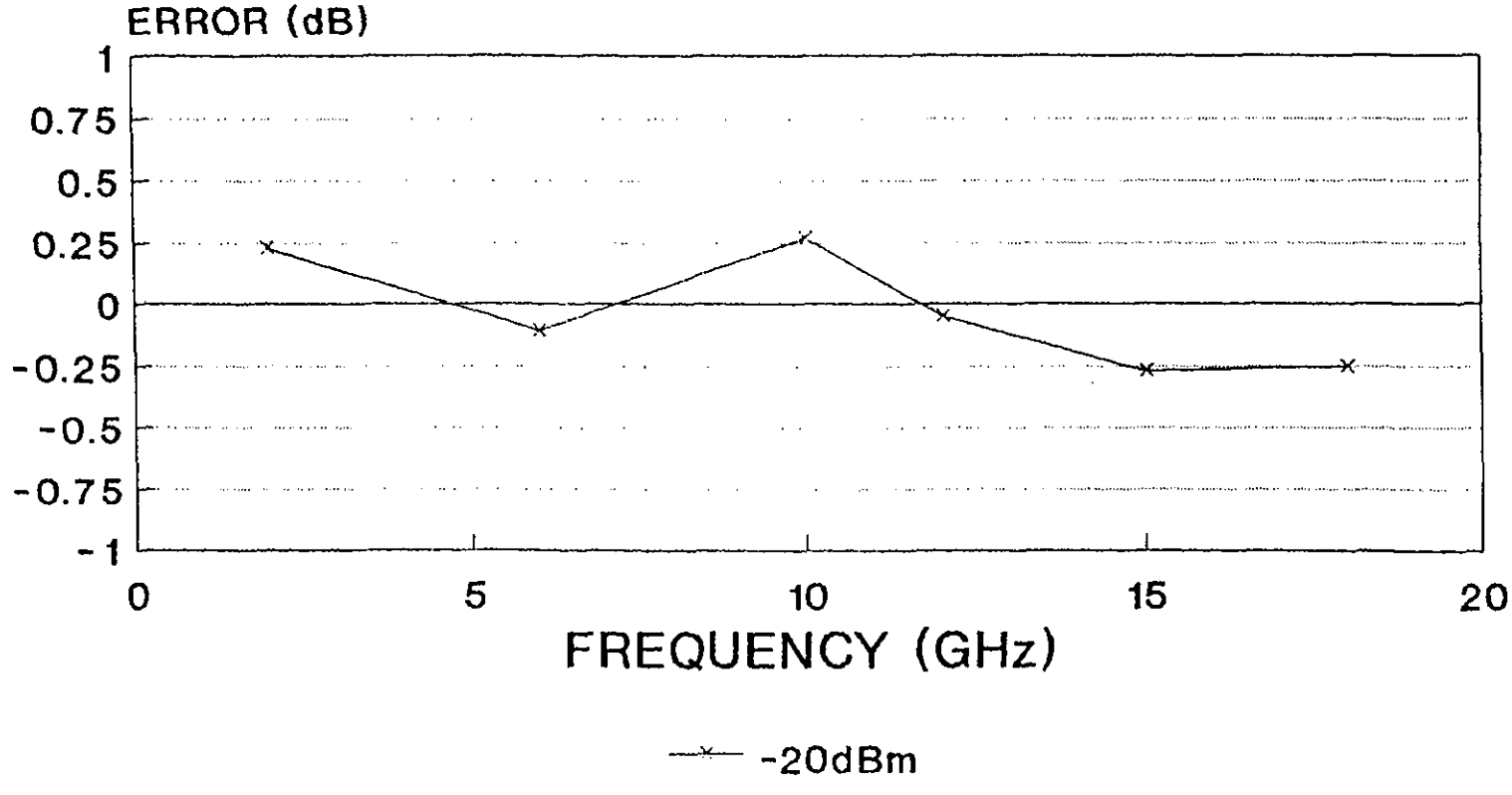


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

FREQUENCY FLATNESS (-20dBm)

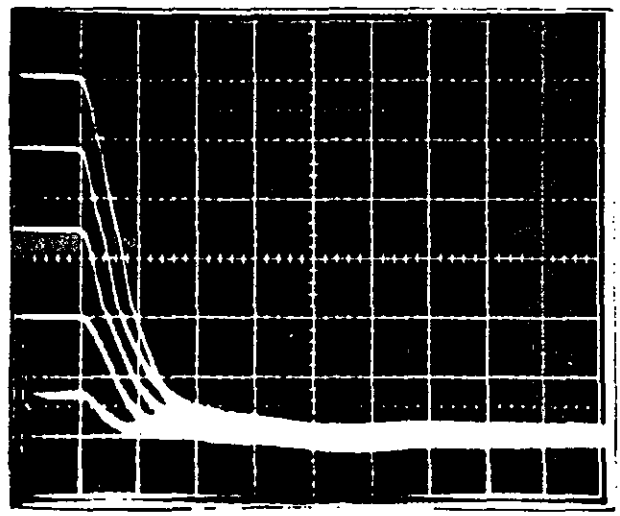


S/N:BG40192 2/10/92
ROOM TEMPERATURE
TESTED BY: B.B.

RECOVERY TIME VS. PULSE WIDTH - 2 GHz

POWER LEVEL (dBm)

0
-10
-20
-30
-40

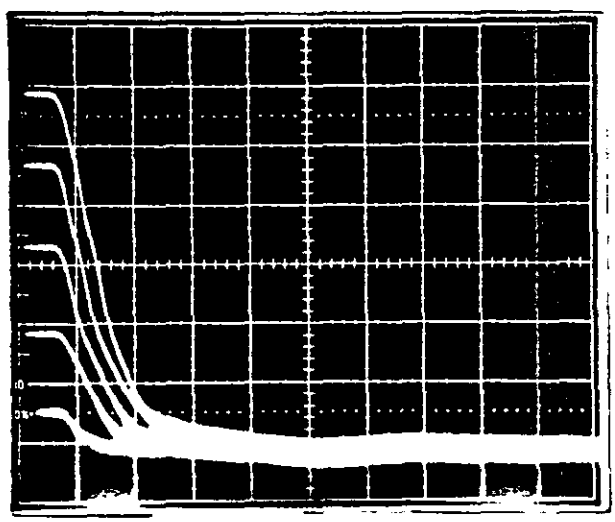


SQUARE WAVE
with 1 μS Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40

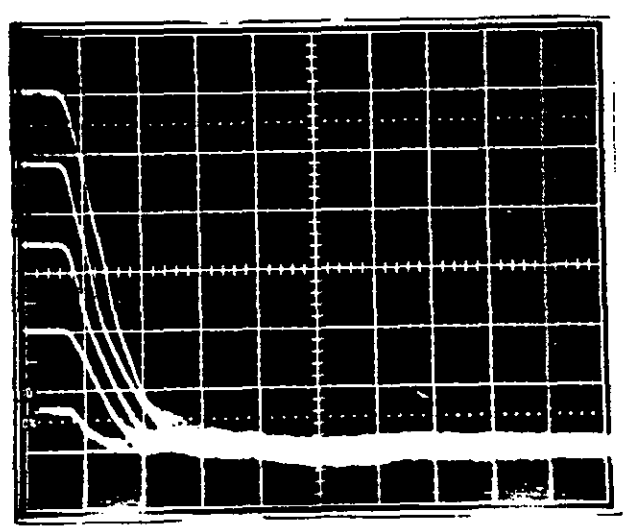


SQUARE WAVE
with 10 μS Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40



SQUARE WAVE
with 100 μs Pulse

0.4 v/div

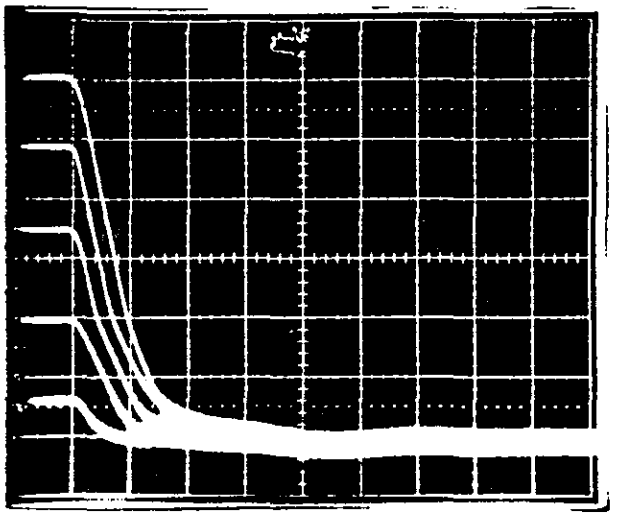
50 ns/div

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

RECOVERY TIME VS. PULSE WIDTH - 10 GHz

POWER LEVEL (dBm)

0
-10
-20
-30
-40

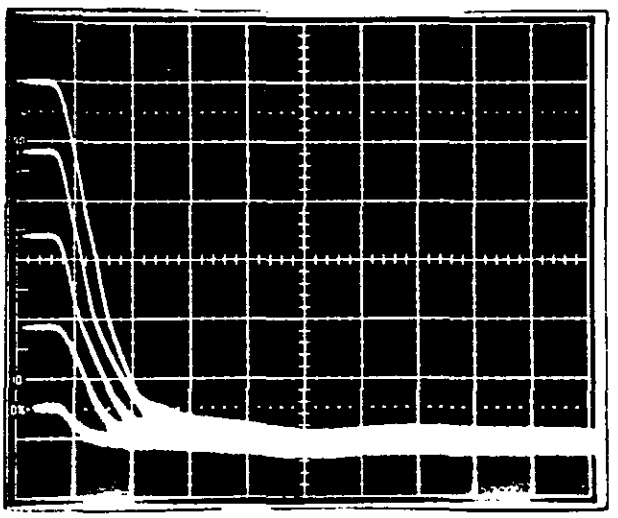


SQUARE WAVE
with 1 μs Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40

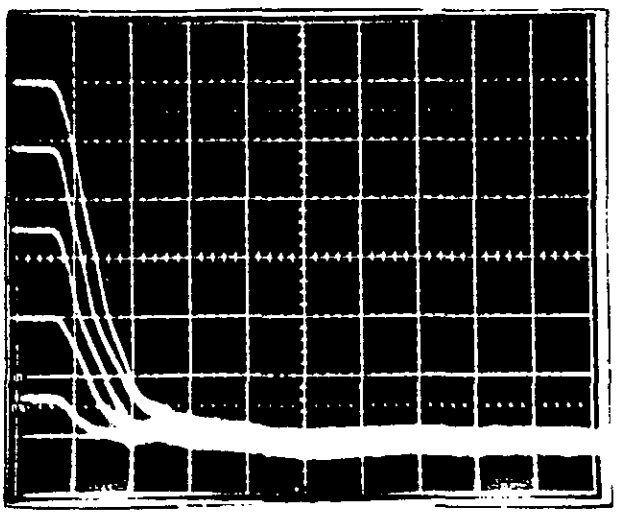


SQUARE WAVE
with 10 μs Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40



SQUARE WAVE
with 100 μs Pulse

0.4 v/div

50 ns/div

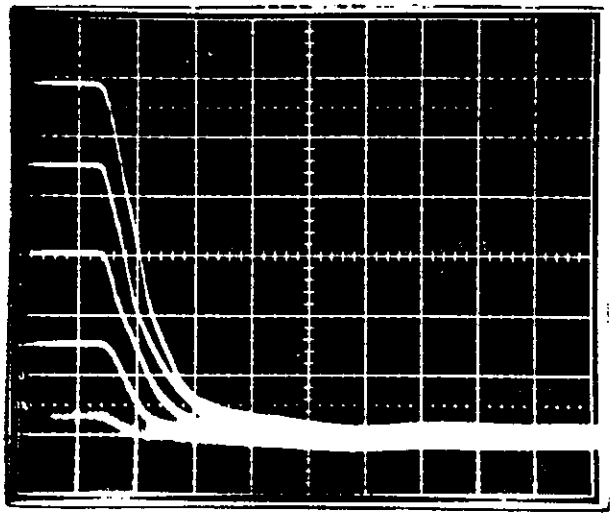
S/N: BG40192
TESTED BY: B.B.

ROOM TEMPERATURE
2/10/92

RECOVERY TIME VS. PULSE WIDTH - 18 GHz

OWER LEVEL (dBm)

0
-10
-20
-30
-40

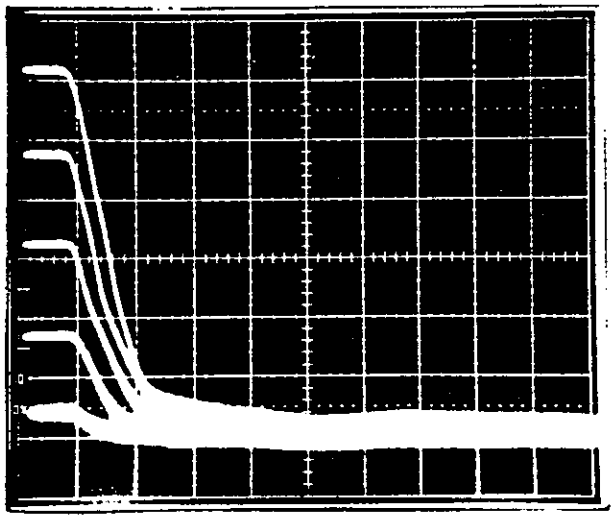


SQUARE WAVE
with 1 μS Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40

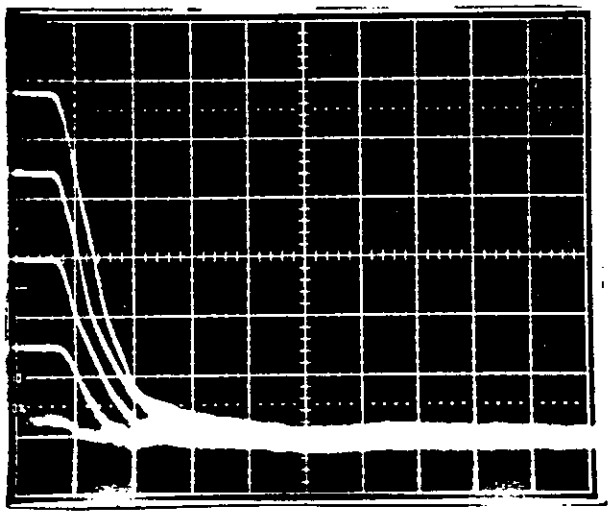


SQUARE WAVE
with 10 μS Pulse

0.4 v/div

50 ns/div

0
-10
-20
-30
-40



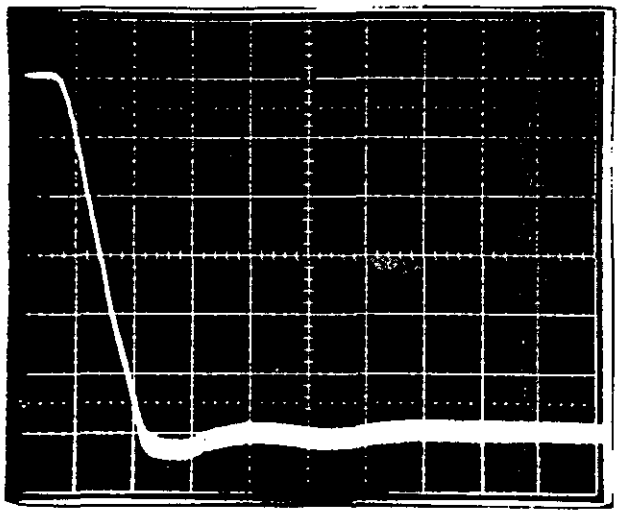
SQUARE WAVE
with 100 μS Pulse

0.4 v/div

50 ns/div

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

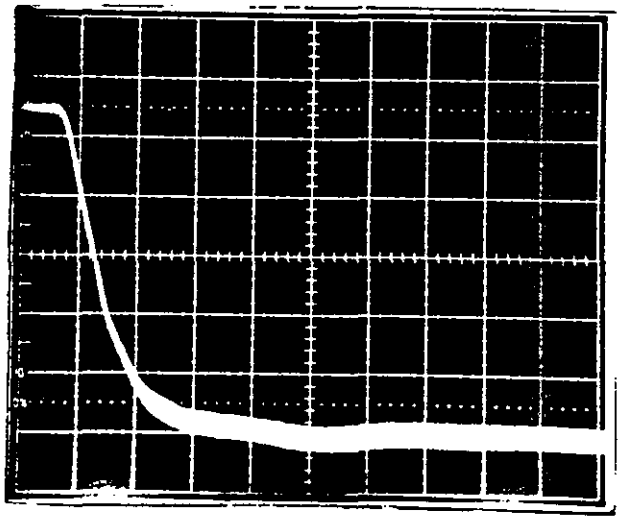
RECOVERY TIME AT 10 GHz - DETAILED VIEW



0 dBm

0.4 v/div

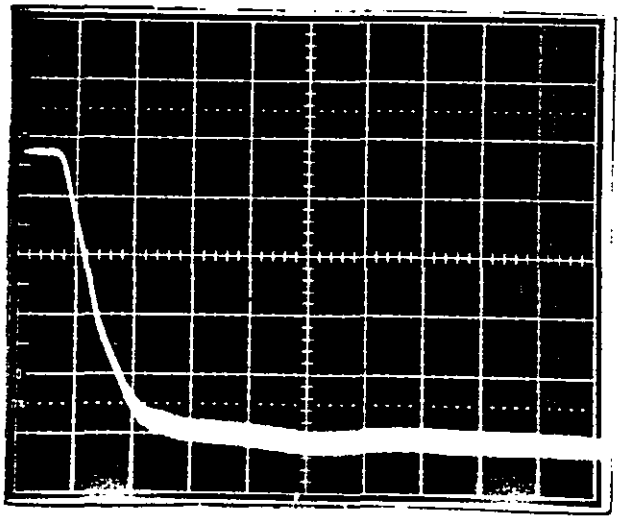
50 ns/div



-5 dBm

0.4 v/div

50 ns/div



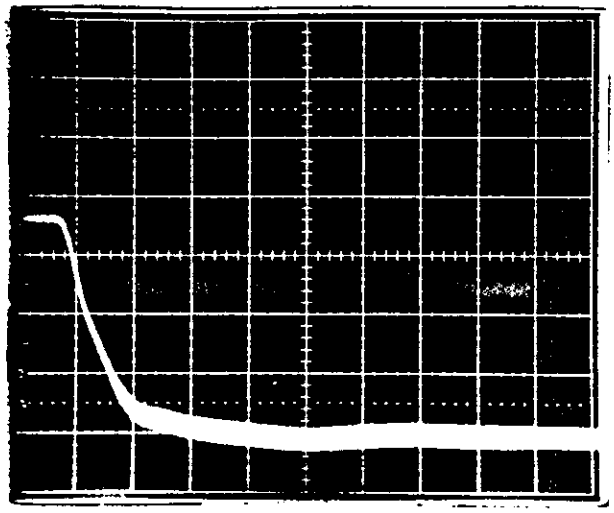
-10 dBm

0.4 v/div

50 ns/div

S/N: BG40192 SQUARE WAVE with 10 μs Pulse
ROOM TEMPERATURE TESTED BY: B.B. 2/10/92

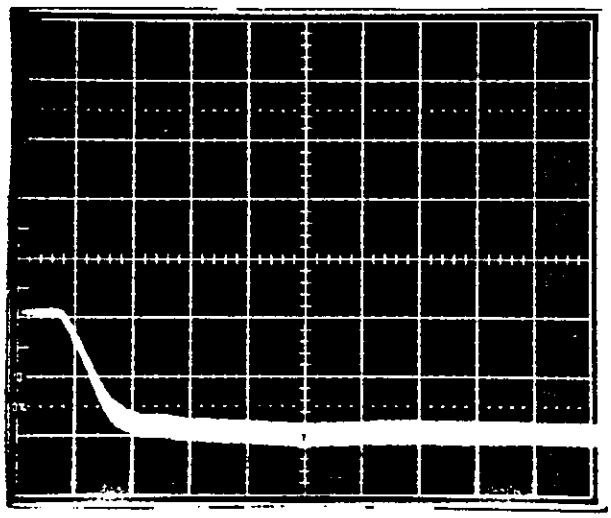
RECOVERY TIME AT 10 GHz - DETAILED VIEW



-20 dBm

0.4 v/div

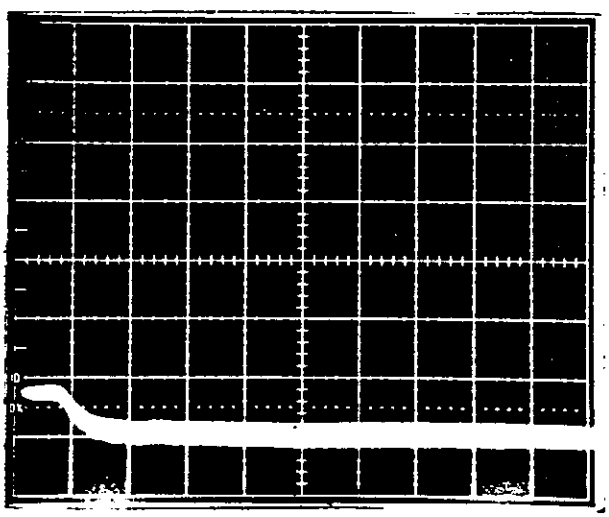
50 ns/div



-30 dBm

0.4 v/div

50 ns/div



-40 dBm

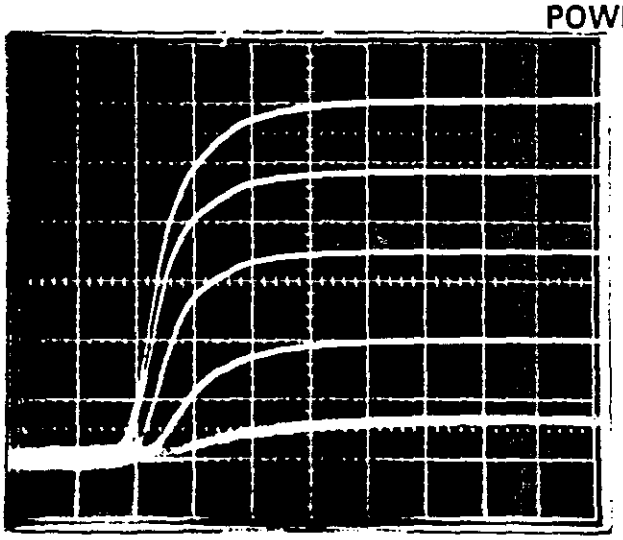
0.4 v/div

50 ns/div

S/N: BG40192 SQUARE WAVE with 10 μs Pulse
ROOM TEMPERATURE TESTED BY: B.B. 2/10/92

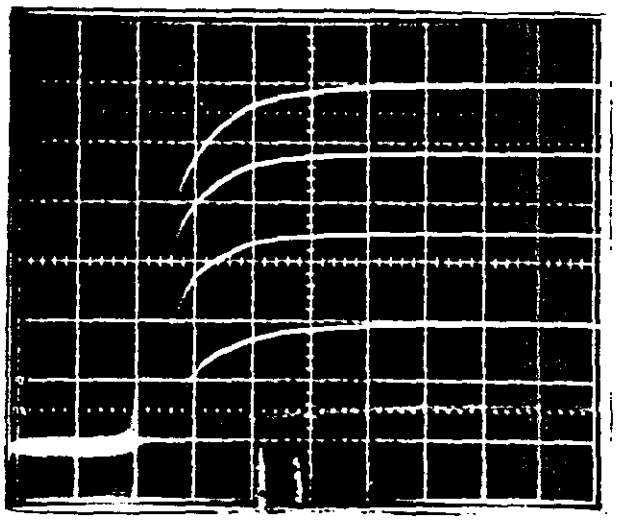
RISE TIME VS. FREQUENCY

POWER LEVEL (dBm)



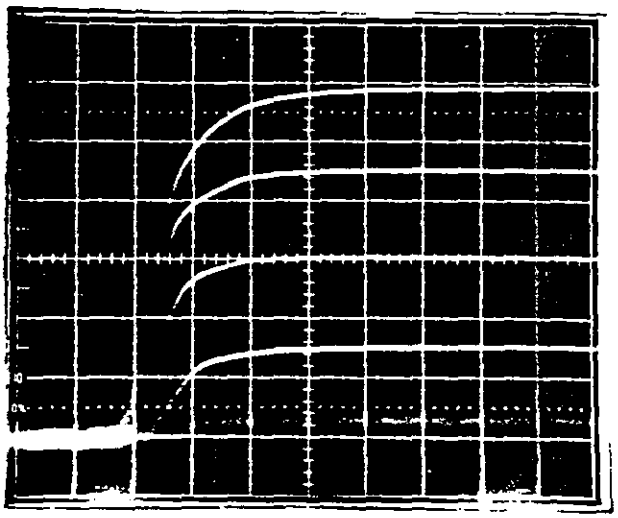
0
-10
-20
-30
-40

2 GHz
10 ns/div
0.4 v/div



0
-10
-20
-30
-40

10 GHz
10 ns/div
0.4 v/div

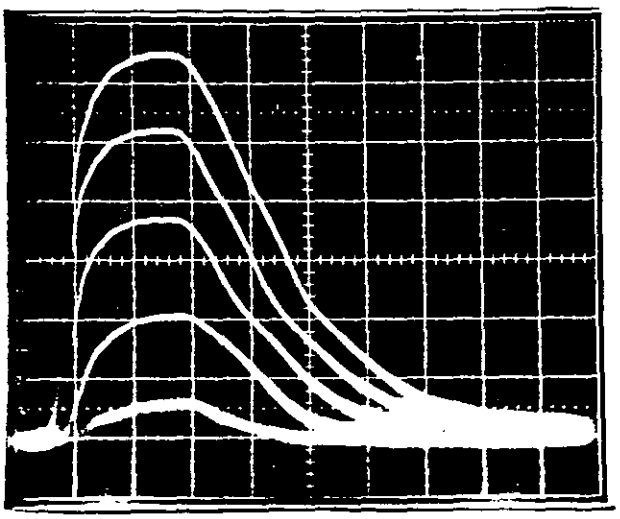


0
-10
-20
-30
-40

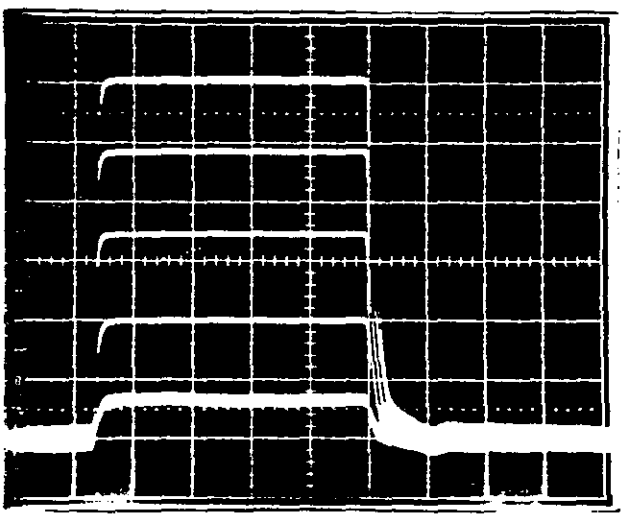
18 GHz
10 ns/div
0.4 v/div

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

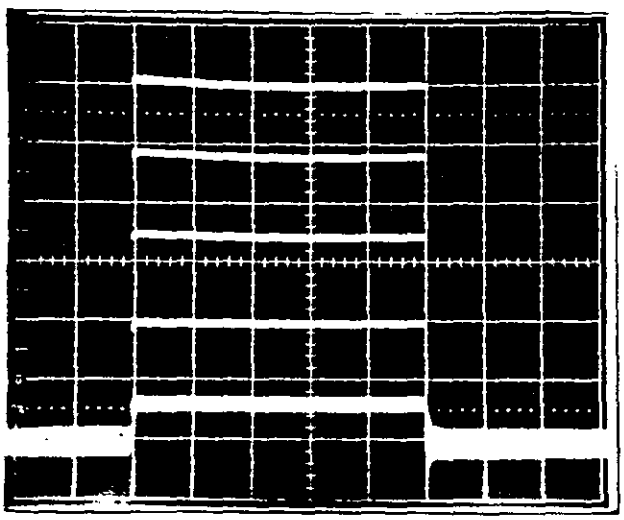
PULSE RESPONSE - 2 GHz



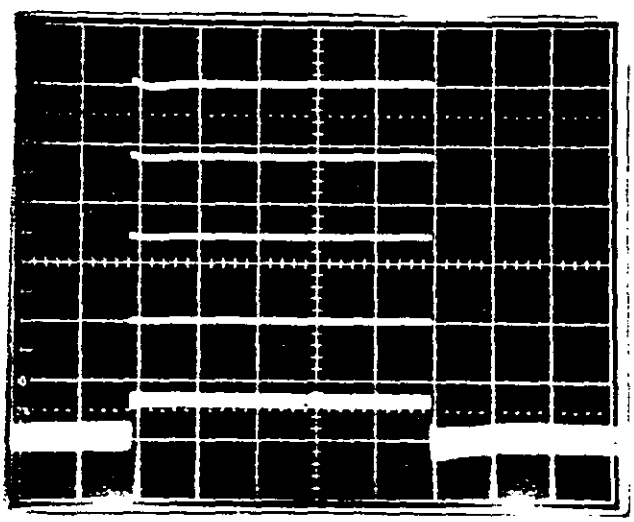
20 ns/div
0.4 v/div



200 ns/div
0.4 v/div



2 μs/div
0.4 v/div

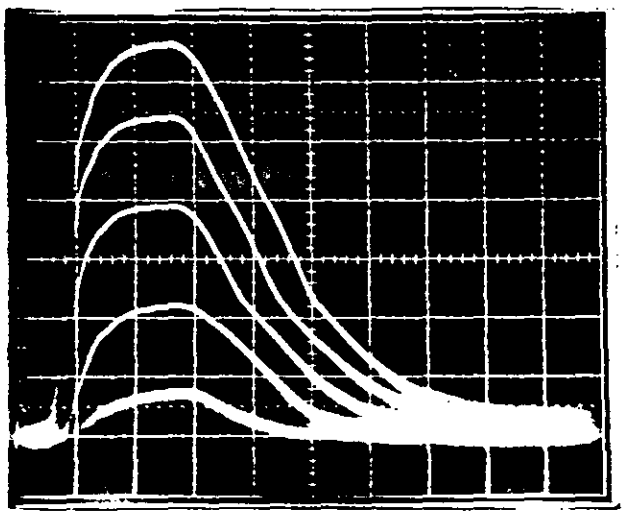


20 μs/div
0.4 v/div

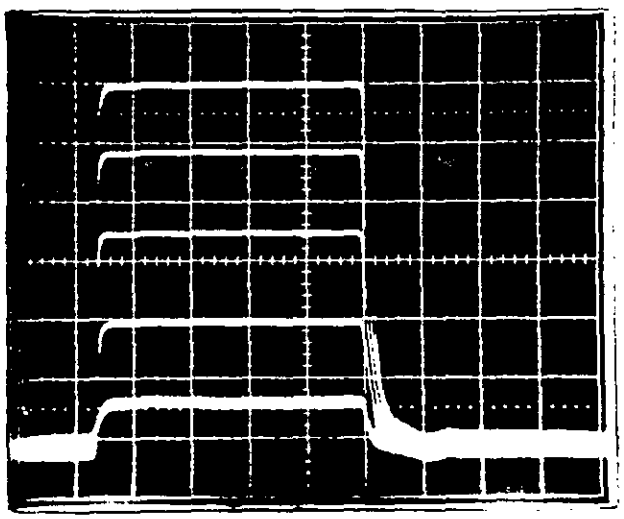
S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

PULSE REPONSE - 10 GHz

POWER LEVEL (dBm)

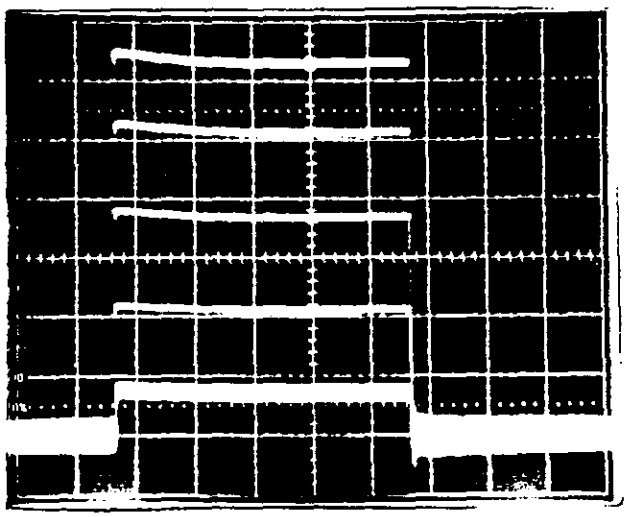


0
-10
-20
-30
-40

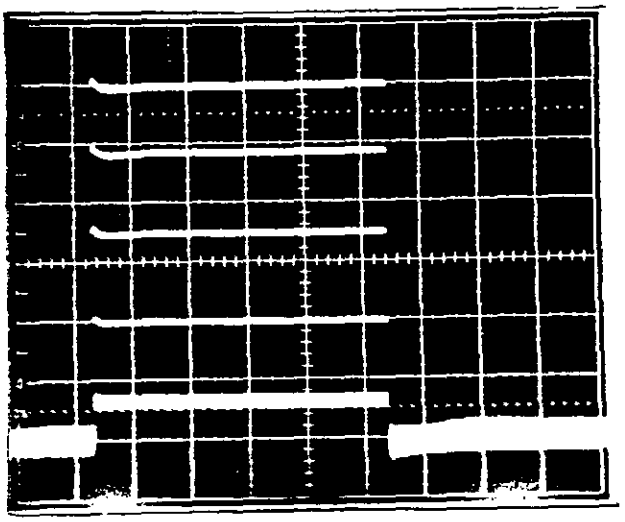


20 ns/div
0.4 v/div

200 ns/div
0.4 v/div



0
-10
-20
-30
-40

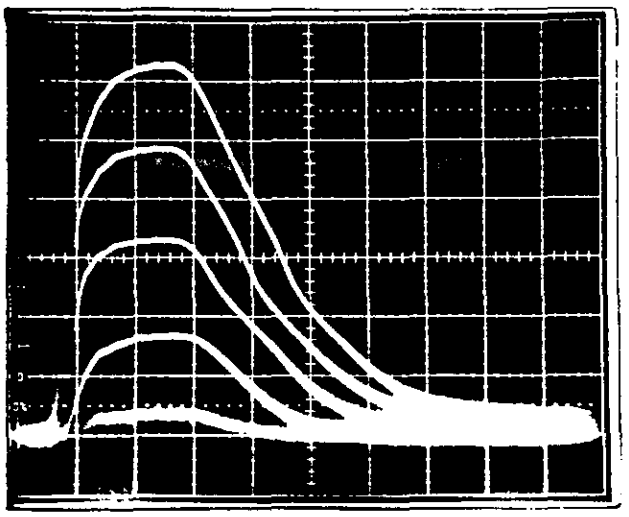


2 μs/div
0.4 v/div

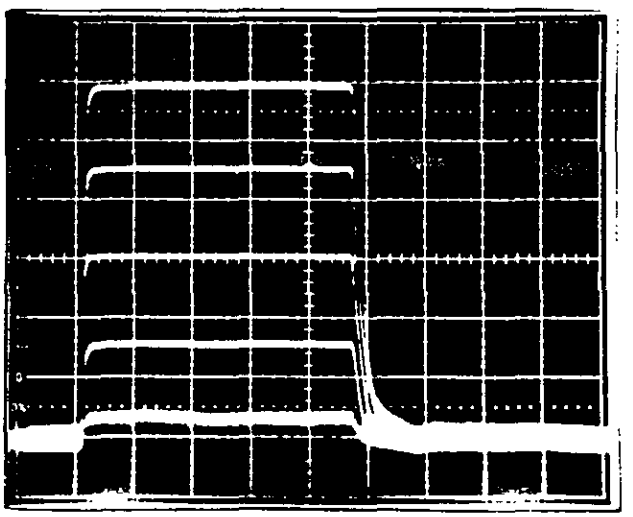
20 μs/div
0.4 v/div

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

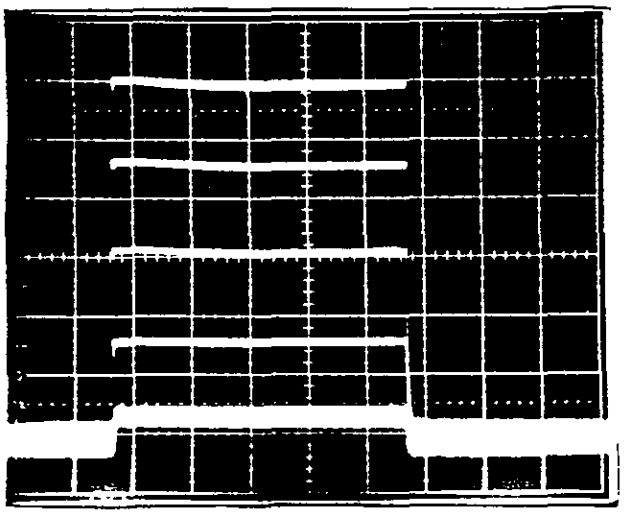
PULSE RESPONSE - 18 GHz



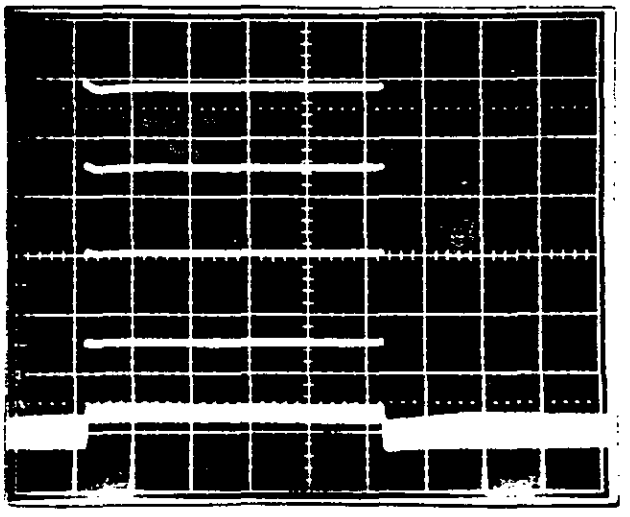
20 ns/div
0.4 v/div



200 ns/div
0.4 v/div



2 μs/div
0.4 v/div



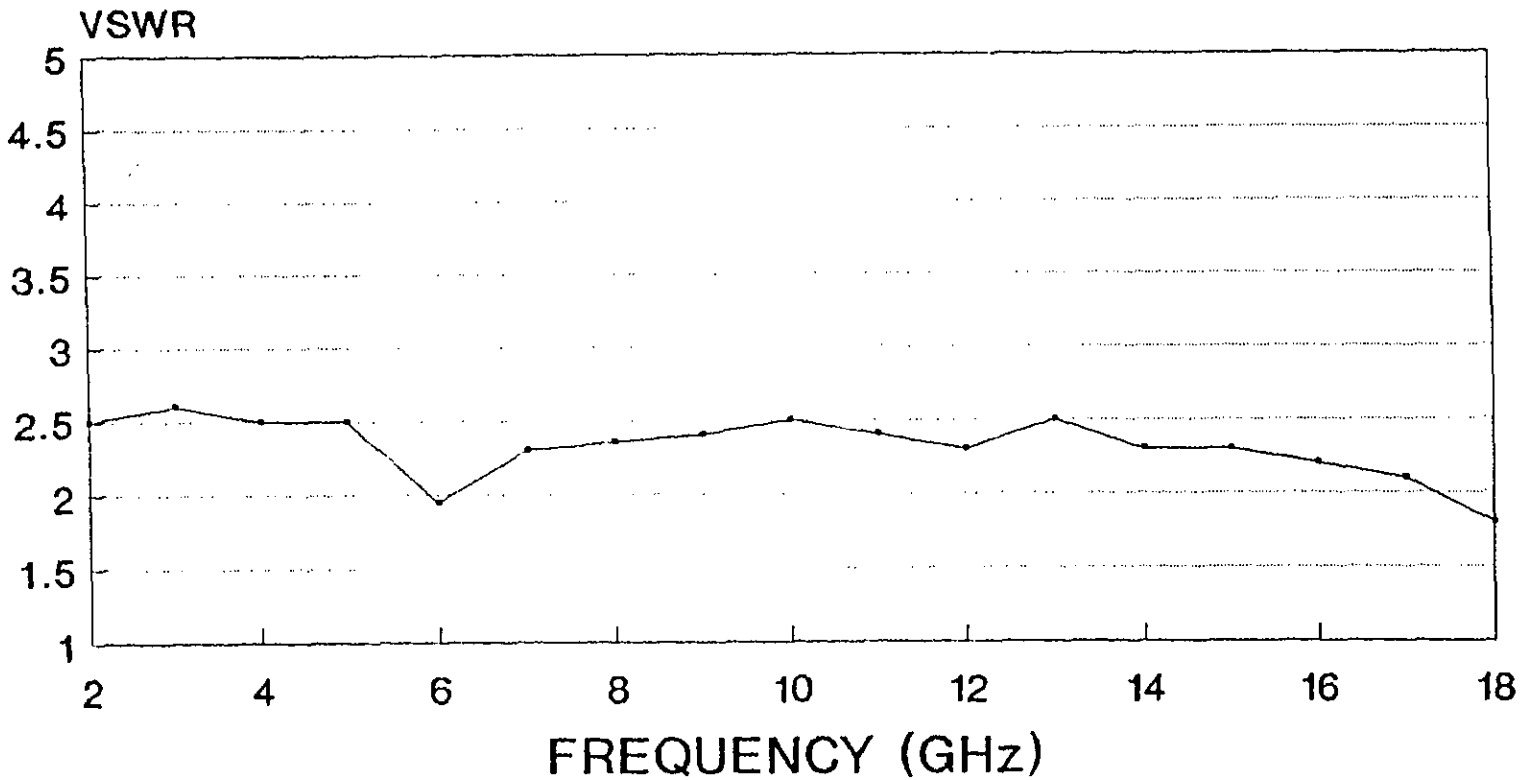
20 μs/div
0.4 v/div

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

LVD-218-50A

AMERICAN MICROWAVE CORPORATION

VSWR VS. FREQUENCY @ -20 dBm
2 TO 18 GHz



S/N:BG40192 2/10/92
TESTED BY: B.B.

TSS VS. VIDEO

BANDWIDTH

AND

RF FREQUENCY

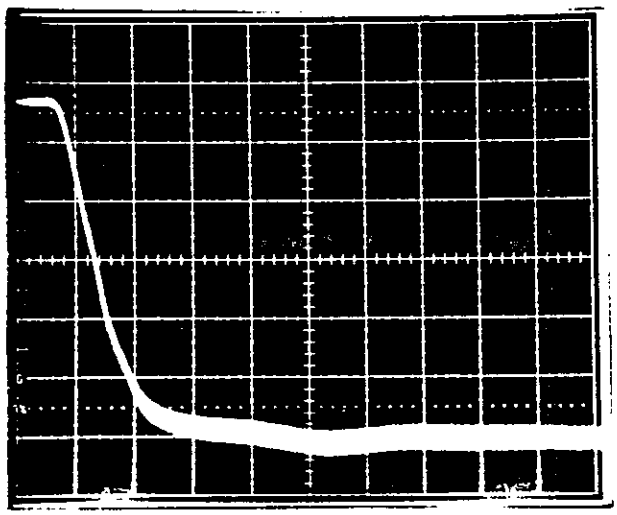
VIDEO BANDWIDTH	2 GHz	10 GHz	18 GHz
1 MHz	-48 dBm	-48 dBm	-46 dBm
10 MHz	-44 dBm	-44 dBm	-42 dBm
20 MHz	-43 dBm	-43 dBm	-41 dBm
OPEN BANDWIDTH	-40 dBm	-40 dBm	-40 dBm

S/N: BG40192 ROOM TEMPERATURE
TESTED BY: B.B. 2/10/92

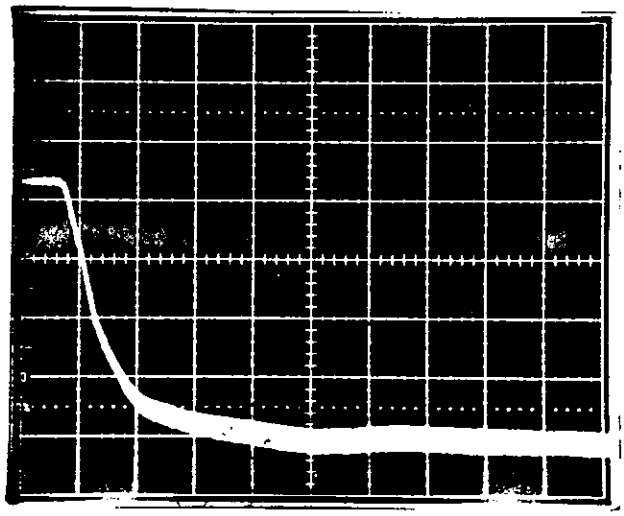
ADDITIONAL

TEST DATA

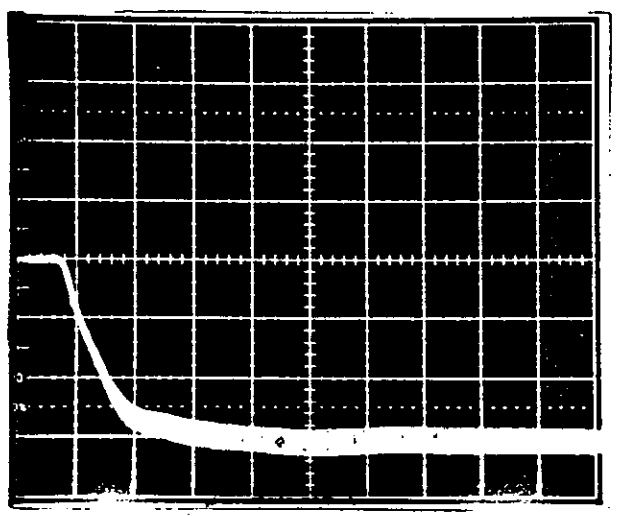
RECOVERY TIME - 18 GHz (DETAILED VIEW)



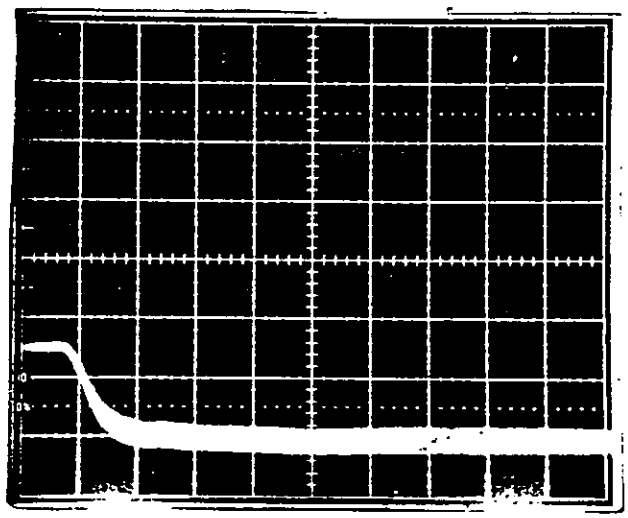
0 dBm
0.4 v/div
50 ns/div



-10 dBm
0.4 v/div
50 ns/div



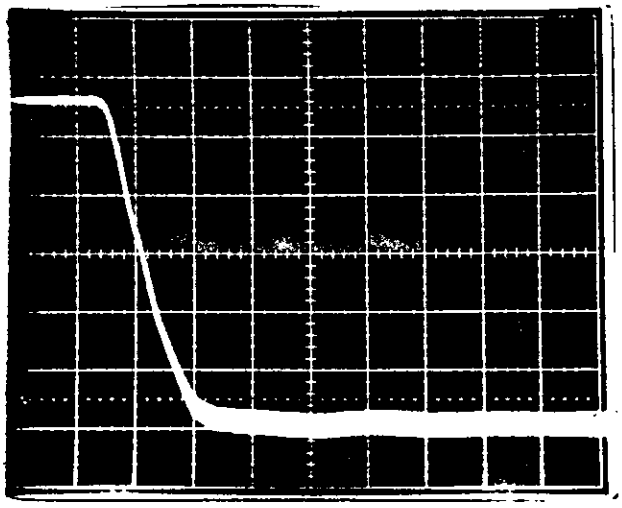
-20 dBm
0.4 v/div
50 ns/div



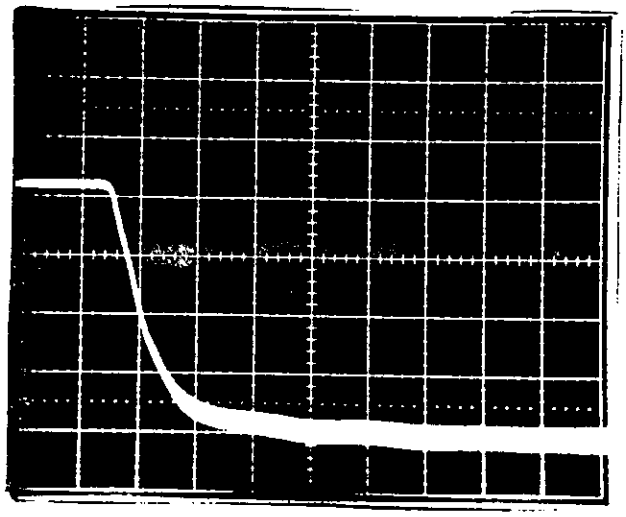
-30 dBm
0.4 v/div
50 ns/div

S/N: BG40192 SQUARE WAVE WITH 10μS PULSE
ROOM TEMPERATURE TESTED BY: B.B. 2/10/92

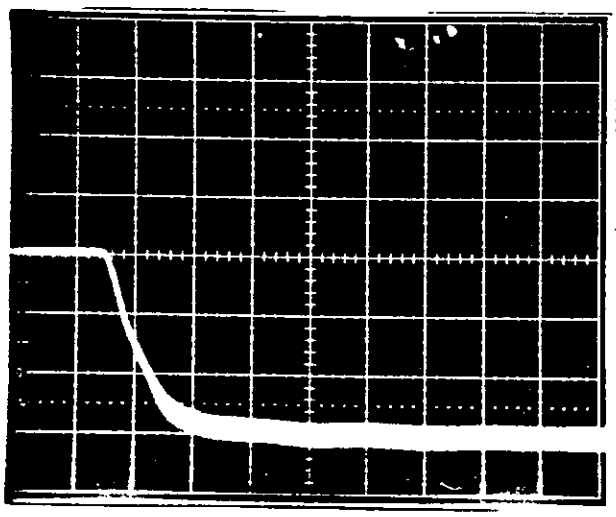
RECOVERY TIME - 18 GHz



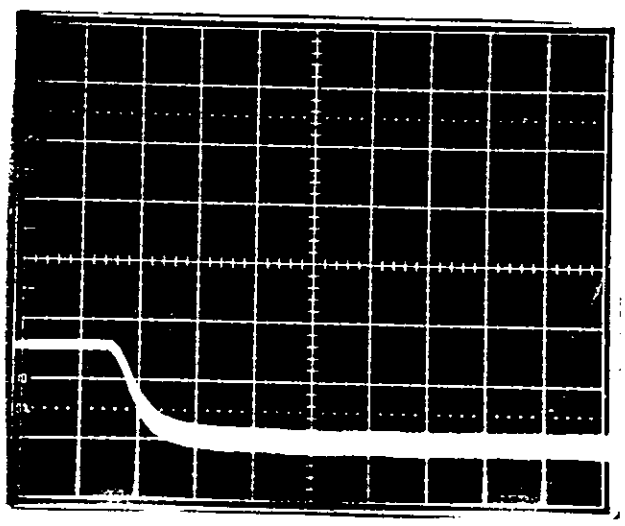
0 dBm
50 ns/div
0.4 v/div



-10 dBm
50 ns/div
0.4 v/div



-20 dBm
50 ns/div
0.4 v/div



-30 dBm
50 ns/div
0.4 v/div

S/N: BG40192 +85°c SQUARE WAVE WITH 10μS PULSE
TESTED BY: B.B. 2/10/92

AMERICAN MICROWAVE CORPORATION

TYPICAL

TEST DATA

FOR

WIDEBAND

0.5 - 18 GHz DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

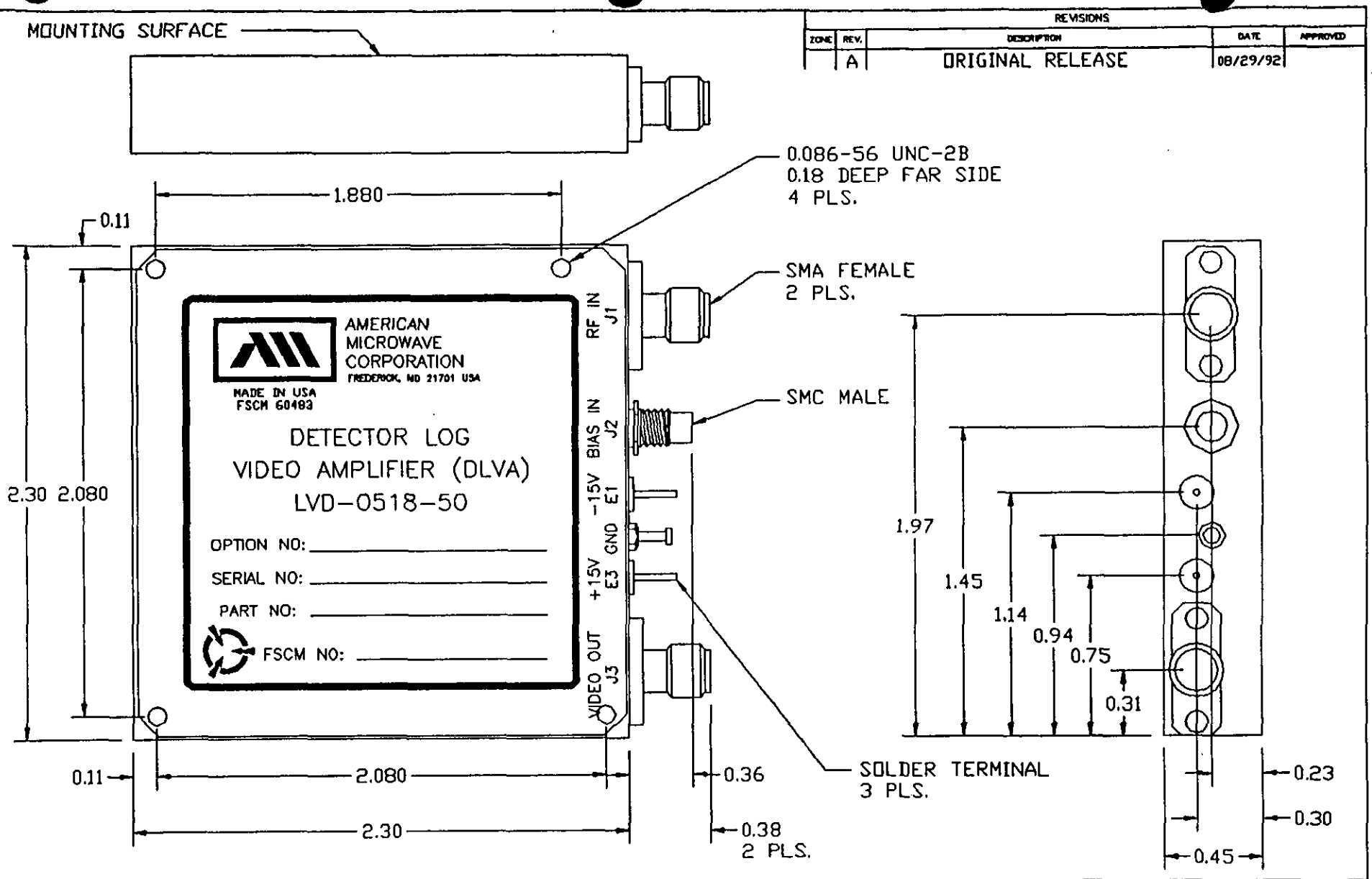
MODEL: LVD-0518-50

BY

AMERICAN MICROWAVE CORPORATION

15 SEPTEMBER 1992

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	08/29/92	

DIMENSIONS ARE IN INCHES.
TOLERANCE: X.XX ±0.02
X.XXX ±0.010

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND
APPROVALS	DATE	
DRAWN R.AFABLE	08/29/92	TITLE: OUTLINE DRAWING LVD-0518-50
CHECKED		
ISSUED		SIZE A · FSCM NO. 60483 · DWG NO. 100-2662 · REV. A
		SCALE 3:1 · SHEET 1 of 1

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20857

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.44dB
2	LOG SLOPE (-40 TO 0 dBm)	48.0 TO 50.0 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.25dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.6dB
6	RISE TIME	22nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20μS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±2.0dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.067 to 0.082 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.3 mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	68.2 mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL 20359

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.46dB
2	LOG SLOPE (-40 TO 0 dBm)	49.5 TO 50.5 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.45dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.8dB
6	RISE TIME	24nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±2.0dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.7:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.069 TO 0.095
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	57.7mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	67.5mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL 20860

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.44dB
2	LOG SLOPE (-40 TO 0 dBm)	49.0 TO 51.0 mV
3	TSS LEVEL (0.5 TO 18 GHz)	-42.0 dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±1.1dB
6	RISE TIME	24nS
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20μS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.5dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.1:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	2.8:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.055 TO 0.089 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.2 mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	66.4 mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892

JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20864

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.47dB
2	LOG SLOPE (-40 TO 0 dBm)	48.0 TO 50.2 MV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBM
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.4dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.8dB
6	RISE TIME	22NS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40NS
8	RECOVERY TIME (+14 dBm INPUT)	20μS
9	RECOVERY TIME (≤0 dBm INPUT)	400NS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±2.0dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	3.8:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.080 TO 0.110 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.3mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	67.9mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8/27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20872

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.45dB
2	LOG SLOPE (-40 TO 0 dBm)	48.75 TO 50.25 µV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBM
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.5dB
6	RISE TIME	22nS
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.75dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.06 TO 0.078 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	60.9mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	69.7mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20875

TESTED BY: B. Baker
DATE: 8/26/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.47dB
2	LOG SLOPE (-40 TO 0 dBm)	49.5 TO 50.5 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.4dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.5dB
6	RISE TIME	23nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20μS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.5dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.6:1 MAX
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1 MAX
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.045 TO 0.110
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	59.4mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	68.8mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20877

TESTED BY: B Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.45dB
2	LOG SLOPE (-40 TO 0 dBm)	49.5 TO 50.1 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.4dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.6dB
6	RISE TIME	21nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.3dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.2:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.095 TO 0.106 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.3mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	68.5mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8/27/92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER:
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20878

TESTED BY: B. Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.44dB
2	LOG SLOPE (-40 TO 0 dBm)	48.0 TO 51.0 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42 dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±1.0dB
6	RISE TIME	22nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±0.6dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.7:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.087 TO 0.116 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	60.3 mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	67.9 mA MAX

PRODUCTION MANAGER APPROVAL: [signature] DATED: 8-27-92

QA/QC APPROVAL: [signature] DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20879

TESTED BY: B Bafw-
DATE: 8/22/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.49dB
2	LOG SLOPE (-40 TO 0 dBm)	49.25 TO 50.5 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42 dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.5dB
6	RISE TIME	22nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	300nS MAX
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.5dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.043 TO 0.081 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.8 mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	68.0 mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____
JOB NO: 20495
MODEL NO: LVD-0518
SERIAL NO: DL20880

TESTED BY: D Baker
DATE: 8/27/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.45dB
2	LOG SLOPE (-40 TO 0 dBm)	48.0 TO 51.5 mV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±1.1dB
6	RISE TIME	22nS MAX
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	300nS
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±1.5dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	2.9:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.037 TO 0.084 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.7mA MAX
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	68.3mA MAX

PRODUCTION MANAGER APPROVAL: _____ DATED: 8-27-92

QA/QC APPROVAL: _____ DATED: 8-27-92

FORM: DLVA-12/0892 JOB NO: 20495

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER:
JOB NO: 20495
MODEL NO: LVD-0518-50
SERIAL NO: DL20890

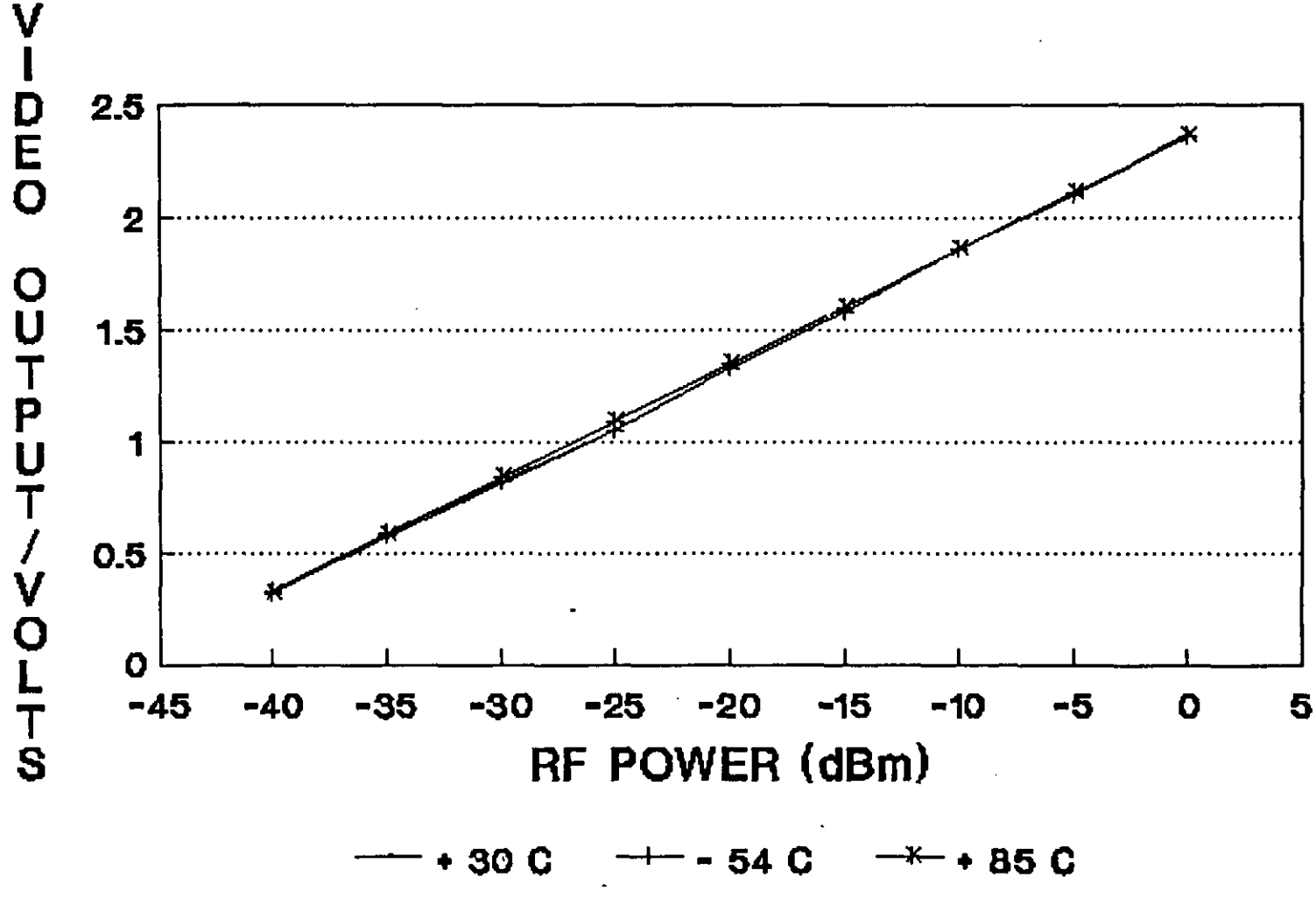
TESTED BY: B. Baker
DATE: 9/14/92

TEST ITEM NO.	PARAMETERS	MEASURED VALUE
1	LOG LINEARITY (-40 TO 0 dBm)	±0.47dB
2	LOG SLOPE (-40 TO 0 dBm)	48.5 TO 50.5 MV/dB
3	TSS LEVEL (0.5 TO 18 GHz)	-42dBm
4	LOG STABILITY FROM -54°C TO +85°C (0 - 35 dBm)	±0.5dB
5	LOG STABILITY FROM -54°C TO +85°C (-35 TO 40 dBm)	±0.7dB
6	RISE TIME	20nS
7	SETTLING TIME (100 nS PULSE, -25 dBm)	40nS
8	RECOVERY TIME (+14 dBm INPUT)	20µS
9	RECOVERY TIME (≤0 dBm INPUT)	400nS
10	FREQUENCY FLATNESS (0.5 TO 18 GHz)	±2.2dB
11	VSWR (0 dBm INPUT, 0.5 TO 18 GHz)	2.5:1
12	VSWR (-20 dBm INPUT, 0.5 TO 18 GHz)	3.0:1
13	VIDEO BASELINE VOLTAGE (-54°C TO +85°C)	0.044 TO 0.100 VOLTS
14	D.C. POWER CONSUMPTION (mA) (NO INPUT, +15V)	58.5mA
15	D.C. POWER CONSUMPTION (mA) (NO INPUT, -15V)	67.8mA

PRODUCTION MANAGER APPROVAL: [signature] DATED: 9/15/92

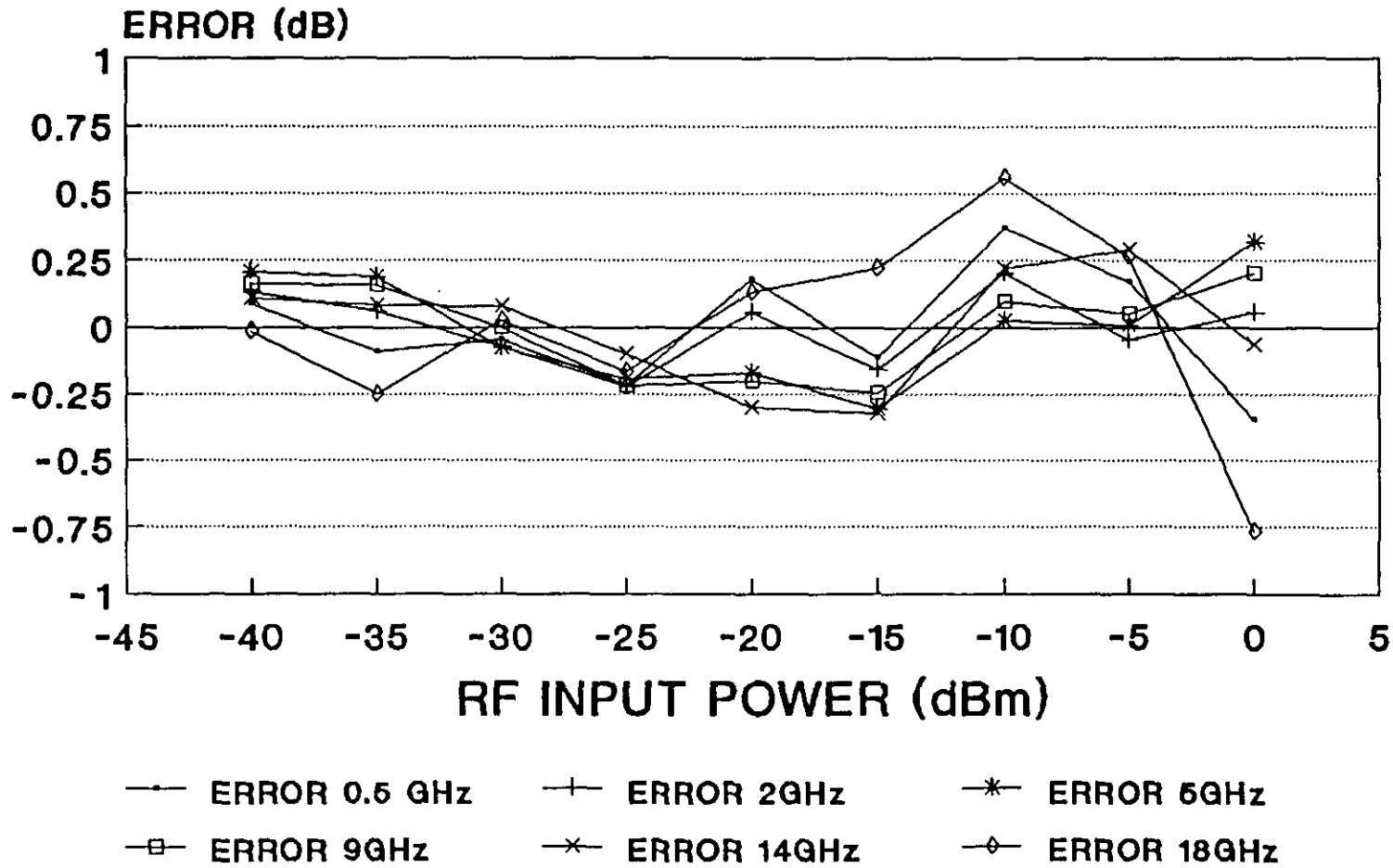
QA/QC APPROVAL: [signature] DATED: 9-15-92

LVD-0518-50
LOG TRANSFER WITH TEMPERATURE



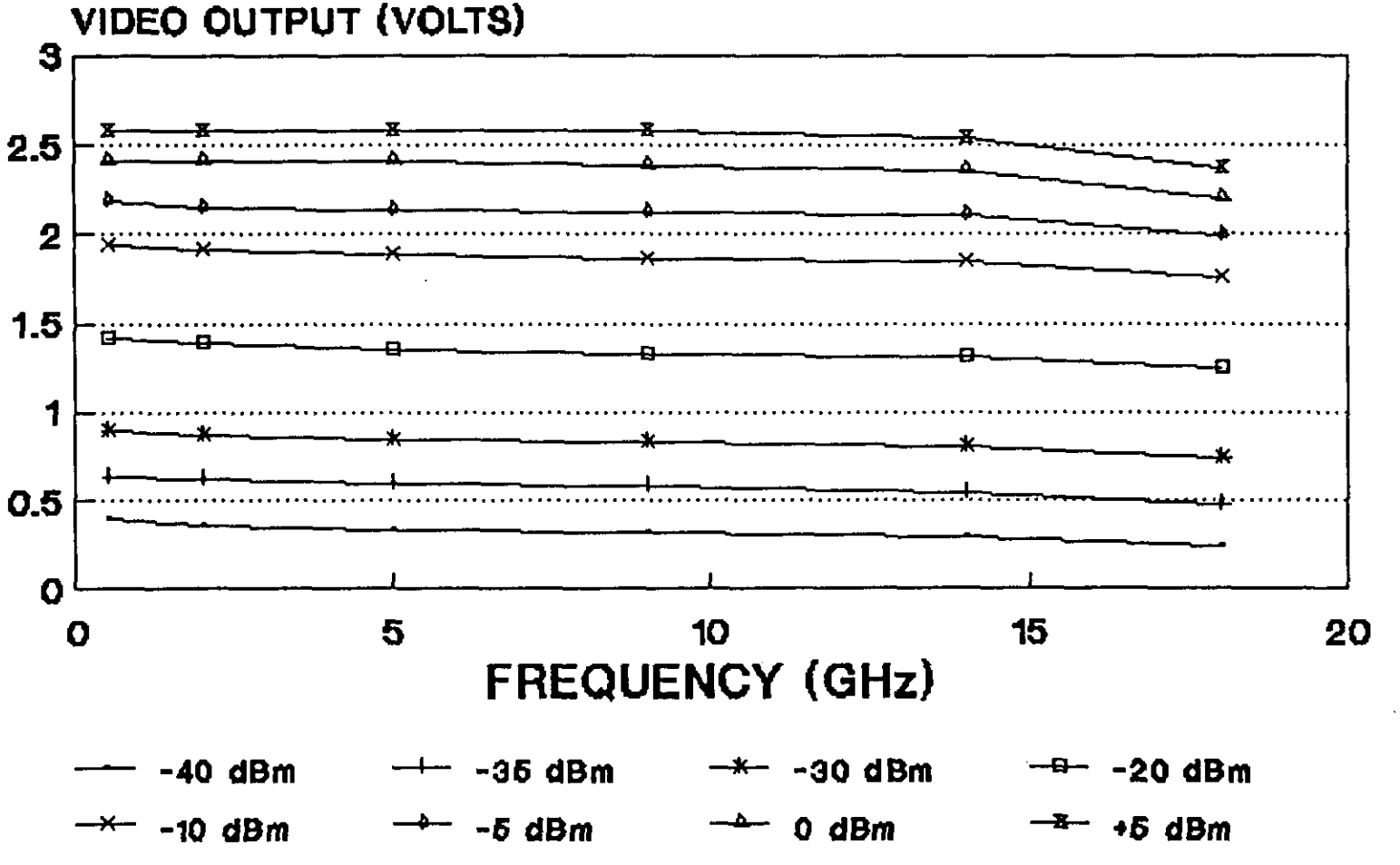
9/9/92, 10 GHz
S/N: DL20890

LVD-0518-50
LOGGING ERROR



9/9/92
S/N: DL20890

LVD-0518-50
VIDEO OUTPUT WITH FREQUENCY



9/9/92
S/N: DL20890

AMERICAN MICROWAVE CORPORATION

TEST DATA

ON

0.5 to 18 GHz

ULTRA - WIDEBAND

70/75 dB

TRULY DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

AMC MODEL NO: LVD-218-70/75 (Option 0518)

(SERIAL NO: DL308148)

BY

AMERICAN MICROWAVE CORPORATION

10 SEPTEMBER 1993

7311G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE JOB# 307165	09/09/93	

DESCRIPTION

THE LVD-218 SERIES DLVA'S ARE AVAILABLE IN EXTENDED 70/75dB AND STANDARD 50dB DYNAMIC RANGE OVER THE FULL 0.5-18 GHz BANDWIDTH, WITH TRUE DC COUPLING. UNITS EMPLOY PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. THE DLVA'S ARE OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY. THE SIZE IS 3.0" x 3.5" x 0.5".

FEATURES

- TRULY DC COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SHORT RECOVERY TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE CAPABILITY
- MINIATURE SIZE
- 7.2 OZ WEIGHT

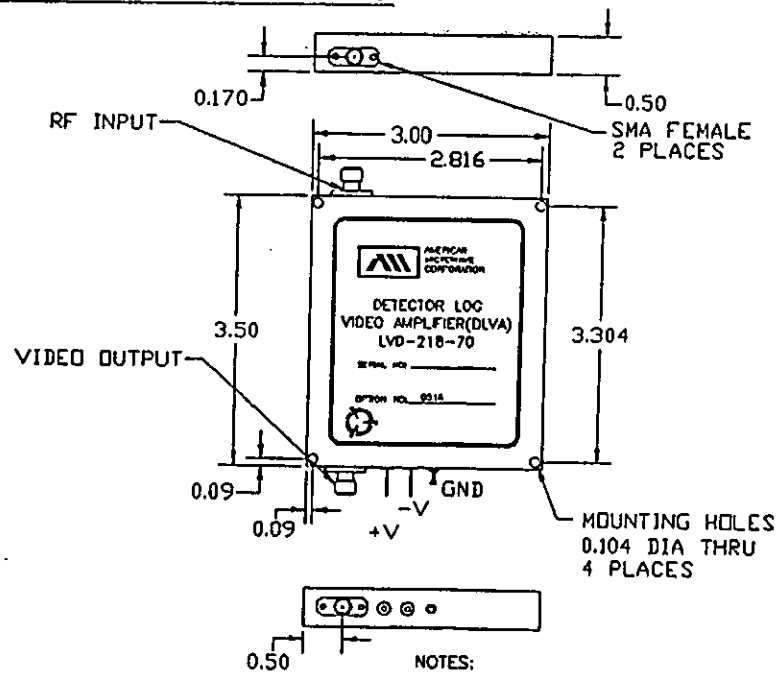
SPECIFICATIONS

- FREQUENCY RANGE ..... 0.5 TO 18 GHz
- FREQUENCY FLATNESS ..... ±2.0dB TYPICAL (±2.5dB MAXIMUM)
- TSS ..... -68dBm (-70dBm 6-18 GHz)
- VSWR ..... 3.0:1 MAXIMUM (2.5:1 TYPICAL)
- DYNAMIC RANGE 80dB
- LOGGING RANGE ..... -70 TO +10dBm
- LOG LINEARITY ..... ±1.75dB
- LOG SLOPE ..... 50mV/dB OR AS DESIRED
- LOG SLOPE ACCURACY ..... ±5% MAXIMUM OF AVERAGE SLOPE
- LOG TEMPERATURE STABILITY ..... ±1.5dB (0°C TO 60°C)
- RISE TIME ..... 30nS MAXIMUM, 20nS TYPICAL
- RECOVERY TIME ..... 250nS TYPICAL, 350nS MAXIMUM
- VIDEO LOAD ..... 50 OHMS (TYPICAL), OR AS DESIRED
- DC POWER (NO LOAD)
  - +V ..... 9 TO 18V @ 350mA TYPICAL, 375mA MAXIMUM
  - -V ..... 9 TO 18V @ 200mA MAXIMUM
- SIZE ..... 3.00" x 3.5" x 0.5"

AVAILABLE OPTIONS (SPECIFY)

A01	EXTENDED 0.2 TO 20 GHz RF FREQUENCY RANGE
A02	EXTENDED 0.5 TO 18 GHz RF FREQUENCY RANGE
A03	FASTER RISE/RECOVERY TIMES
A04	ALTERNATE LOG SLOPES
A05	HIGH POWER RF CW/PEAK PROTECTION
A06	EXTENDED LOGGING RANGE
A07	OTHER VIDEO LOADS
A08	-54°C TO +85°C WITH LOG TEMPERATURE STABILITY OF ±1.75dB

MECHANICAL OUTLINE



NOTES:

1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020, X.XXX ±0.010
3) WEIGHT: 7.2 OZ
4) UNIT IS EPOXY SEALED

ENVIRONMENTAL RATINGS

TEMPERATURE	-54°C TO +85°C (OPERATING) -65°C TO +100°C (STORAGE)
HUMIDITY	MIL-STD-202F, METHOD 103B COND. B
SHOCK	MIL-STD-202F, METHOD 213B COND. B
VIBRATION	MIL-STD-202F, METHOD 204D COND. B
ALTITUDE	MIL-STD-202F, METHOD 105C COND. B
TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D COND. A

APPROVALS	DATE
DRAWN RA	08/09/93
CHECKED JXL	09/10/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

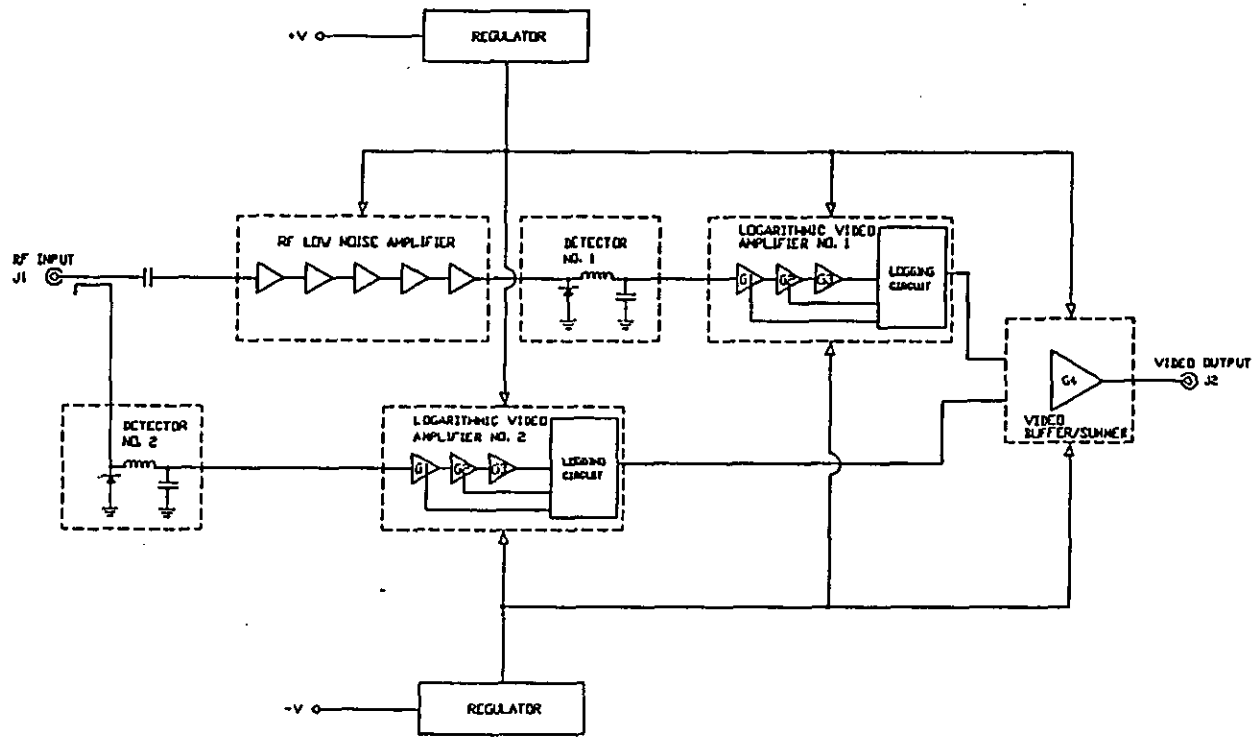
PRODUCT FEATURE

LVD-218-70/75 (OPTION 0518)

0.5 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER

SIZE	SHEET	DWG. #
A	1 OF 2	100-3278

FUNCTIONAL BLOCK DIAGRAM



2

APPROVALS	DATE
DRAWN	08/09/93
	08/10/93

AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

LVD-218-70/75 (OPTION 0518)

0.5 TO 18 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG AMPLIFIER

SIZE A | SHEET 2 OF 2 | DWG. [illegible]0-3278

FORM: DLVA-31/0993 JOB NO: 308186-2

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER (DLVA)

CUSTOMER: Lockheed Sanders
JOB NO: 308186-2
MODEL NO: LVD-218-70 (OPTION 0518)
SERIAL NO: DL308148

TESTED BY: B.B.
TEMPERATURE: -55 to +85°C
DATE: 9/8/93

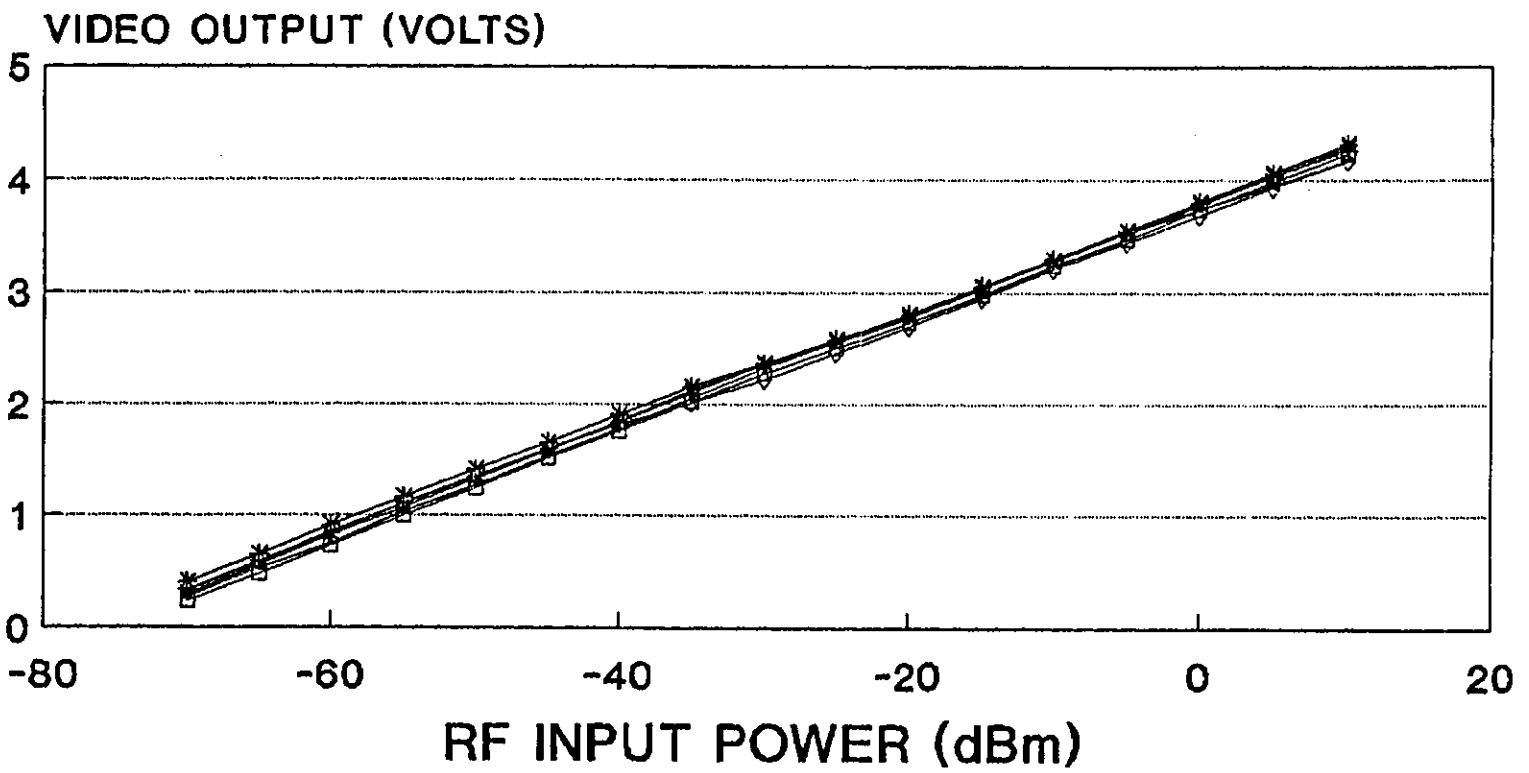
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR (0.5 - 18 GHz)	3.0:1 (MAX)	2.3:1	
2	TYPICAL OUTPUT VOLTAGE @ -70 dBm to +10 dBm	PLOT ATTACHED	0.3 to 4.3 VOLTS	
3	TSS (0.5 - 18 GHz)	-68 dBm (MIN)	-68 dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	48 to 51 mV/dB	
5	LOG LINEARITY @ -70 dBm TO +10 dBm	±1.75 dB (MAX)	±1.65dB	
6	FREQUENCY FLATNESS (0.5 - 18 GHz)	±2.0 dB (MAX)	±1.8dB	
7	RECOVERY TIME (MAX) -70 to +10 dBm	250 nSEC	200nSEC	
8	OUTPUT STABILITY (-55°C to +85°C)	±1.75 dB (MAX)	±1.3dB	
9	RISE TIME (10% TO 90% POINTS)	30 nSEC (MAX)	30nSEC	
10	D.C. POWER @ +15 V	400 mA (MAX)	340mA	
11	D.C. POWER @ -15 V	200 mA (MAX)	130mA	

PRODUCTION MANAGER APPROVAL: SR DATED: 9/8/93

QA/QC APPROVAL: H. Hall DATED: 9/8/93

DLVA 218-70 : S/N DL308148
LOG TRANSFER WITH FREQUENCY

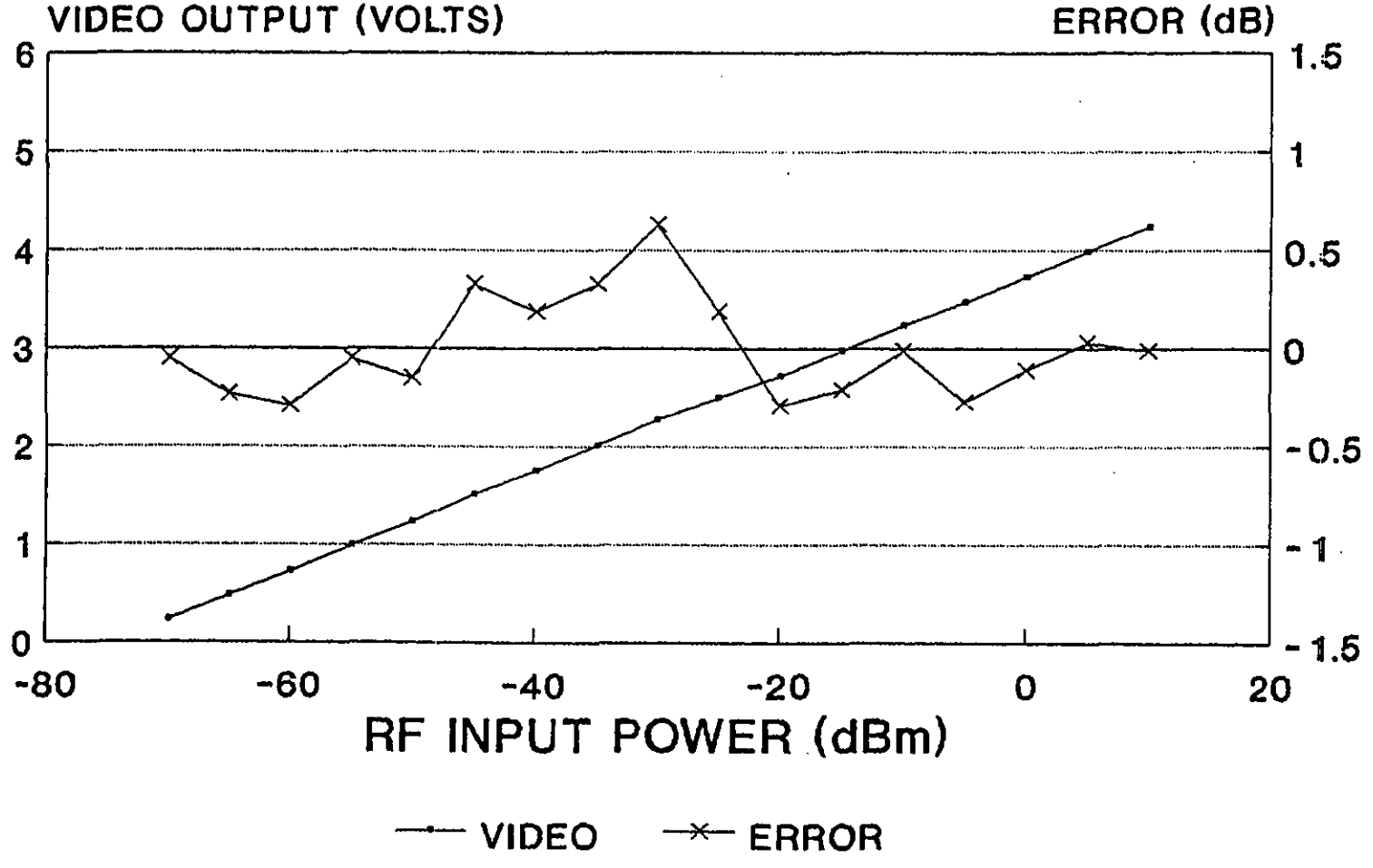
AMERICAN MICROWAVE CORPORATION



TESTED BY B.B, 9/3/93, + 30 C

DLVA 218-70 : S/N DL308148
LOG LINEARITY

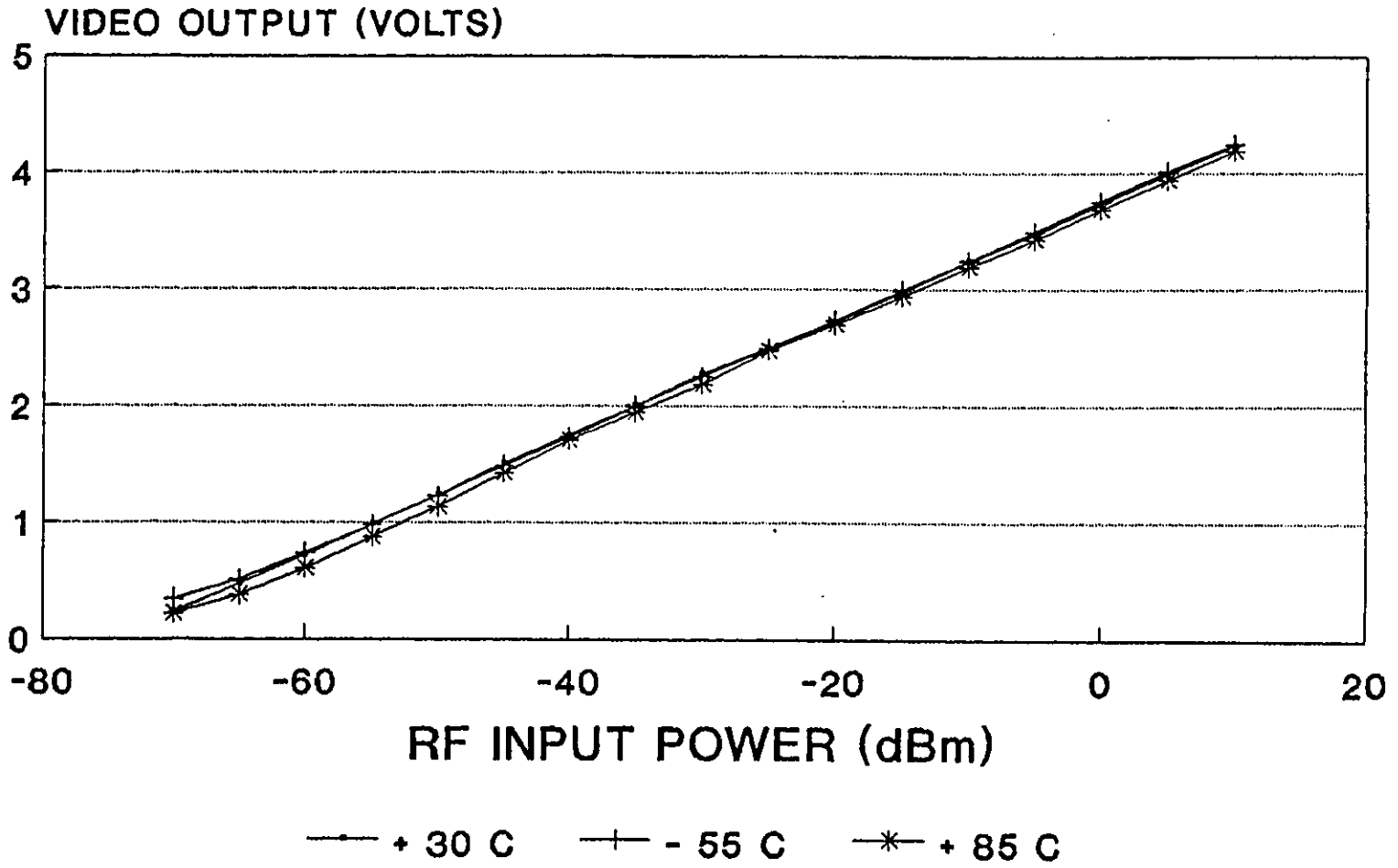
AMERICAN MICROWAVE CORPORATION



TESTED BY B.B,9/3/93,10GHz,+30 C

DLVA 218-70 : S/N DL308148
LOG TRANSFER WITH TEMPERATURE

AMERICAN MICROWAVE CORPORATION



TESTED BY B.B, 9/3/93, 10 GHz

AMERICAN MICROWAVE CORPORATION

TEST DATA

FOR

WIDEBAND

70/75 dB

6 - 18 GHz DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

AMC MODEL: LVD-218-70/75

(SERIAL NO: DL20538)

BY

AMERICAN MICROWAVE CORPORATION

11 MAY 1992

7311G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

LVD-218-70/75 (6 - 18 GHz)
TABLE OF CONTENTS

TEST DATA

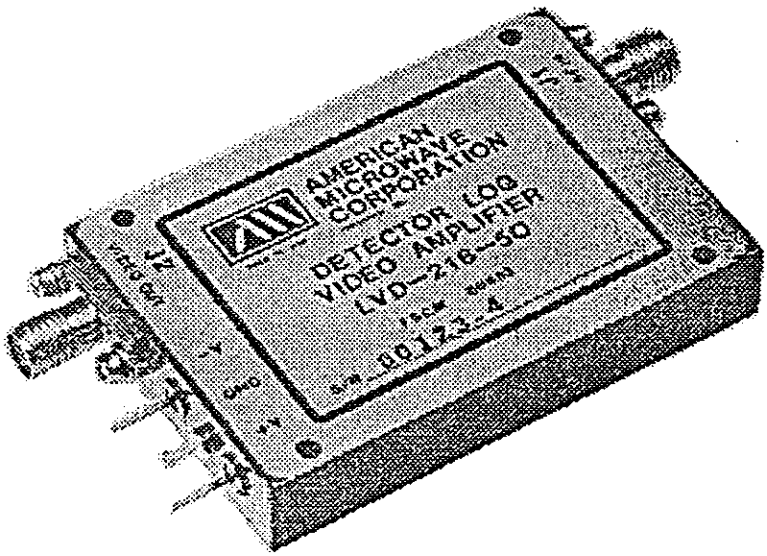
ADDITIONAL TEST DATA

American Microwave Corporation

DLVA

DETECTOR LOG VIDEO AMPLIFIER
2-18 GHZ, 45 DB DYNAMIC RANGE

MODEL: LVD-218-50



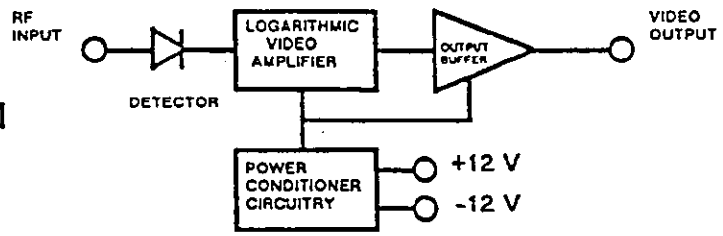
FEATURES

- DC Coupled
- Wide Bandwidths
- Fast Rise Times
- Short Recovery Times
- Small Size

DESCRIPTION

The LVD-218 -50 Series DLVA's offer 50 dB dynamic range over the full 2-18 GHz bandwidth with DC coupling. Units employ planar diode detectors and monolithic video circuitry for high speed performance and outstanding reliability. They are available with optional external or internal controlled CW nulling.

FUNCTIONAL BLOCK DIAGRAM



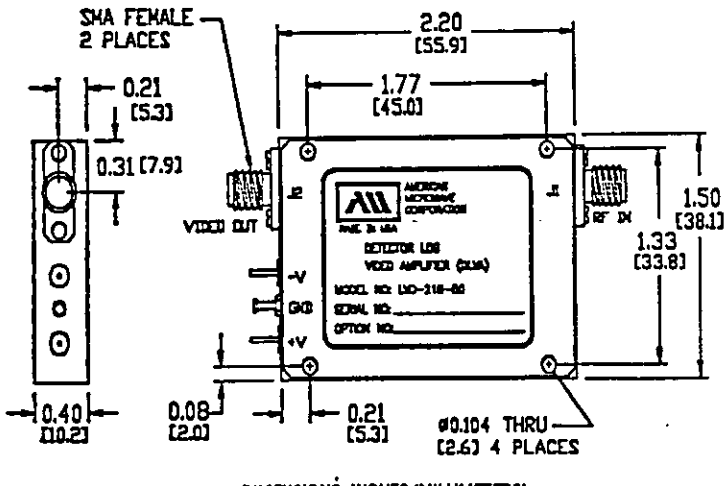
7311G GROVE ROAD, FREDERICK, MARYLAND 21701, •Tel: (301) 662-4700 •Fax: (301) 662-4938

GUARANTEED SPECIFICATIONS

PARAMETER	SPECIFICATIONS
•Frequency	2-18 GHz
•Flatness (-20 dBm)	±1.5 dB
•VSWR	3.0:1, Max
•TSS	-40 dBm, Max.
•Logging Range	-40 to +5 dBm
•Log Slope (Note 1)	50 mV/dB, ±10%
•Log Linearity (-40 to 0 dBm)	±1.0 dB, Max.
•Output Stability (-54°C to +85°C)	±1.0 dB, Max.
•Pulse Width Range	50 ns to CW
•Rise Time	20 ns, Max.
•Recovery Time (from 0 dBm)	150 ns, Max
•Video Load	100 Ohms, Min.
•D.C. Power (Note 2)	±12 V @80 mA
•Weight	1.5 oz.

Notes:
1. Other Log slopes available.
2. Other voltages from ±9 V to ±18 V available.
3. Internal or external CW nulling available.

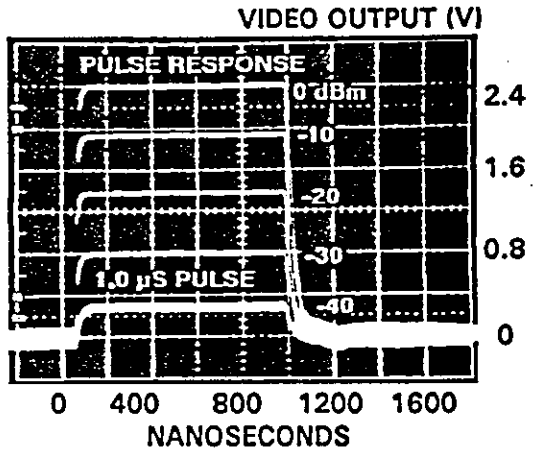
MECHANICAL DATA

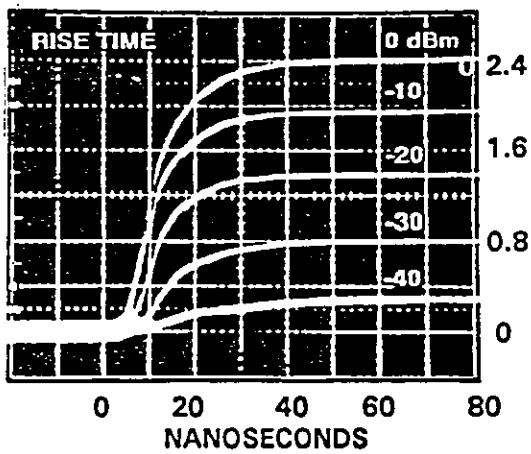


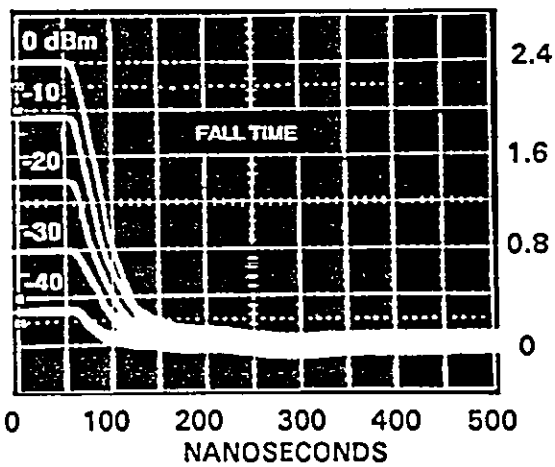
DIMENSIONS: INCHES (MILLIMETERS)

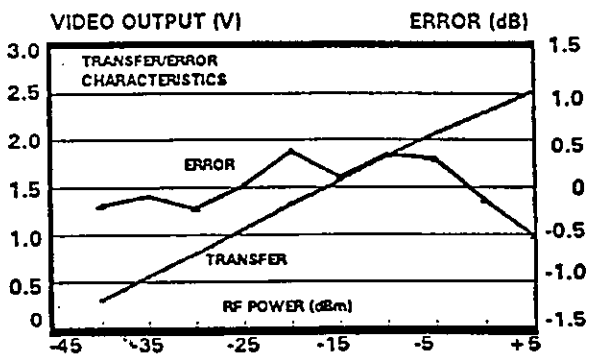
TYPICAL PERFORMANCE

VIDEO RESPONSE





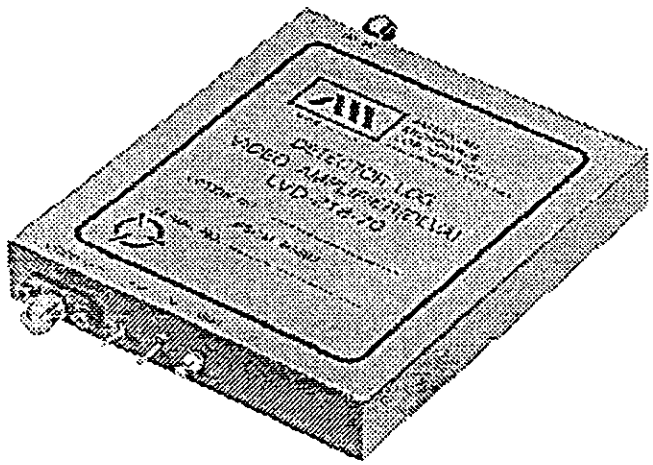




American Microwave Corporation

DLVA

DETECTOR LOG VIDEO AMPLIFIER
2-18 GHZ, 75 DB DYNAMIC RANGE
MODEL: LVD-218-70



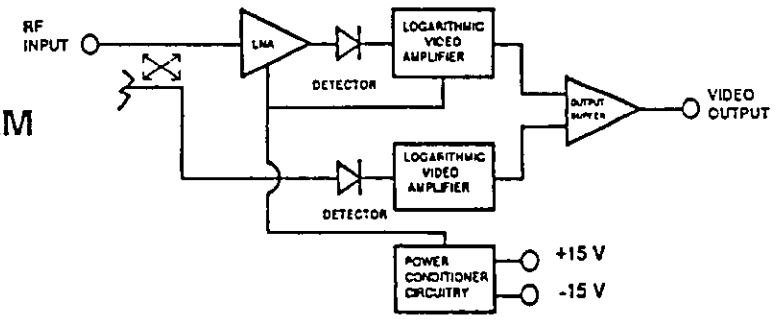
FEATURES

- DC Coupled
- Wide Bandwidths
- Fast Rise Times
- Short Recovery Times
- Extended Dynamic Range
- MMIC Reliability

DESCRIPTION

The LVD-218 -70 Series DLVA's offer 80 dB dynamic range over the full 2-18 GHz bandwidth with DC coupling. Units employ planar diode detectors , a GaAs FET LNA and monolithic video circuitry for high speed performance and outstanding reliability. They are available with optional external or internal controlled CW nulling.

FUNCTIONAL BLOCK DIAGRAM



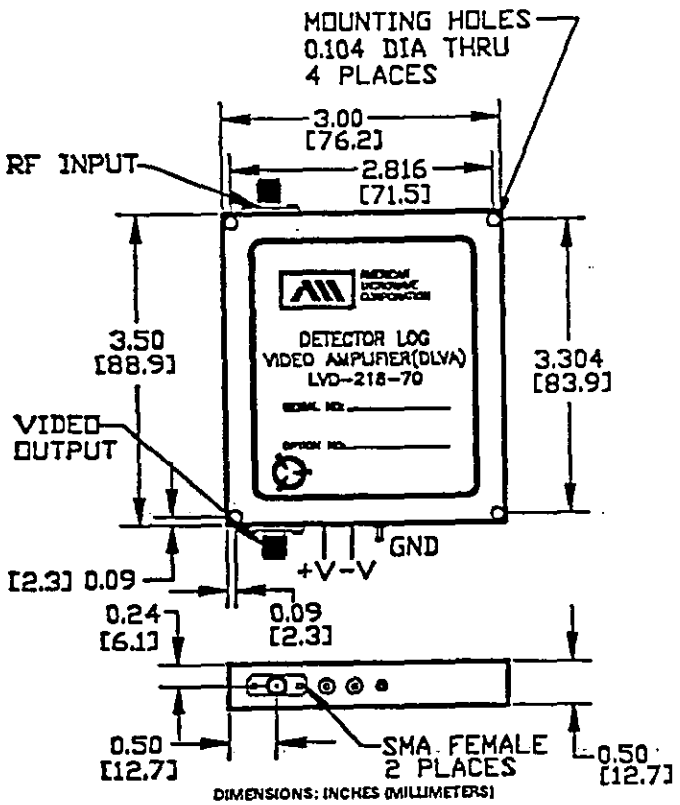
7311G GROVE ROAD, FREDERICK, MARYLAND 21701, • Tel: (301) 662-4700 • Fax: (301) 662-4938

GUARANTEED SPECIFICATIONS

PARAMETER	SPECIFICATIONS
•Frequency (note 4)	2-18 GHz
•Flatness (-20dBm)	±2.5 dB
•VSWR	3.0:1, Max
•TSS	-68 dBm, Min.
•Logging Range	-65 to +10 dBm
•Log Slope (see note 1)	50 mV/dB
•Log Linearity (-65 to +10 dBm)	±2.0 dB, Max.
•Output Stability (0°C to +60°C)	±2.0 dB, Max.
•Pulse Width Range	50 ns to CW
•Rise Time	30 ns, Max.
•Recovery Time	350 ns, Max
•Video Load (note 2)	100 Ohms, Min.
•D.C. Power (note 3)	+15V@400mA
	-15V @150mA
•Weight	7.0 oz.

Notes:
1. Other Log slopes available.
2. Other Video Loads down to 50 Ohms available.
3. Other voltages from ±9V to ±18V available.
4. 0.2 to 20 GHz RF Bandwidth available.
5. -55°C to +85°C operating temperature.
6. Internal or external cw nulling available.

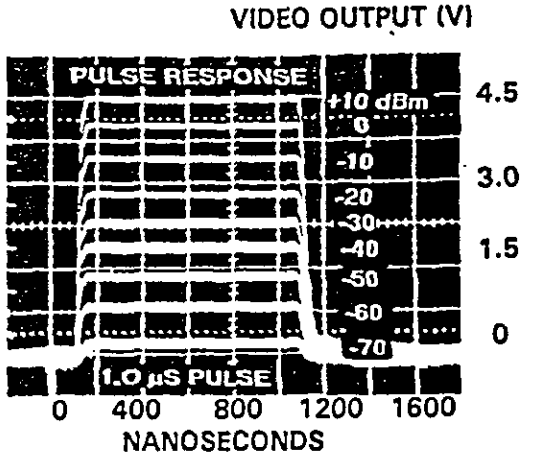
MECHANICAL DATA

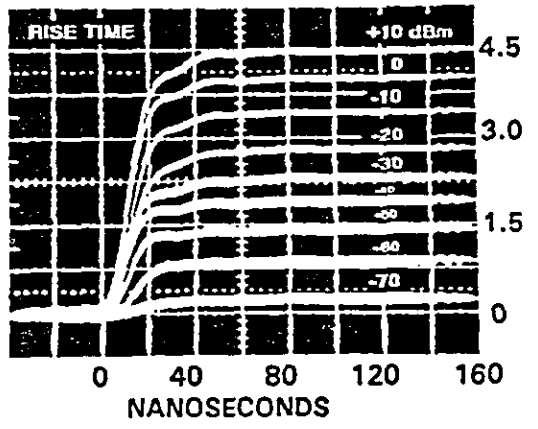


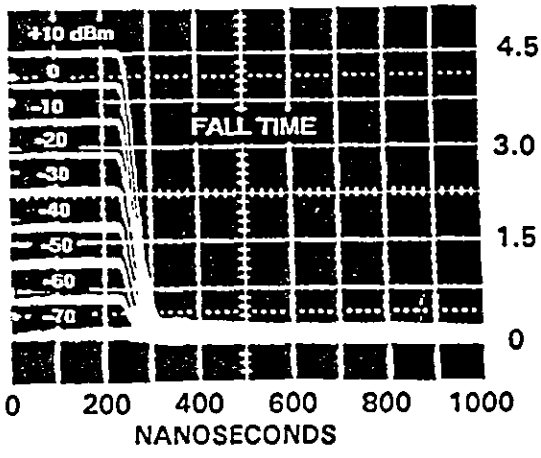
DIMENSIONS: INCHES (MILLIMETERS)

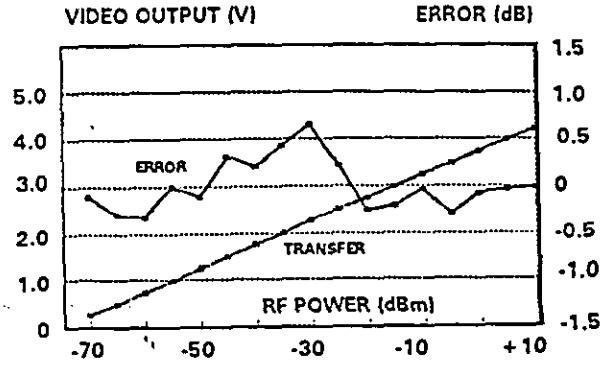
TYPICAL PERFORMANCE

VIDEO RESPONSE









FORM: DLVA-8/0492 JOB NO: 108141

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____ TESTED BY: B. Baker

JOB NO: 108141 TEMPERATURE: 0°C

MODEL NO: LVD-618-70 DATE: 5/7/92

SERIAL NO: DL20538

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (6 - 18 GHz)	2.5:1 (max) (-7.36 dB)	2.4:1	
2	TYPICAL OUTPUT VOLTAGE @ -70 dBm to +10 dBm	PLOT ATTACHED	0.359 - 4.49 VOLTS	
3	TSS (6 - 18 GHz)	-72 dBm (min)	-74 dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	51.6mV/dB	
5	LOG LINEARITY @ -70 dBm TO +10 dBm	±1.75 dB (max)	± 1.68 dB	
6	FREQUENCY FLATNESS (6 - 18 GHz)	±1.75 dB (max)	± 1.5dB	
7	RECOVERY TIME -70 to +10 dBm	250 nS (max)	250nS	
8	OUTPUT STABILITY (0 to +60°C)	±1.75 dB (max)	± 1.47dB	
9	RISE TIME (10% TO 90% POINTS)	30 nS (max)	19nS	
10	D.C. POWER @ +15 V	500 mA (max)	460mA	
11	D.C. POWER @ -15 V	200 mA (max)	146mA	↓

PRODUCTION MANAGER APPROVAL: _____ DATED: 6-2-92

QA/QC APPROVAL: _____ DATED: 6-2-92

FORM: DLVA-8/0492 JOB NO: 108141

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____ TESTED BY: B. Baker

JOB NO: 108141 TEMPERATURE: 30°C

MODEL NO: LVD-618-70 DATE: 5/7/92

SERIAL NO: DL20538

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (6 - 18 GHz)	2.5:1 (max) (-7.36 dB)	2.4:1	SJC
2	TYPICAL OUTPUT VOLTAGE @ -70 dBm to +10 dBm	PLOT ATTACHED	0.345 - 4.45 VOLTS	
3	TSS (6 - 18 GHz)	-72 dBm (min)	-73dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	51.3mV/dB	
5	LOG LINEARITY @ -70 dBm TO +10 dBm	±1.75 dB (max)	±1.3dB	
6	FREQUENCY FLATNESS (6 - 18 GHz)	±1.75 dB (max)	± 1.6 dB	
7	RECOVERY TIME -70 to +10 dBm	250 nS (max)	250nS	
8	OUTPUT STABILITY (0 to +60°C)	±1.75 dB (max)	±1.47dB	
9	RISE TIME (10% TO 90% POINTS)	30 nS (max)	18nS	
10	D.C. POWER @ +15 V	500 mA (max)	465mA	
11	D.C. POWER @ -15 V	200 mA (max)	147mA	↓

PRODUCTION MANAGER APPROVAL: _____ DATED: 6-2-92

QA/QC APPROVAL: SJC DATED: 6-2-92

FORM: DLVA-8/0492 JOB NO: 108141

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: _____ TESTED BY: B. Bahn

JOB NO: 108141 TEMPERATURE: 60°C

MODEL NO: LVD-618-70 DATE: 5/7/92

SERIAL NO: DL20538

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20 dBm (6 - 18 GHz)	2.5:1 (max) (-7.36 dB)	2.4:1	
2	TYPICAL OUTPUT VOLTAGE @ -70 dBm to +10 dBm	PLOT ATTACHED	0.216 - 4.42 VOLTS	
3	TSS (6 - 18 GHz)	-72 dBm (min)	-72dBm	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	52.6mV/dB	
5	LOG LINEARITY @ -70 dBm TO +10 dBm	±1.75 dB (max)	±1.3dB	
6	FREQUENCY FLATNESS (6 - 18 GHz)	±1.75 dB (max)	±1.73dB	
7	RECOVERY TIME -70 to +10 dBm	250 nS (max)	250nS	
8	OUTPUT STABILITY (0 to +60°C)	±1.75 dB (max)	±1.47dB	
9	RISE TIME (10% TO 90% POINTS)	30 nS (max)	18nS	
10	D.C. POWER @ +15 V	500 mA (max)	470mA	
11	D.C. POWER @ -15 V	200 mA (max)	147mA	

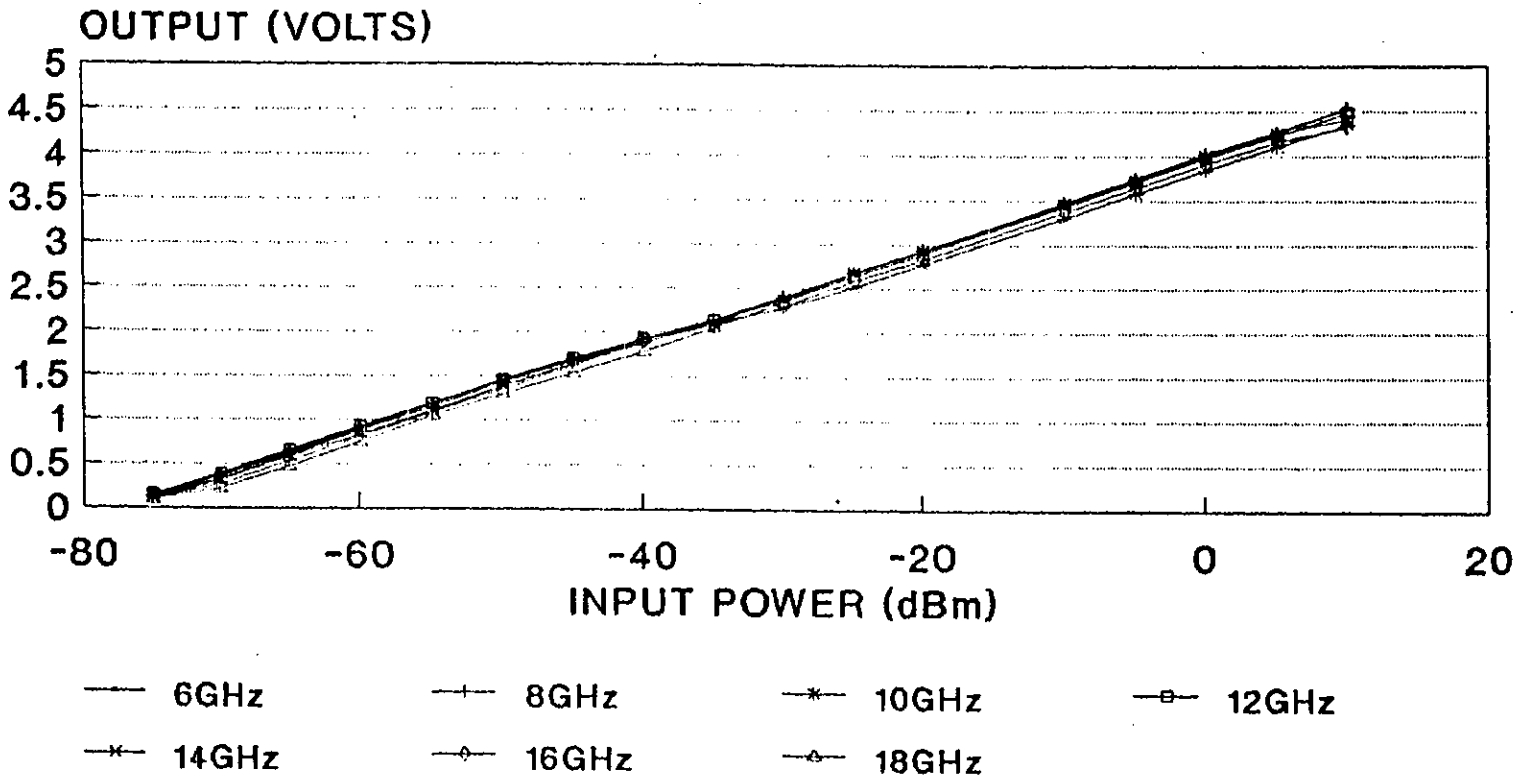
PRODUCTION MANAGER APPROVAL: _____ DATED: 6-2-92

QA/QC APPROVAL: _____ DATED: 6-2-92

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE WITH FREQUENCY

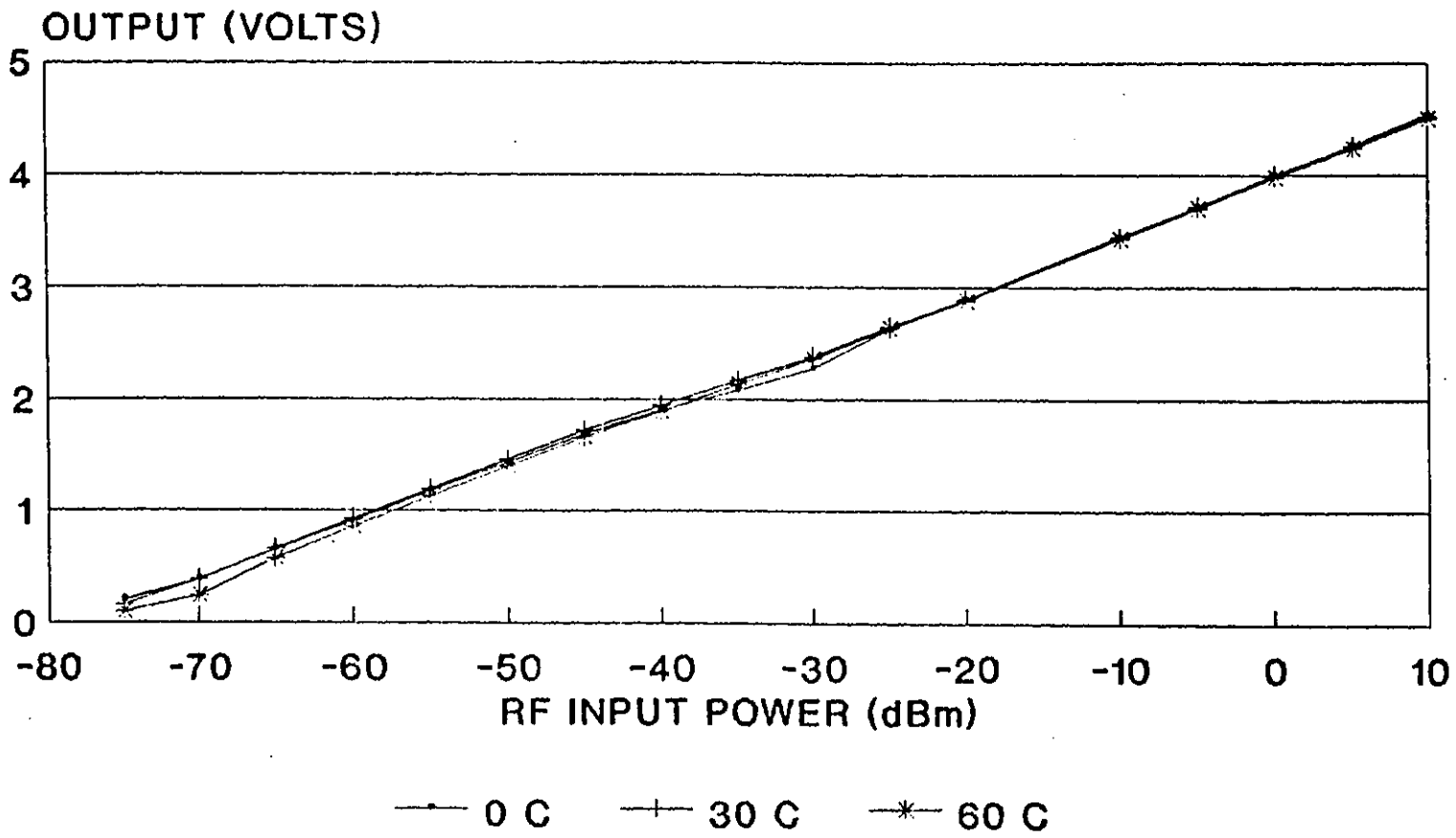


S/N:DL20538
TESTED BY: B.B. 5/7/92
ROOM TEMPERATURE

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE WITH TEMPERATURE - 6GHz

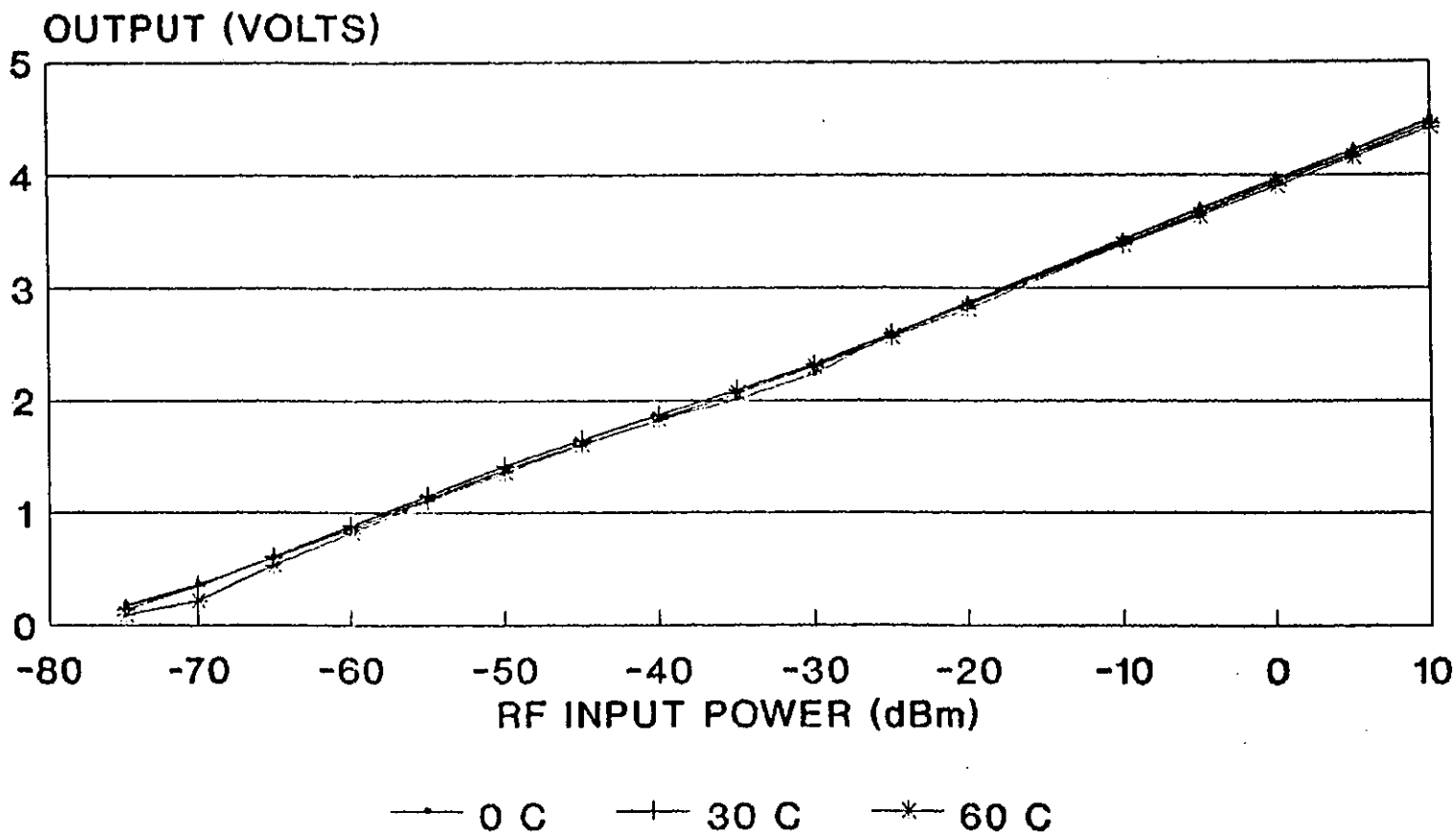


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE WITH TEMPERATURE - 12GHz

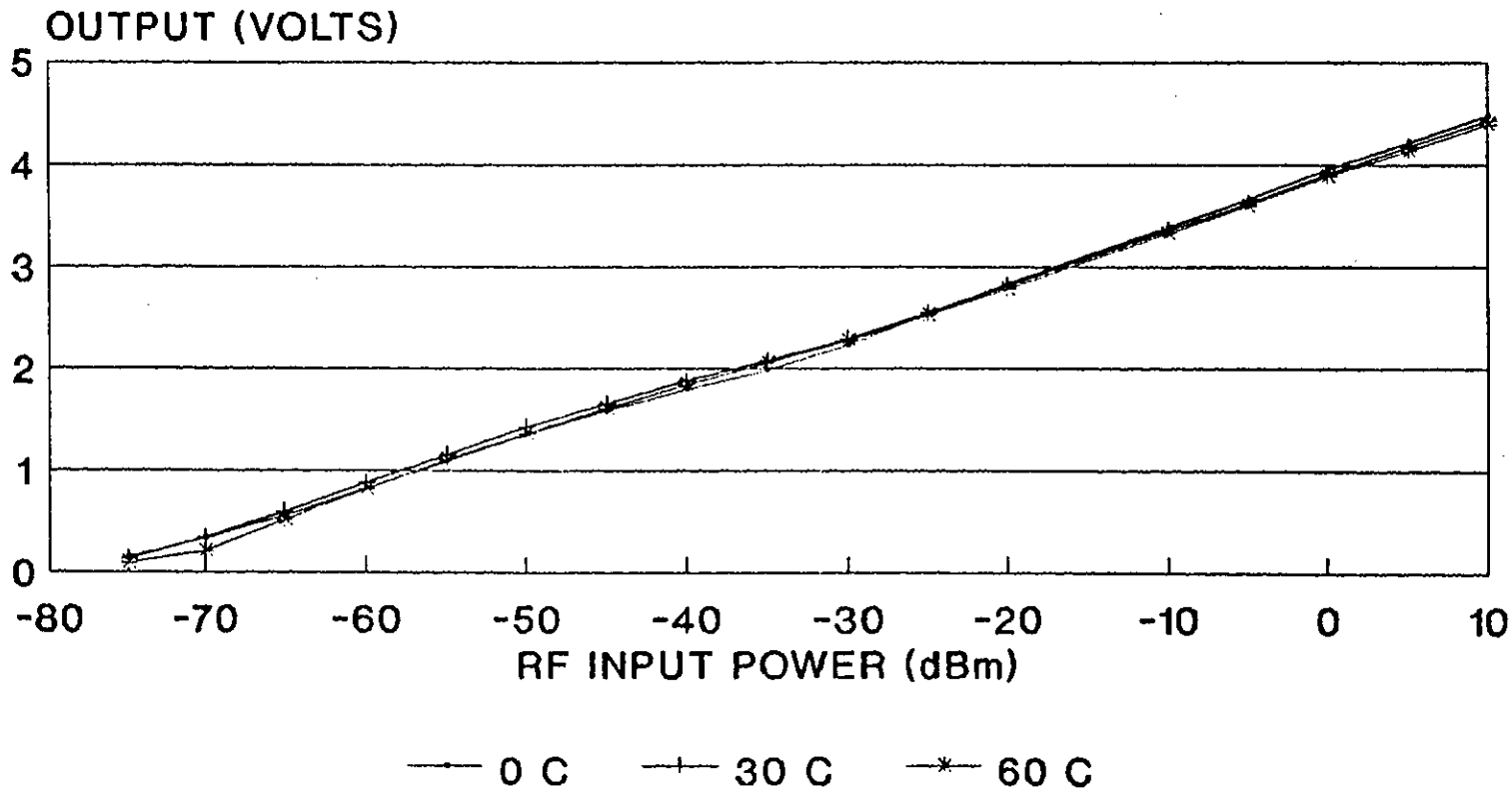


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE WITH TEMPERATURE - 18GHz

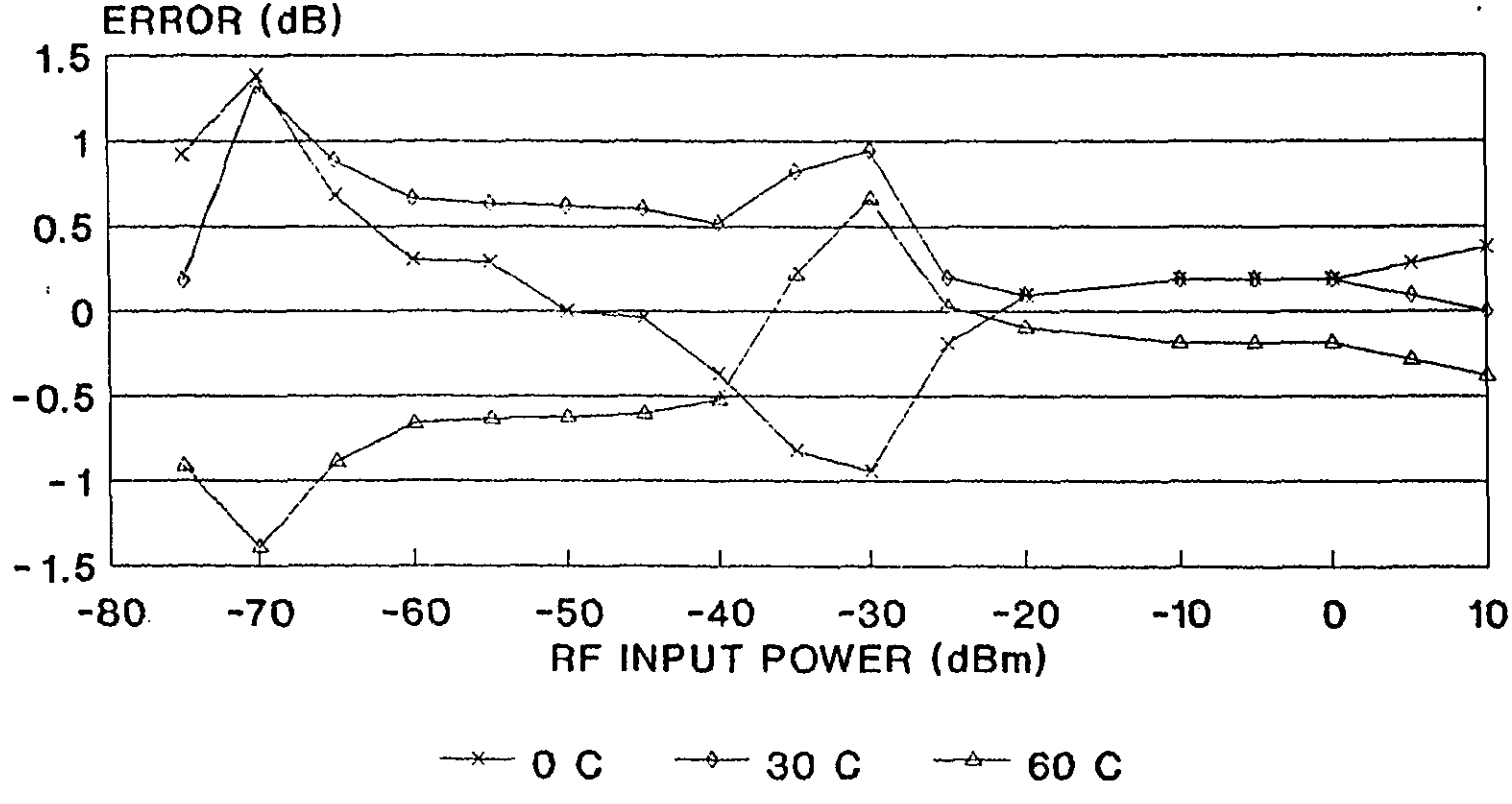


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE ERROR WITH TEMPERATURE - 6GHz

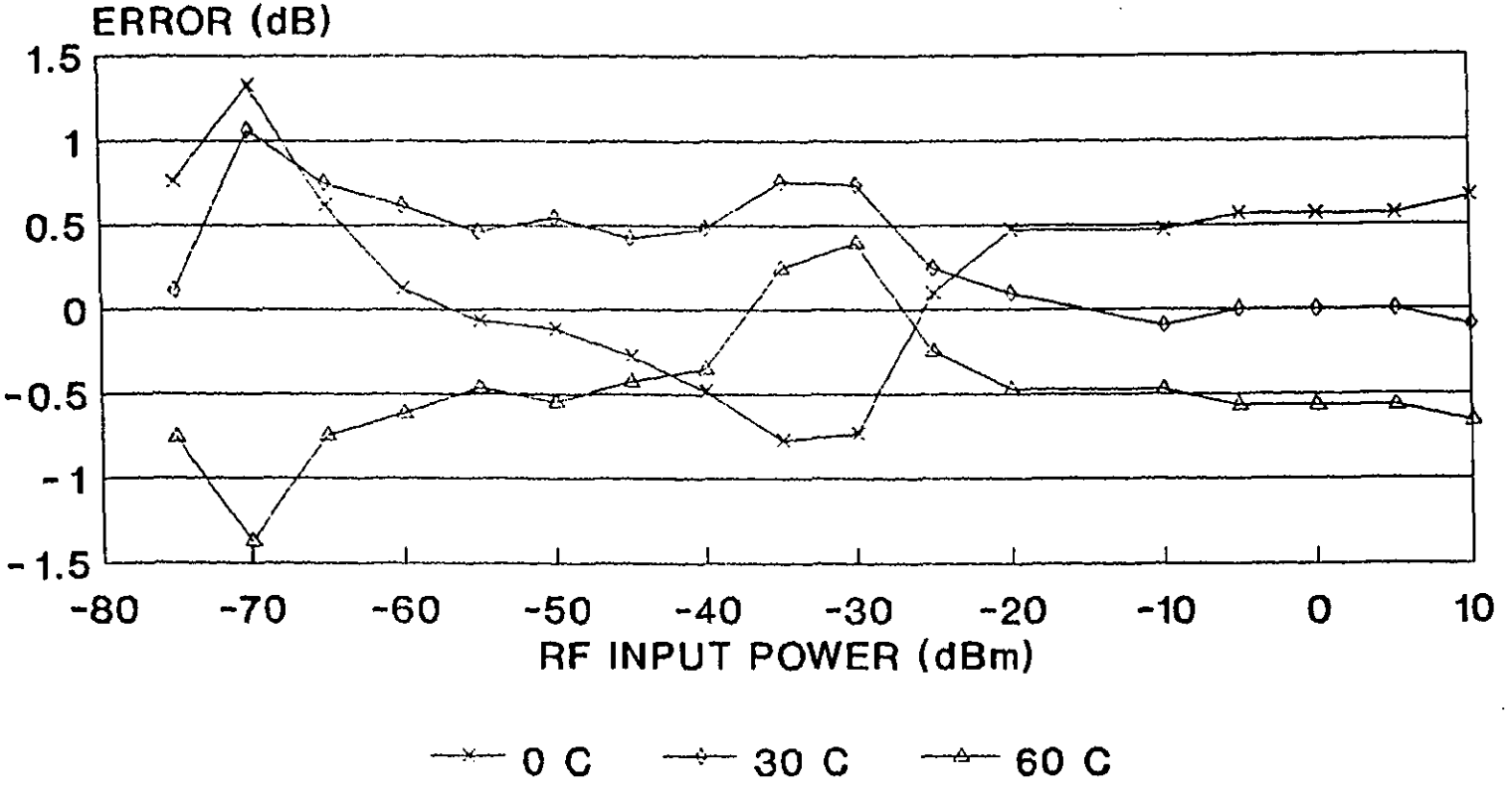


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE ERROR WITH TEMPERATURE - 12GHz

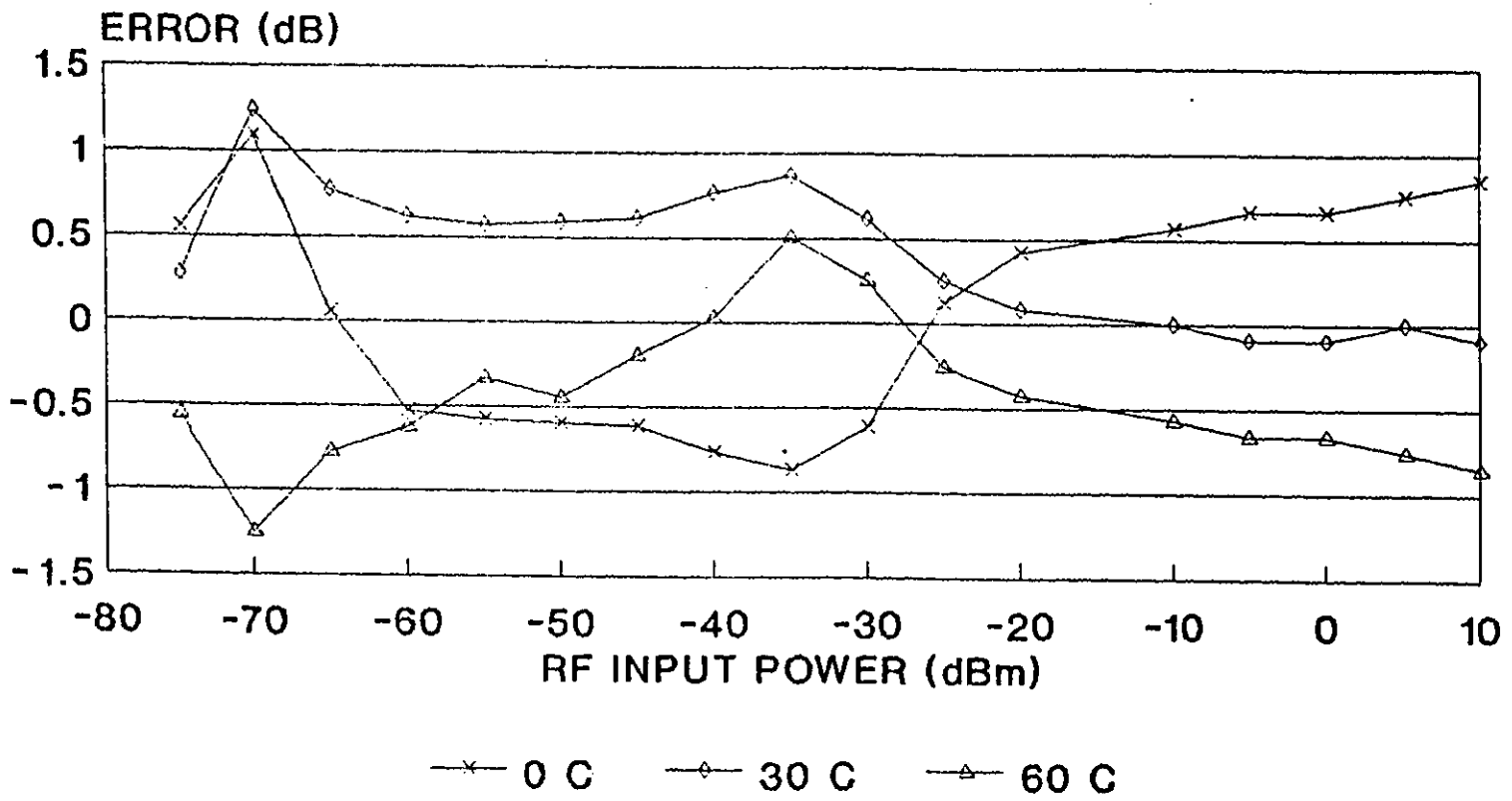


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG RESPONSE ERROR WITH TEMPERATURE - 18GHz

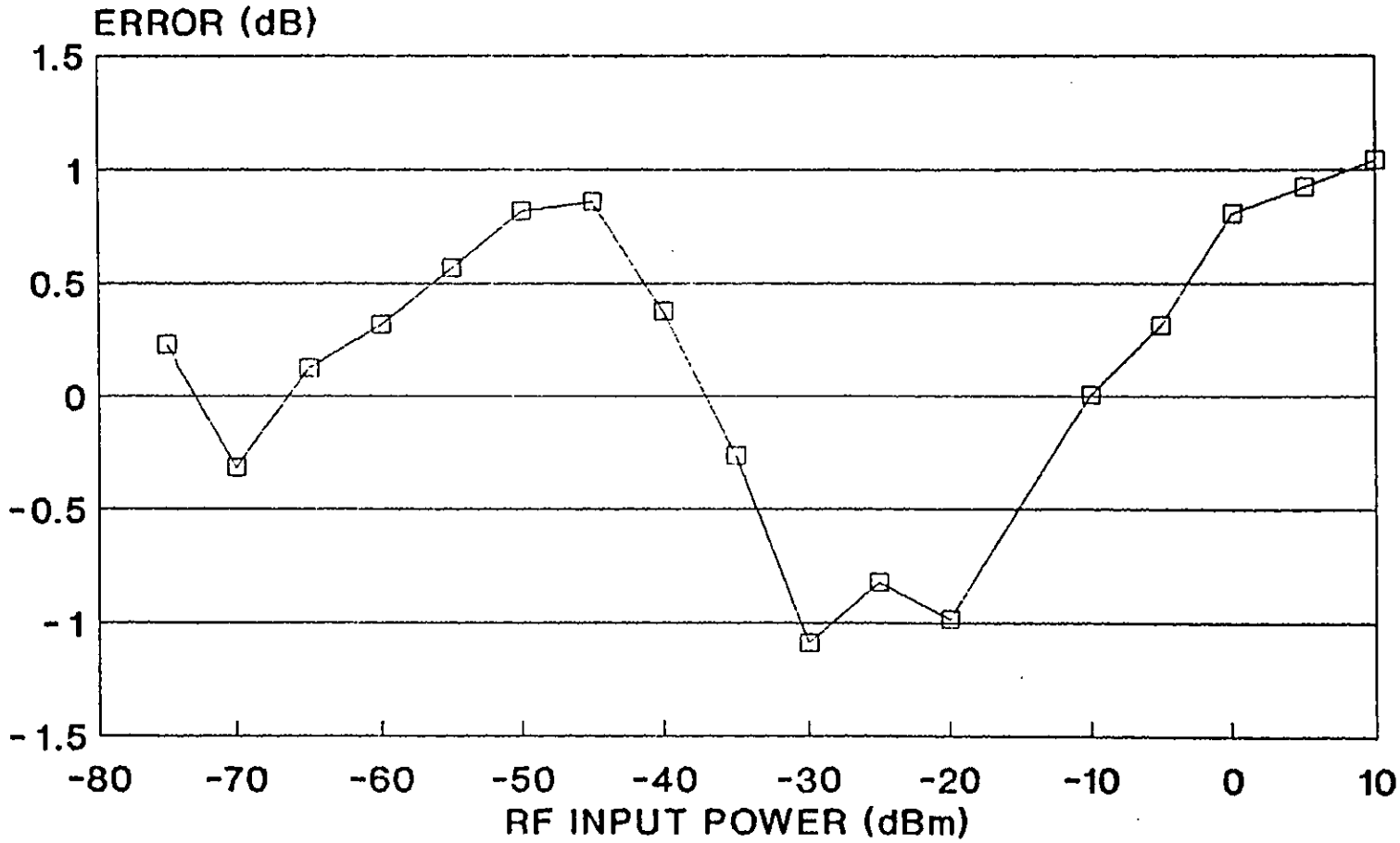


S/N DL20538 5/7/92
TESTED BY: B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY ERROR - 6GHz

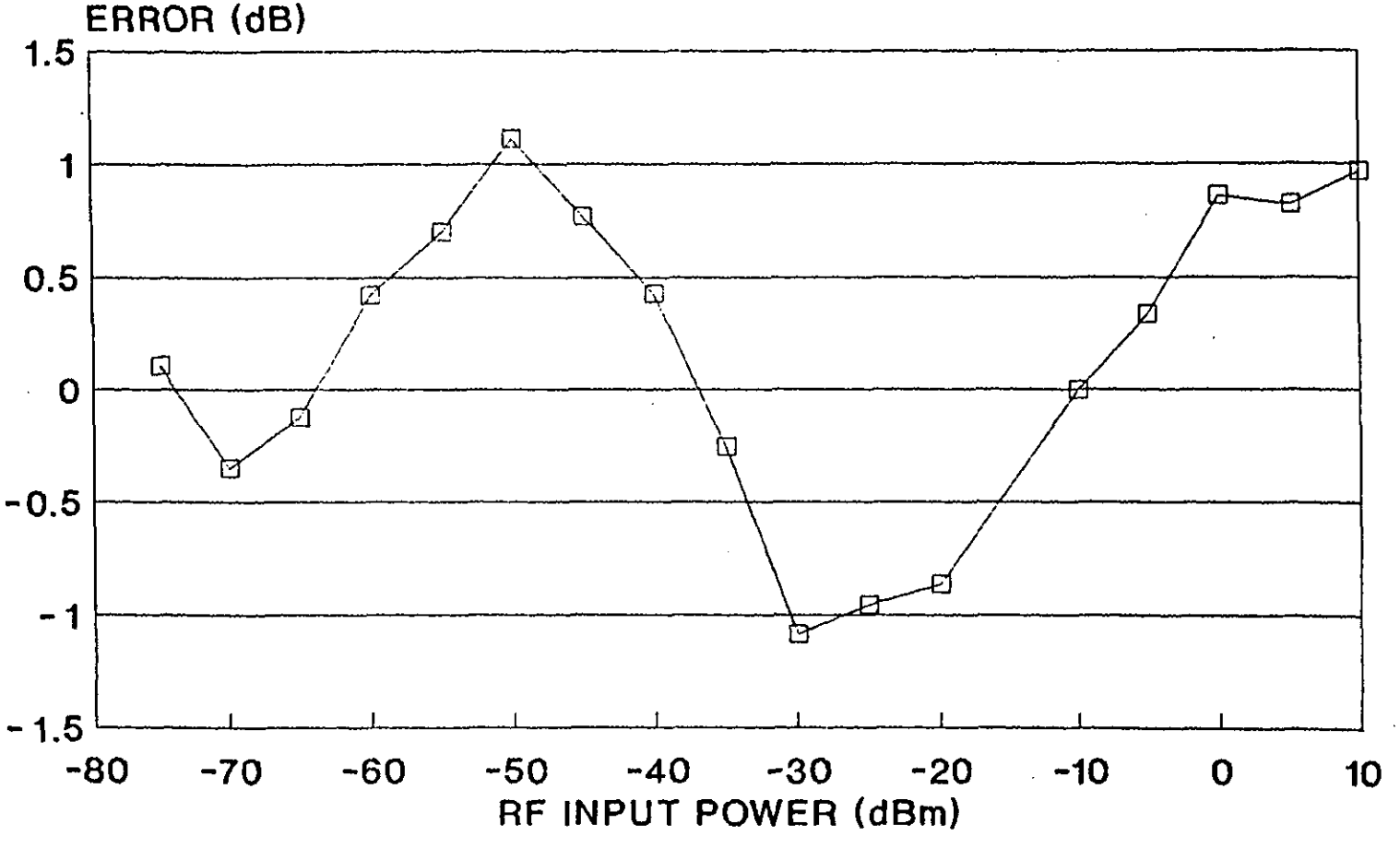


S/N DL20538 5/7/92
TESTED BY: B.B. ROOM TEMPERATURE

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY ERROR - 10GHz

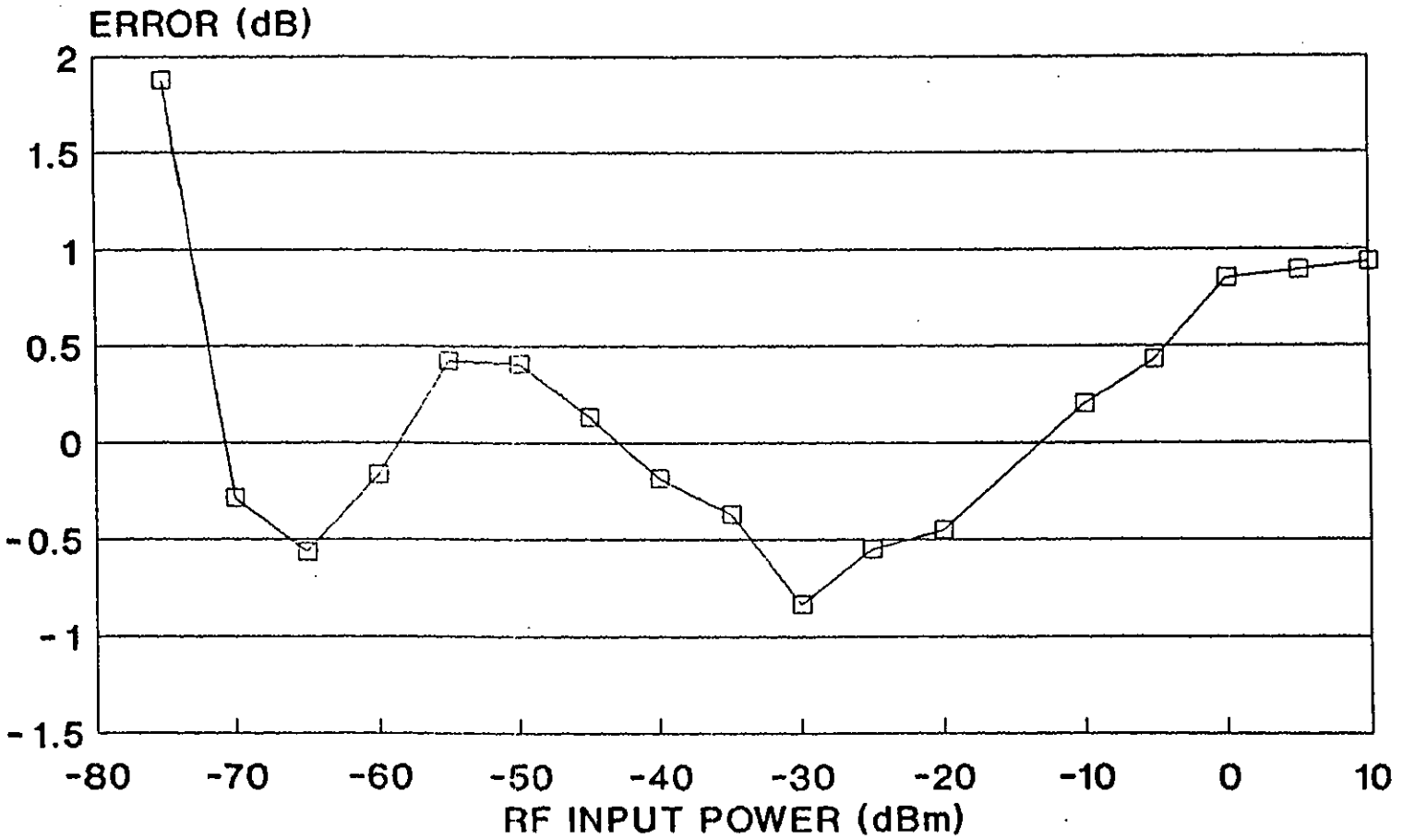


S/N DL20538 5/7/92
TESTED BY: B.B. ROOM TEMPERATURE

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY ERROR -14GHz

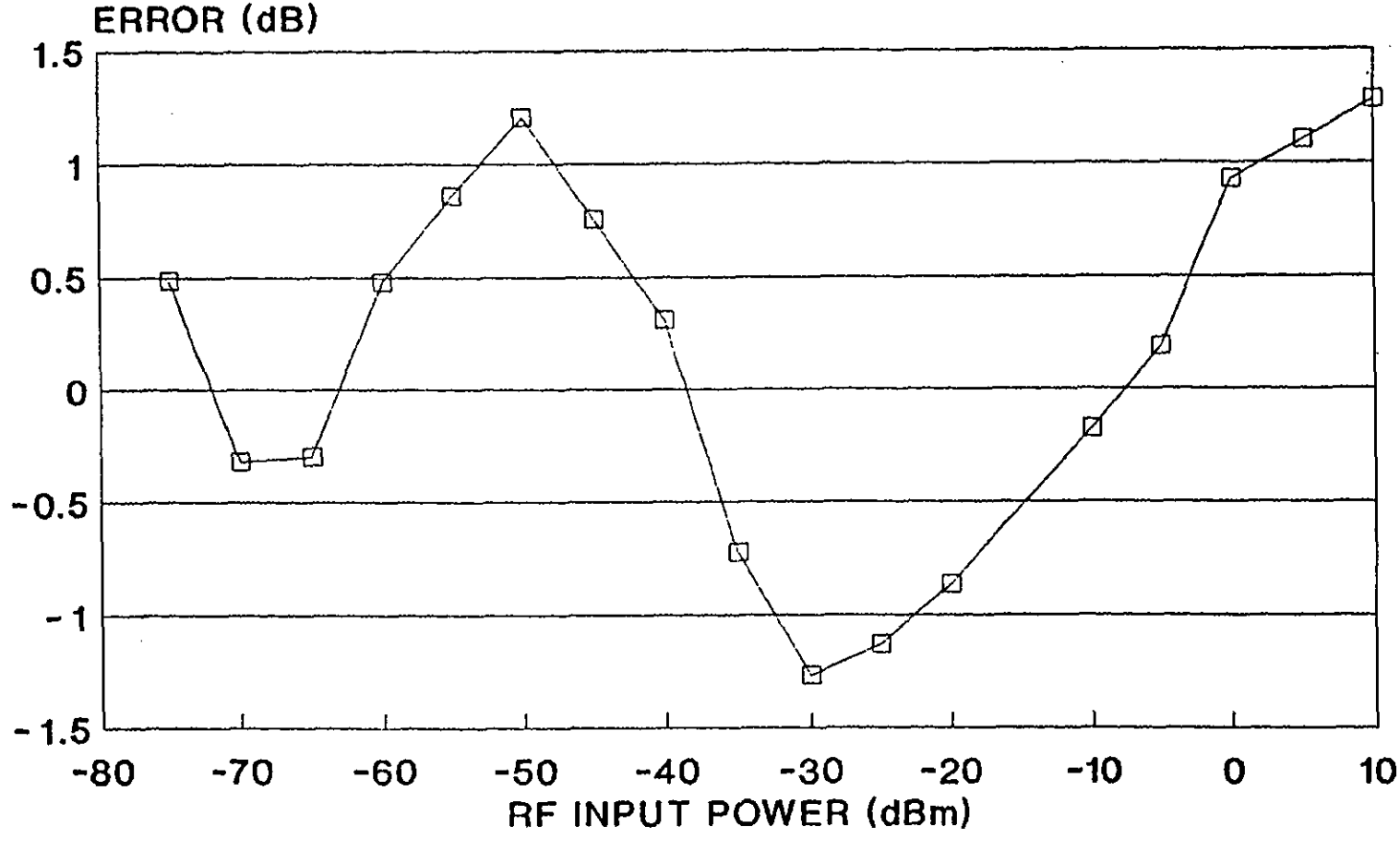


S/N DL20538 5/7/92
TESTED BY: B.B. ROOM TEMPERATURE

LVD-618-70

AMERICAN MICROWAVE CORPORATION

LOG LINEARITY ERROR -18GHz

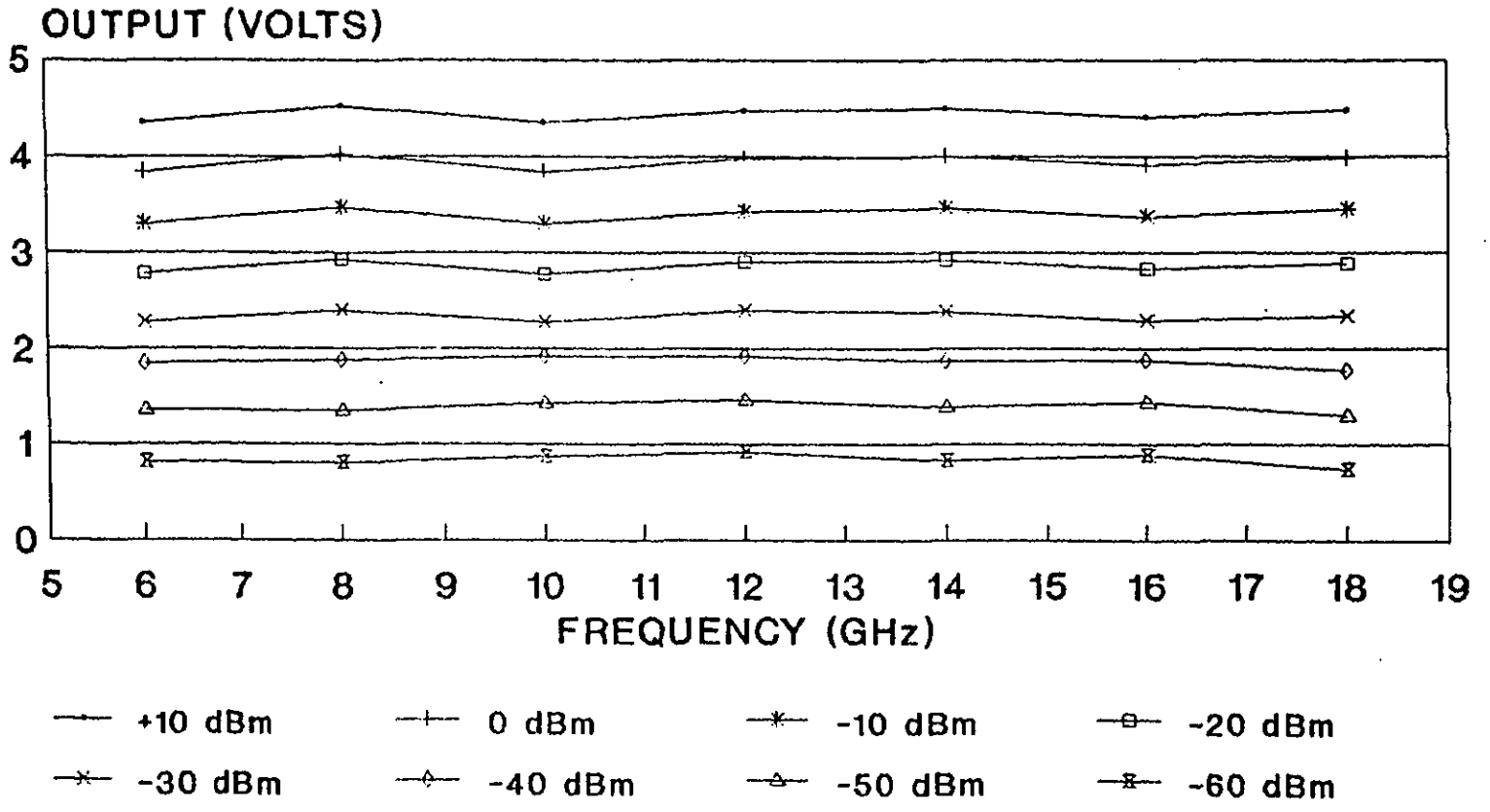


S/N DL20538 5/7/92
TESTED BY: B.B. ROOM TEMPERATURE

LVD-618-70

AMERICAN MICROWAVE CORPORATION

FREQUENCY RESPONSE

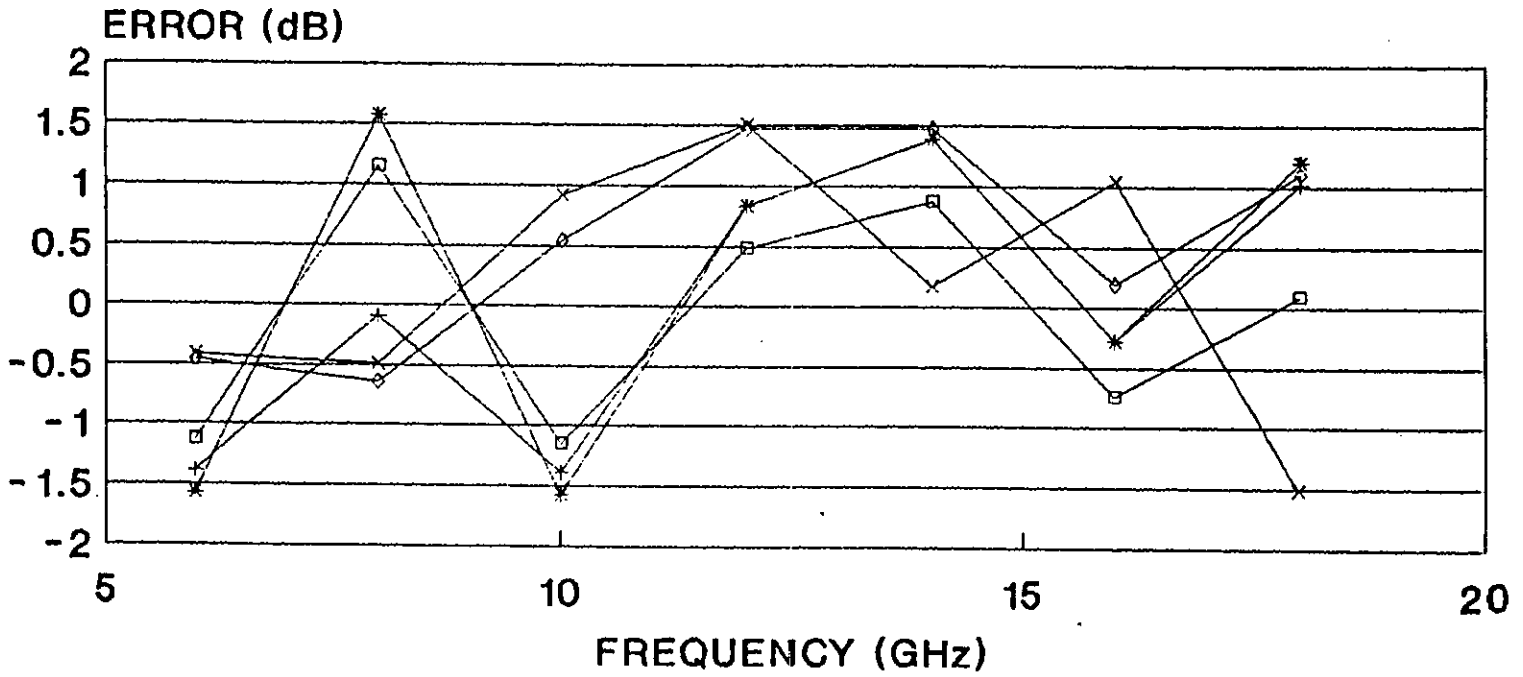


S/N DL20538 5/7/92
ROOM TEMPERATURE TESTED BY:B.B.

LVD-618-70

AMERICAN MICROWAVE CORPORATION

FREQUENCY FLATNESS - ERROR

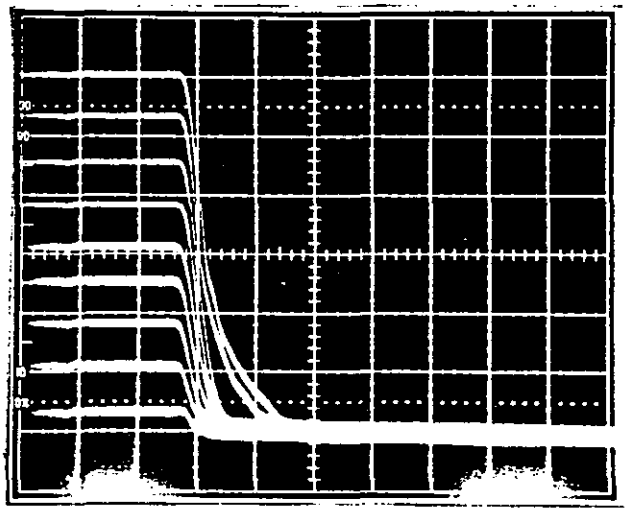


S/N DL20538 5/7/92
ROOM TEMPERATURE TESTED BY:B.B.

RECOVERY TIME VS. PULSE WIDTH - 6 GHz

POWER LEVEL (dBm)

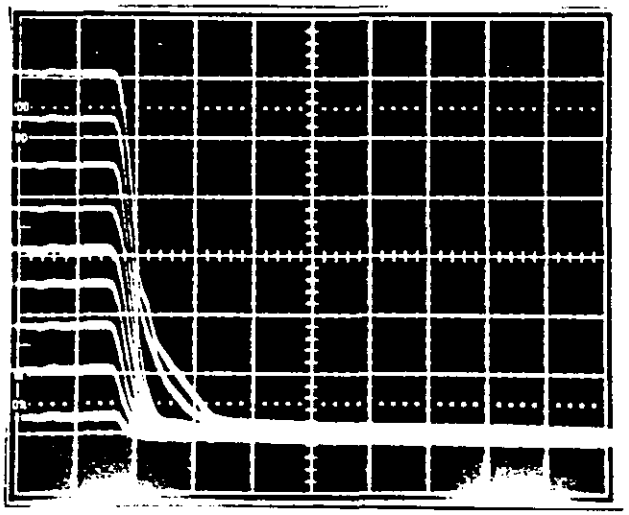
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
1 μS pulse

0.75 v/div
100 ns/div

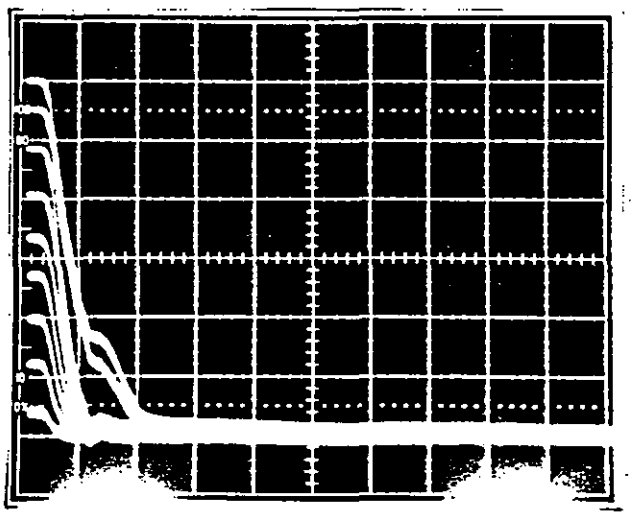
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
10 μs pulse

0.75 v/div
100 ns/div

+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
100 μs pulse

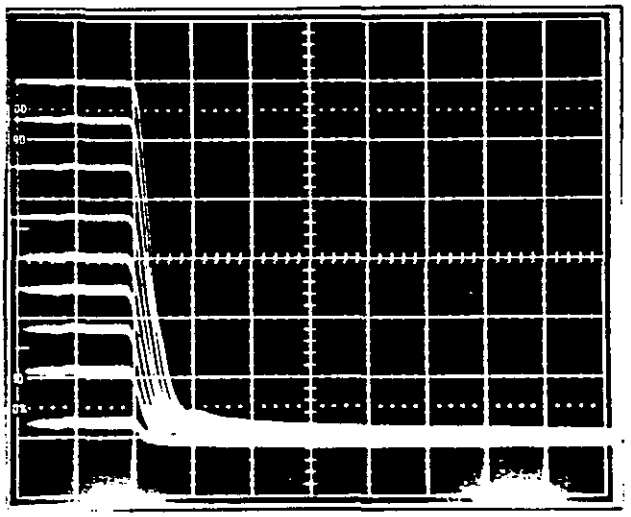
0.75 v/div
100 ns/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

RECOVERY TIME VS. PULSE WIDTH - 12 GHz

POWER LEVEL (dBm)

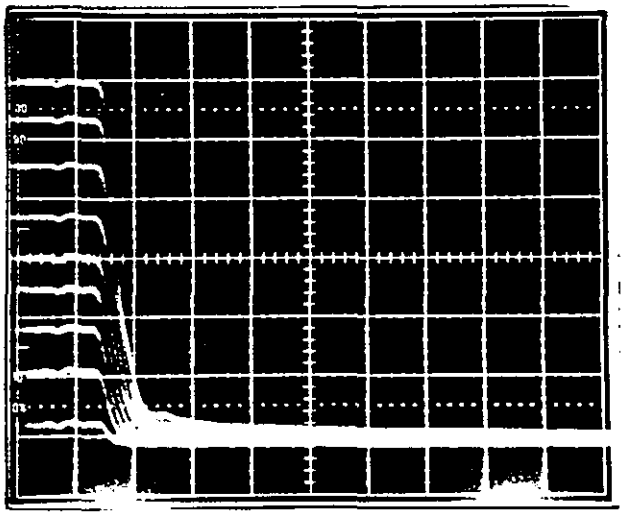
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
1 μS pulse

0.75 v/div
100 ns/div

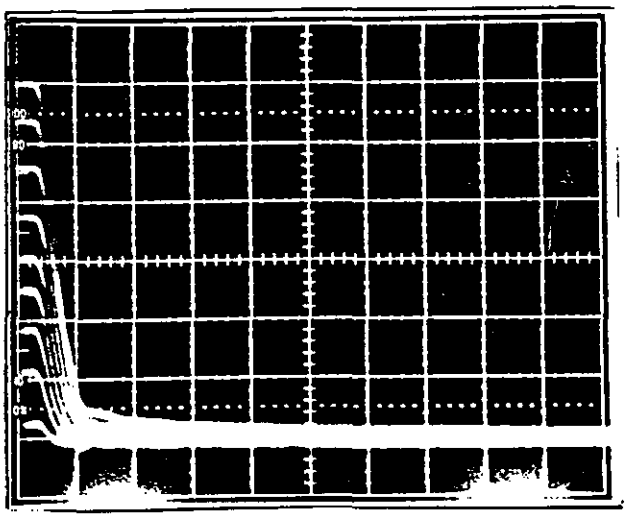
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
10 μs pulse

0.75 v/div
100 ns/div

+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
100 μs pulse

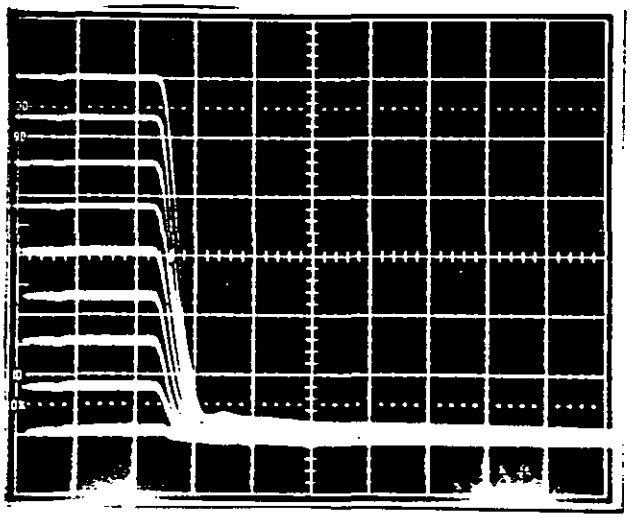
0.75 v/div
100 ns/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

RECOVERY TIME VS. PULSE WIDTH - 18 GHz

POWER LEVEL (dBm)

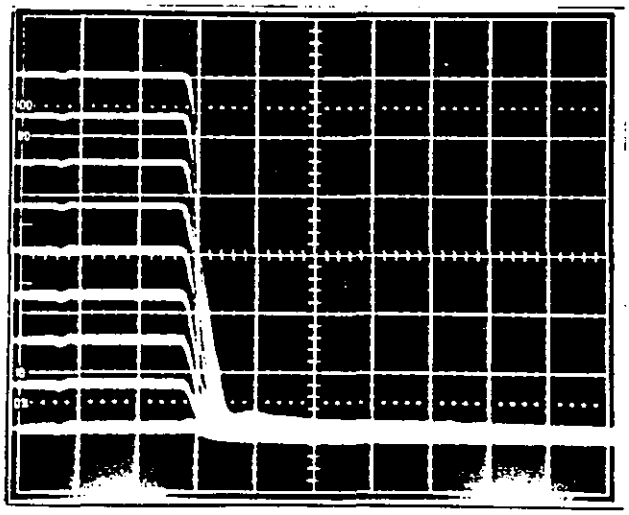
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
1 μS pulse

0.75 v/div
100 ns/div

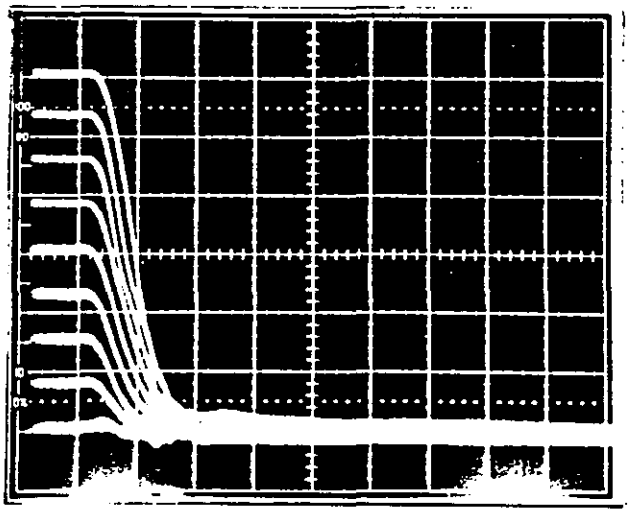
+10
0
−10
−20
−30
−40
−50
−60
−70



SQUARE WAVE with
10 μs pulse

0.75 v/div
100 ns/div

+10
0
−10
−20
−30
−40
−50
−60
−70

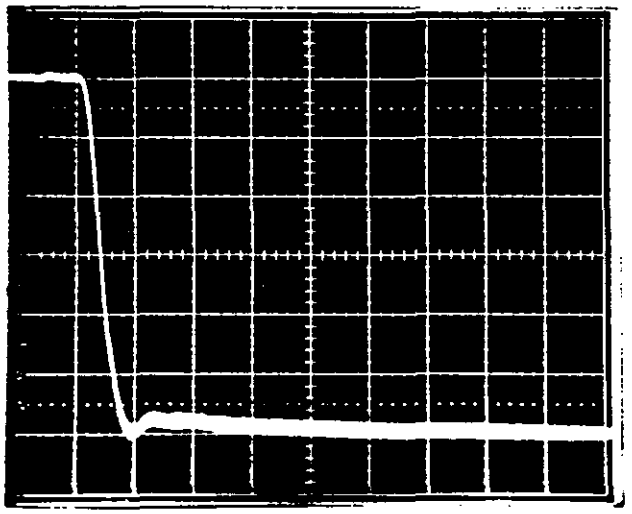


SQUARE WAVE with
100 μs pulse

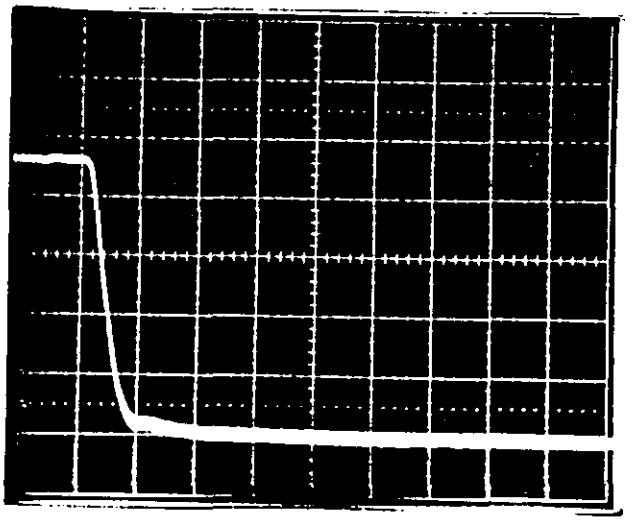
0.75 v/div
100 ns/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

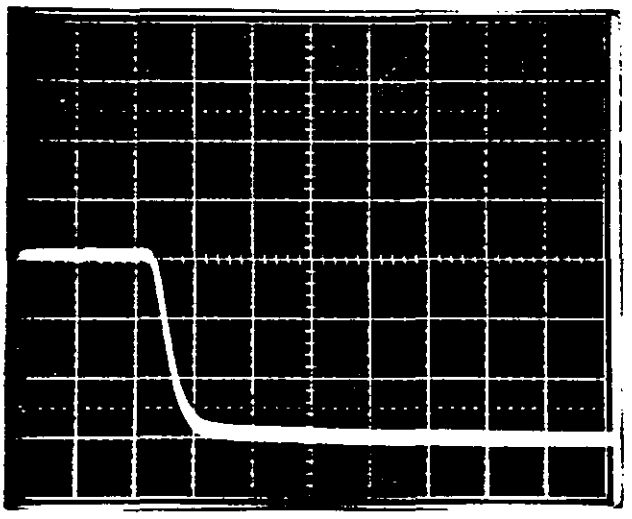
RECOVERY TIME - 12 GHz (DETAILED VIEW)



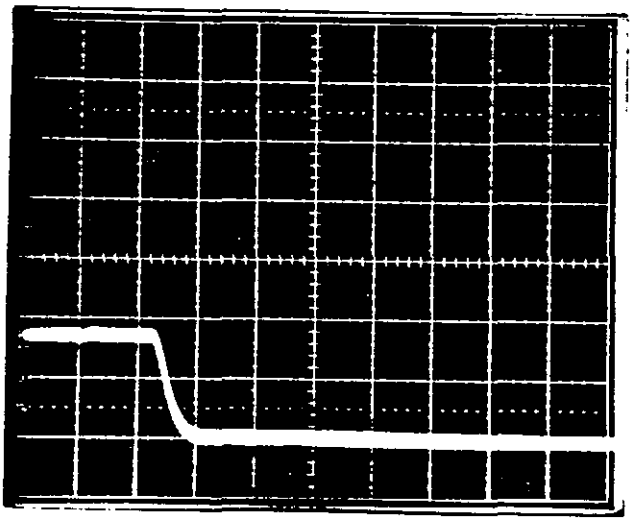
+10 dBm
0.75 v/div
100 ns/div



−10 dBm
0.75 v/div
100 ns/div



−30 dBm
0.75 v/div
100 ns/div

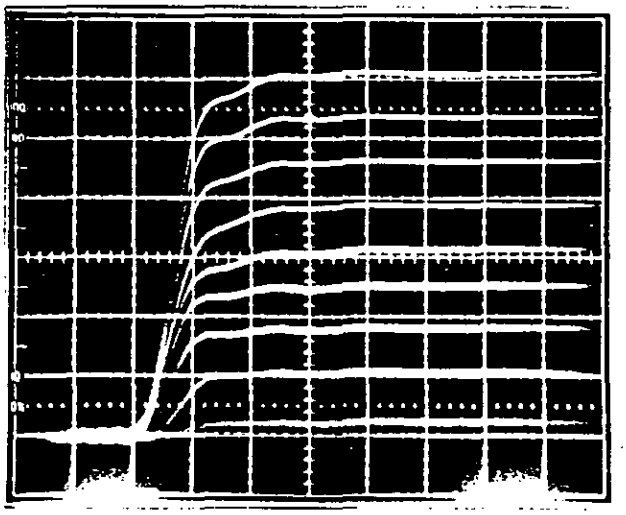


−50 dBm
0.75 v/div
100 ns/div

S/N: DL20538 SQUARE WAVE WITH 10 μS PULSE ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

RISE TIME VS. FREQUENCY

POWER LEVEL (dBm)

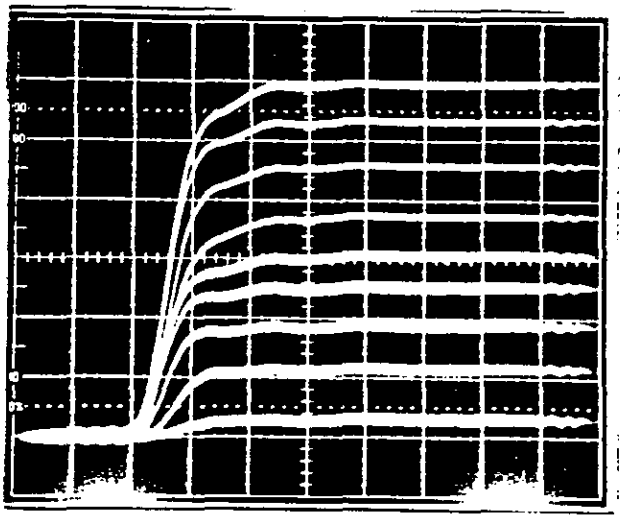


+10
0
−10
−20
−30
−40
−50
−60
−70

6 GHz

0.75 v/div

20 ns/div

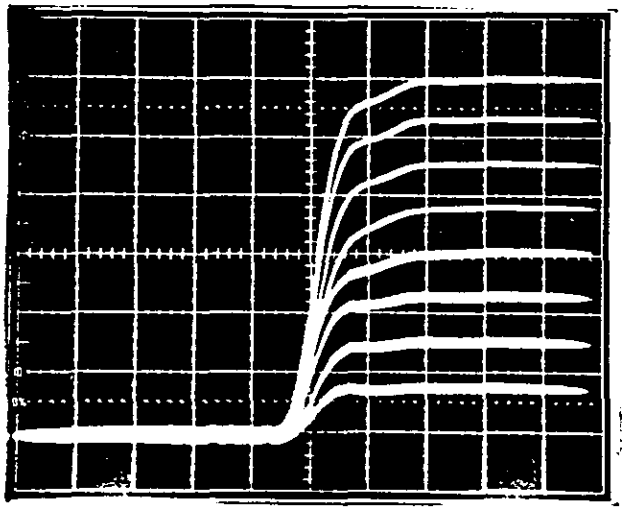


+10
0
−10
−20
−30
−40
−50
−60
−70

12 GHz

0.75 v/div

20 ns/div



+10
0
−10
−20
−30
−40
−50
−60
−70

18 GHz

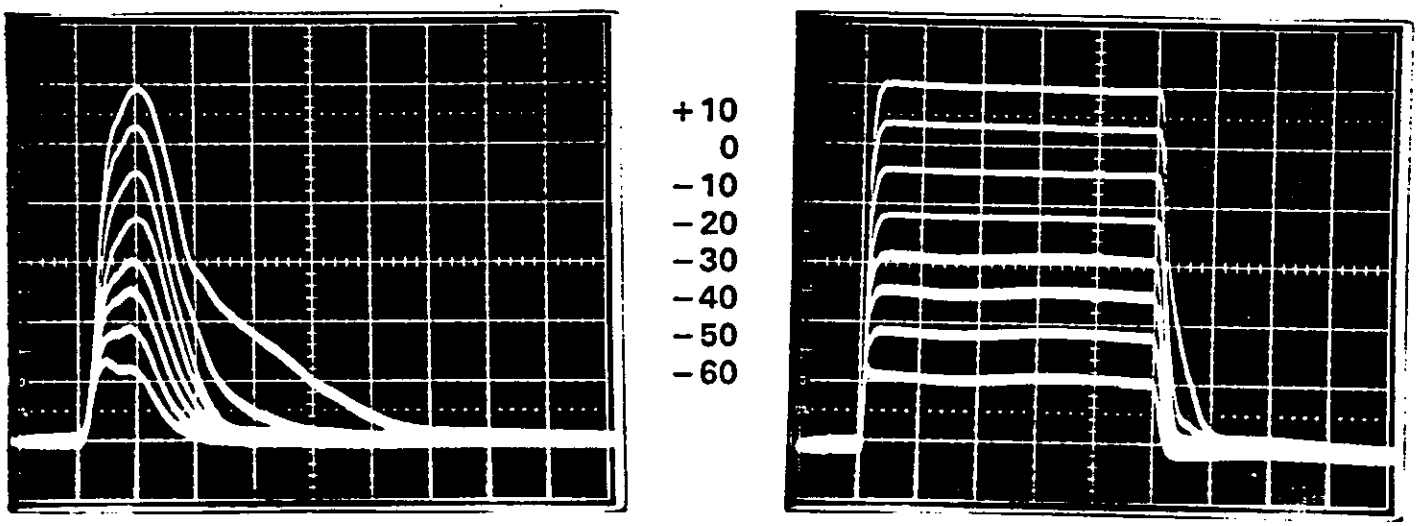
0.75 v/div

20 ns/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

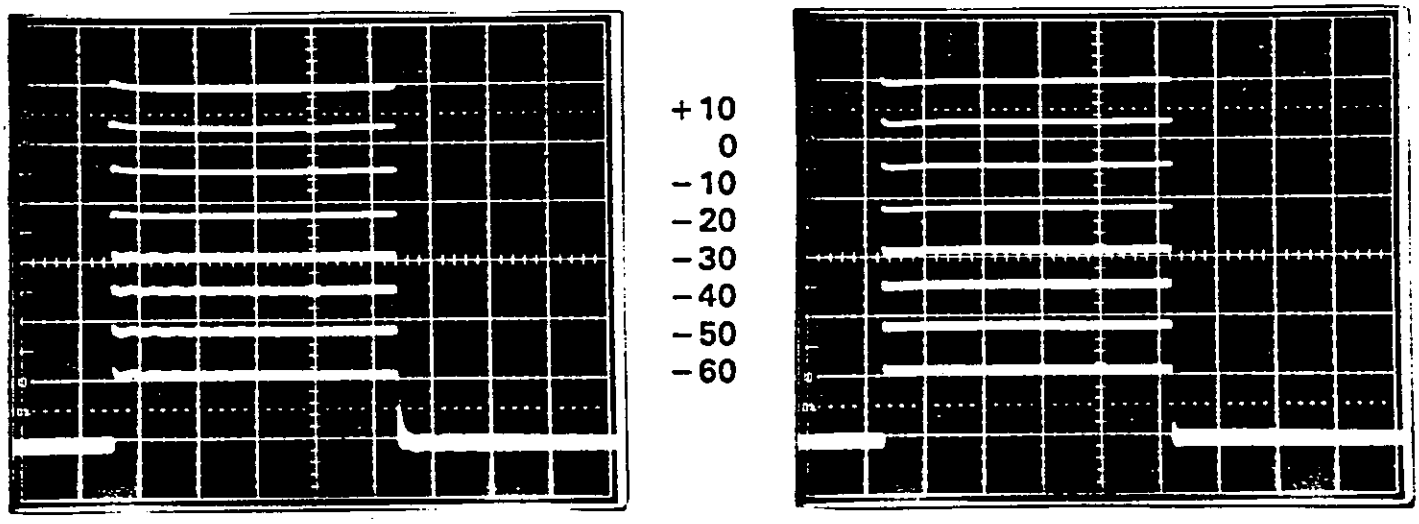
PULSE RESPONSE - 6 GHz

POWER LEVEL (dBm)



50 ns/div
0.75 v/div

200 ns/div
0.75 v/div



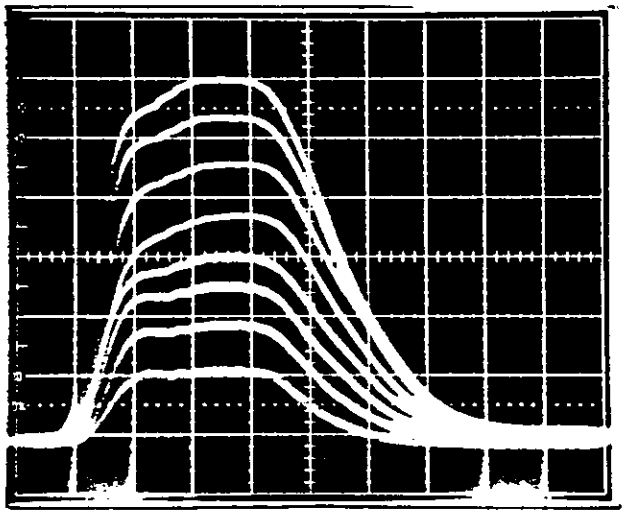
2 μs/div
0.75 v/div

20 μs/div
0.75 v/div

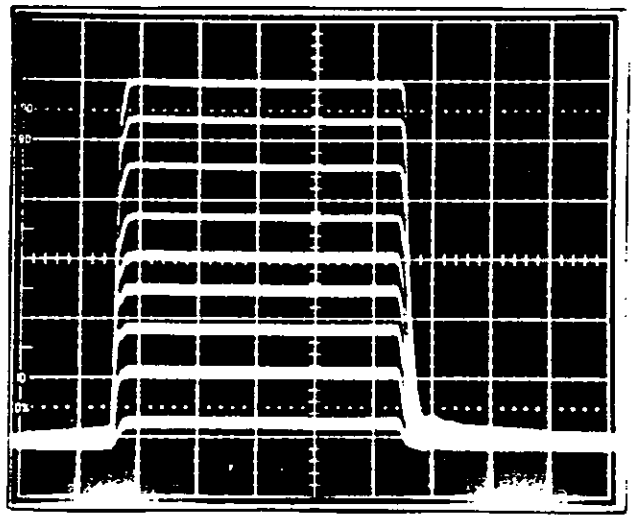
S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5.7.92

PULSE RESPONSE - 12 GHz

POWER LEVEL (dBm)

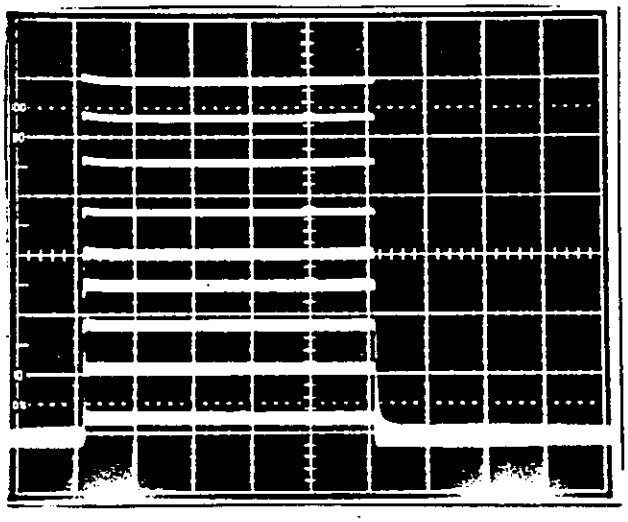


+10
0
−10
−20
−30
−40
−50
−60
−70

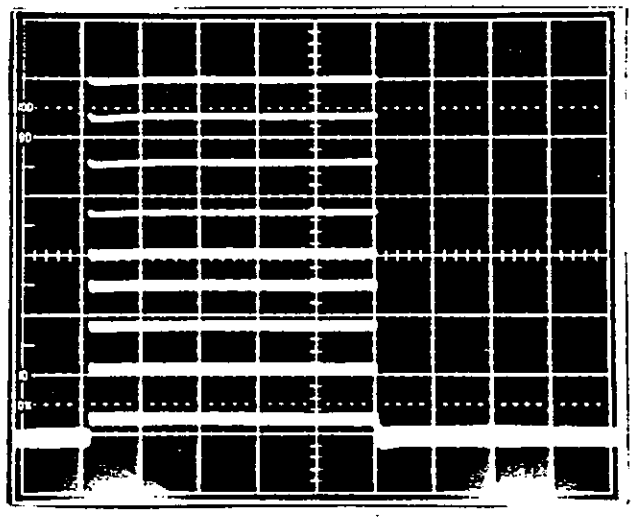


20 ns/div
0.75 v/div

200 ns/div
0.75 v/div



+10
0
−10
−20
−30
−40
−50
−60
−70



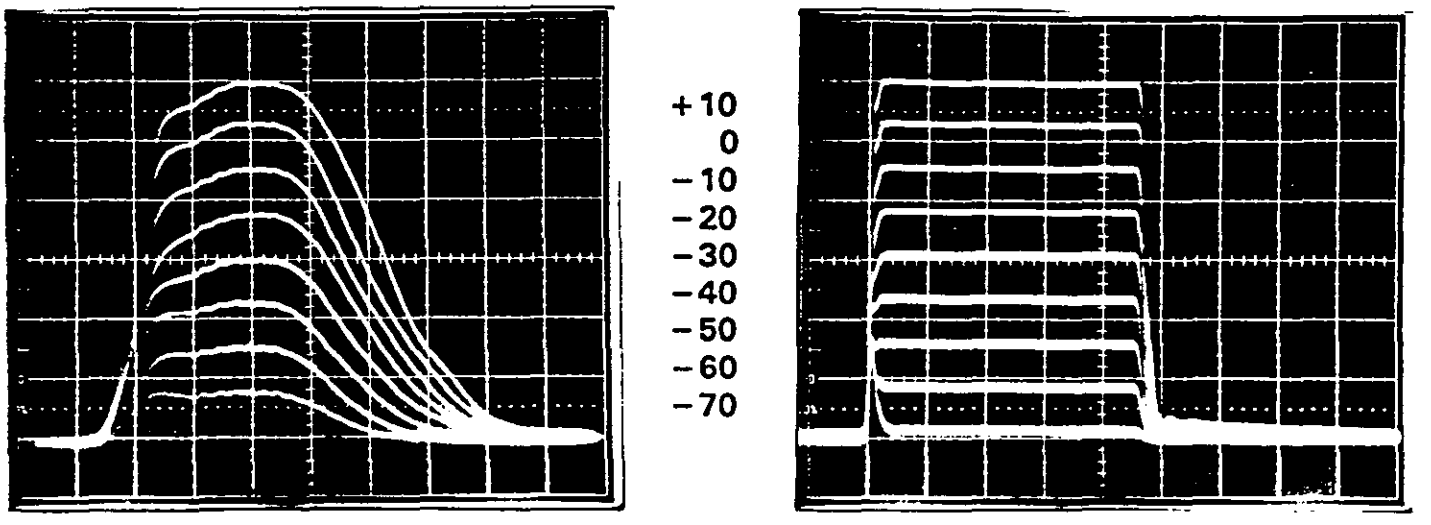
2 μs/div
0.75 v/div

20 μs/div
0.75 v/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

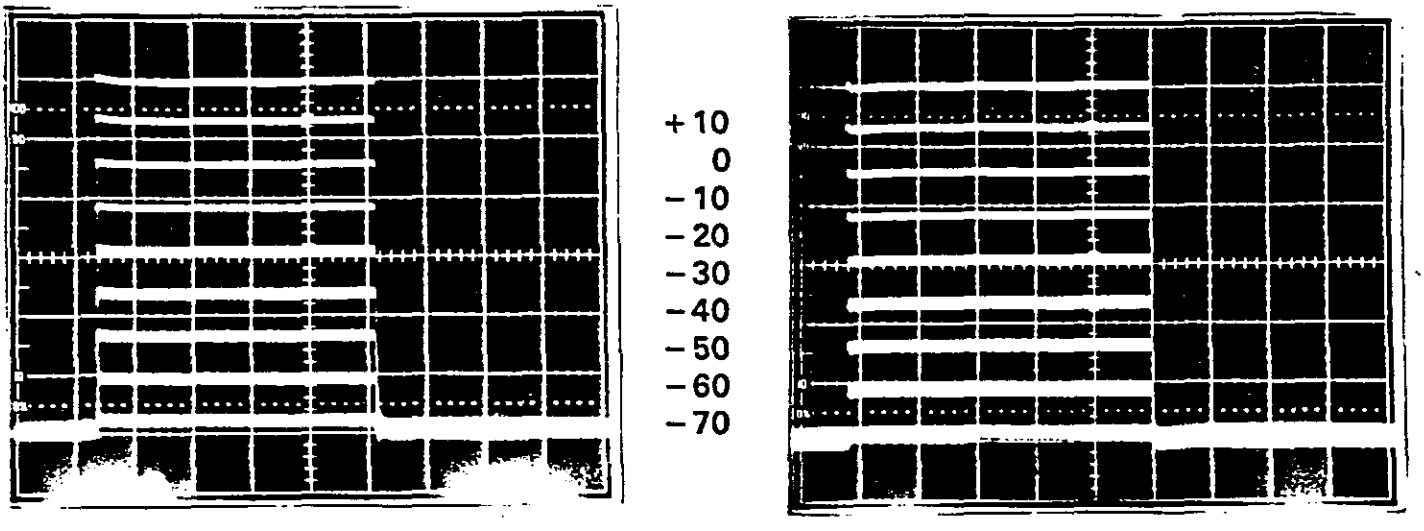
PULSE RESPONSE - 18 GHz

POWER LEVEL (dBm)



20 ns/div
0.75 v/div

200 ns/div
0.75 v/div

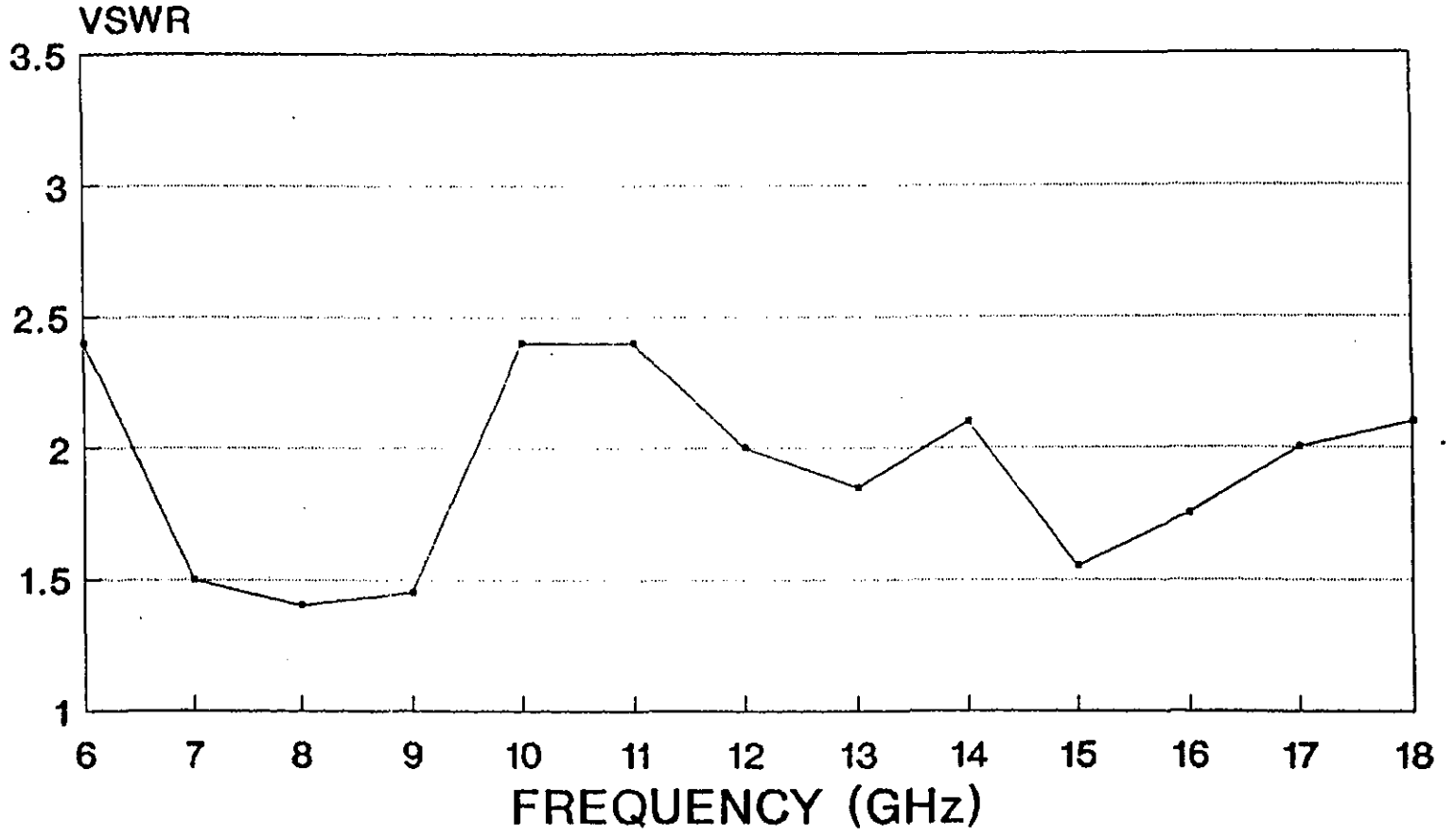


2 μs/div
0.75 v/div

20 μs/div
0.75 v/div

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

LVD-618-70
INPUT VSWR @ -20dBm



S/N DL20538 5/7/92
TESTED BY B.B. ROOM TEMPERATURE

TSS VS. VIDEO

BANDWIDTH

AND

RF FREQUENCY

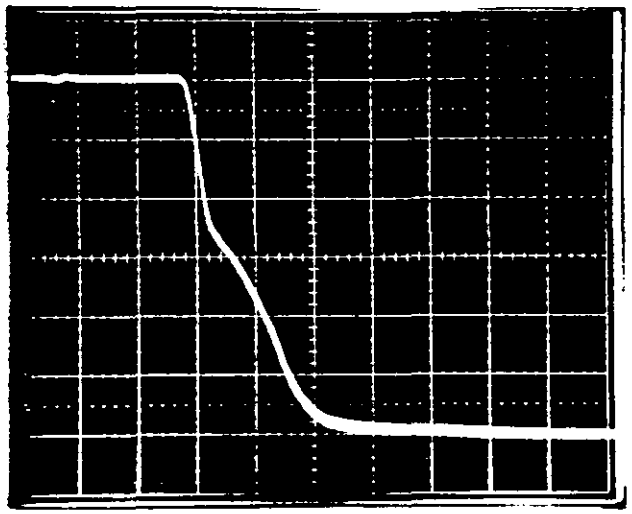
VIDEO BANDWIDTH	6 GHz	10 GHz	18 GHz
1 MHz	-80 dBm	-79 dBm	-79 dBm
10 MHz	-75 dBm	-74 dBm	-74 dBm
20 MHz	-74 dBm	-73 dBm	-73 dBm
OPEN BANDWIDTH	-73 dBm	-72 dBm	-72 dBm

S/N: DL20538 ROOM TEMPERATURE
TESTED BY: B.B. 5/7/92

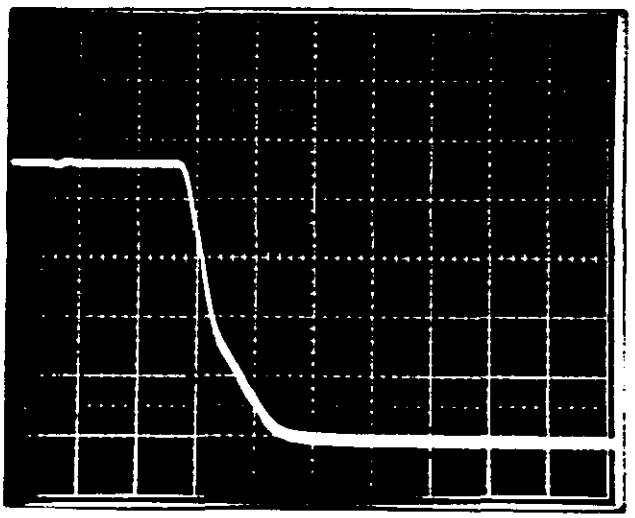
ADDITIONAL

TEST DATA

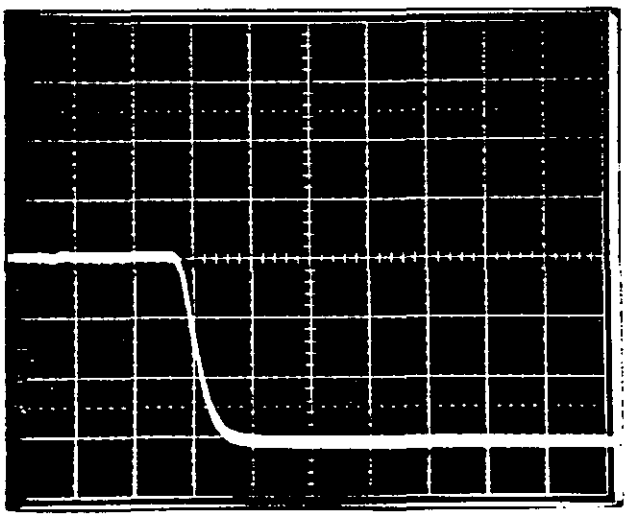
RECOVERY TIME - 12 GHz



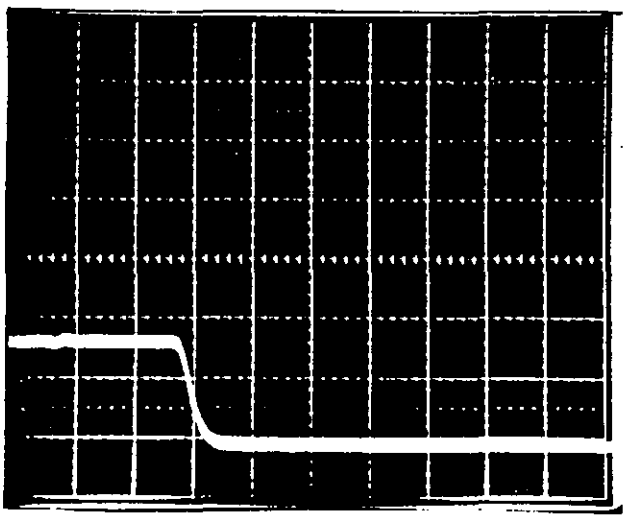
+10 dBm
100 ns/div
0.75 v/div



-10 dBm
100 ns/div
0.75 v/div



-30 dBm
100 ns/div
0.75 v/div



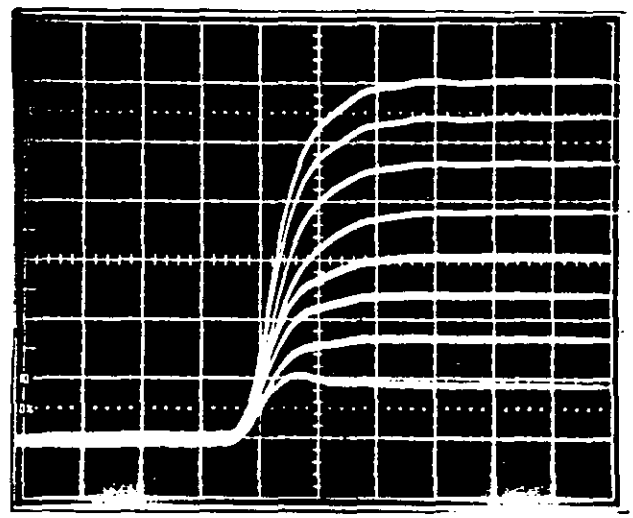
-50 dBm
100 ns/div
0.75 v/div

S/N: DL20538 +85°C SQUARE WAVE WITH 10 μS PULSE
TESTED BY: B.B. 5/7/92

RISE TIME AND PULSE RESPONSE - 12 GHz

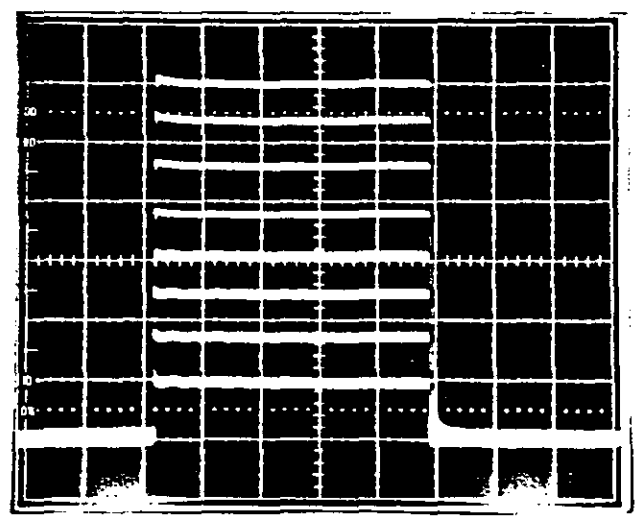
POWER LEVEL (dBm)

+10
0
−10
−20
−30
−40
−50
−60



20 ns/div
0.75 v/div

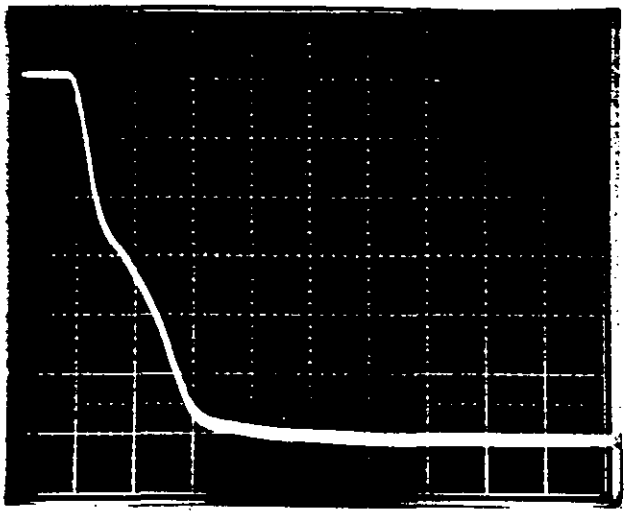
+10
0
−10
−20
−30
−40
−50
−60



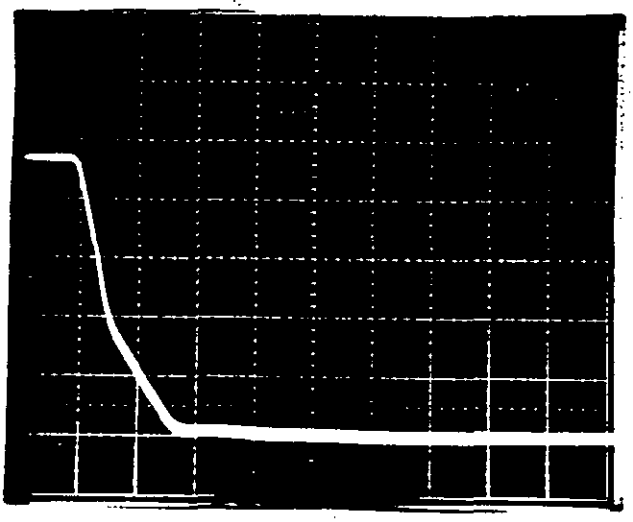
2 μs/div
0.75 v/div

S/N: DL20538 +85°C SQUARE WAVE WITH 10 μS PULSE
TESTED BY: B.B. 5/7/92

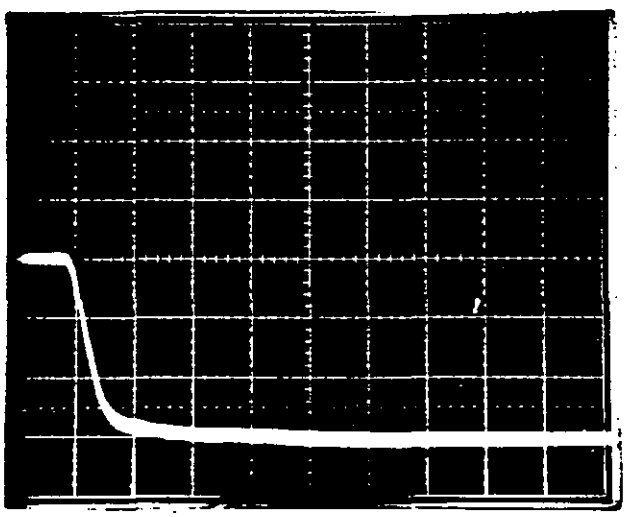
RECOVERY TIME - 12 GHz



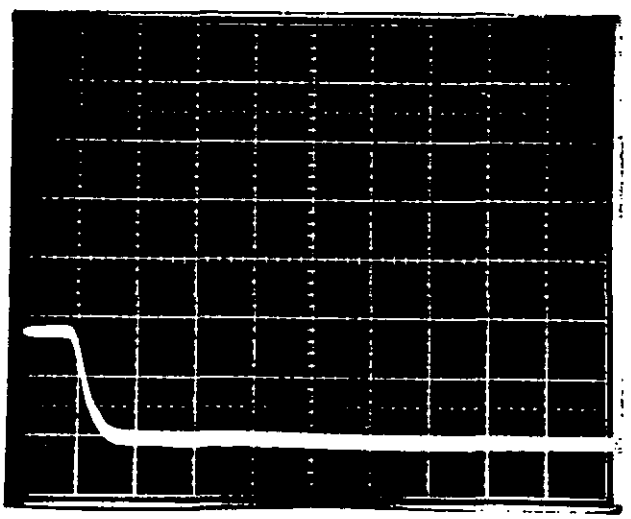
+10 dBm
100 ns/div
0.75 v/div



-10 dBm
100 ns/div
0.75 v/div



-30 dBm
100 ns/div
0.75 v/div



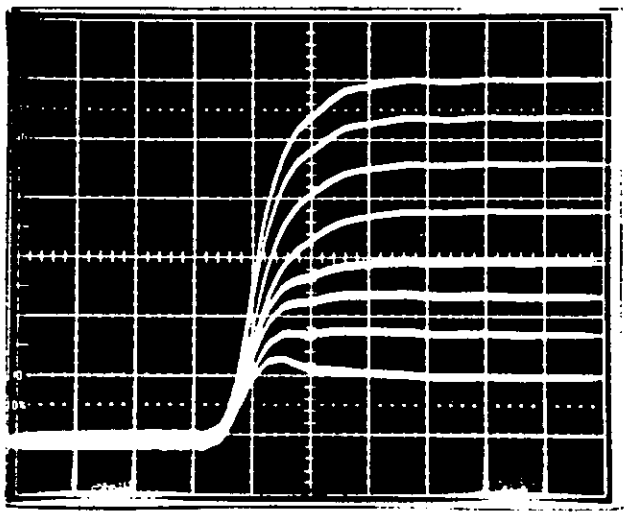
-50 dBm
100 ns/div
0.75 v/div

S/N: DL20538 0°C SQUARE WAVE WITH 10 μS PULSE
TESTED BY: B.B. 5/7/92

RISE TIME AND PULSE RESPONSE - 12 GHz

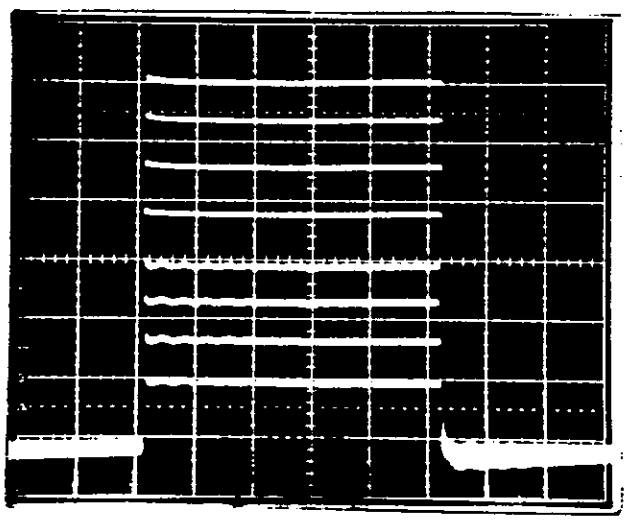
POWER LEVEL (dBm)

+10
0
−10
−20
−30
−40
−50
−60



20 ns/div
0.75 v/div

+10
0
−10
−20
−30
−40
−50
−60



2 μs/div
0.75 v/div

S/N: DL20538 0°C SQUARE WAVE WITH 10 μS PULSE 12 GHz
TESTED BY: B.B. 5/7/92

TEST DATA

FOR

WIDEBAND

65/70 dB

0.2 - 20 GHz DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

AMC MODEL: LVD-218-70/75 AND LVD-0220-65/70

(SERIAL NO: DL211103)

BY

AMERICAN MICROWAVE CORPORATION

29 JANUARY 1993

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

LVD-218-70/75
AND
LVD-0220-65/70
TABLE OF CONTENTS

FORM: DLVA-14/0193 JOB NO: 207199

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: SYSTEMS RESEARCH LABORATORY TESTED BY: B. Baker

JOB NO: 207199 TEMPERATURE: ROOM

MODEL NO: LVD-218-70 DATE: 1/27/93

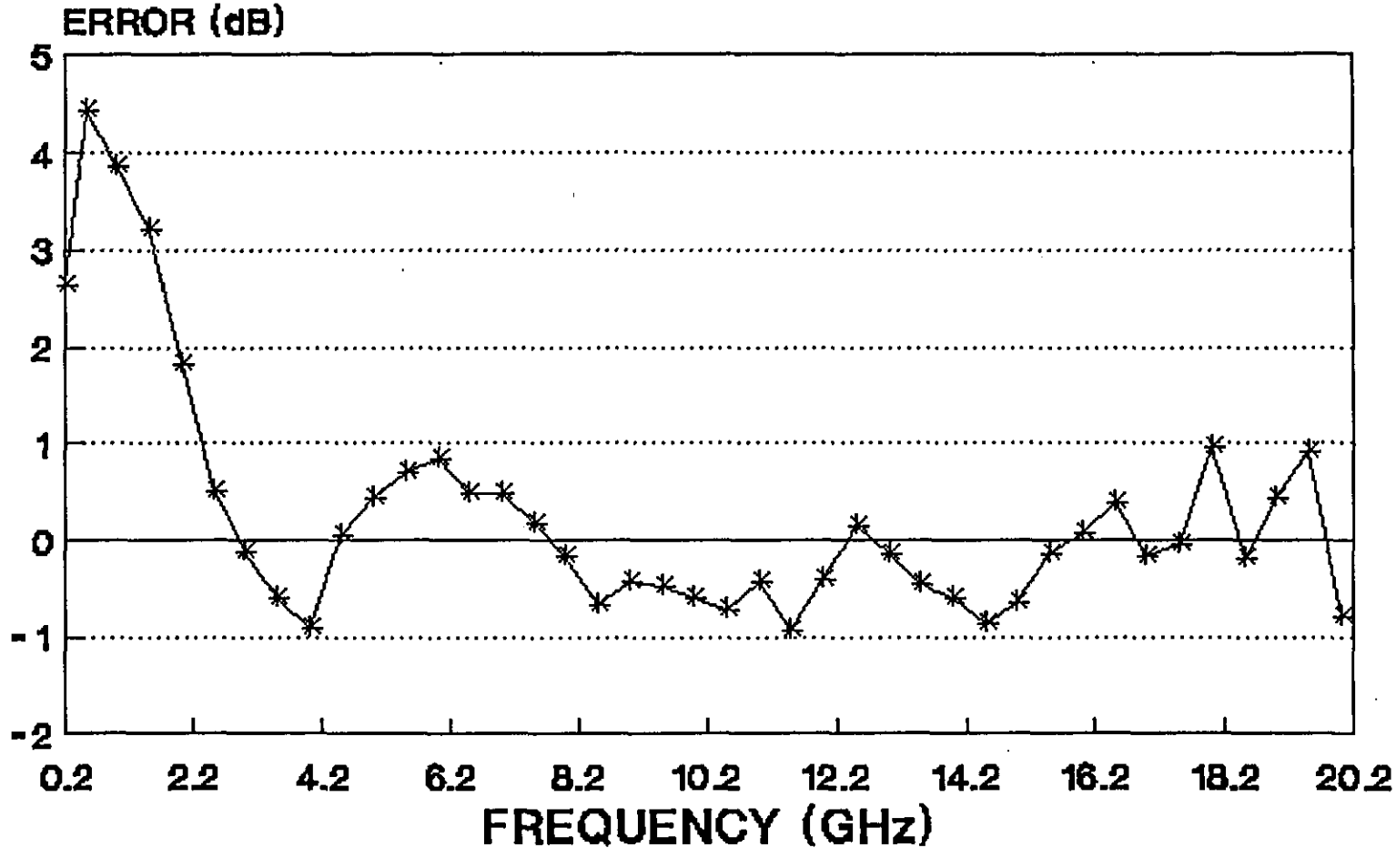
SERIAL NO: DL 211103

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR (0.2 - 20 GHz)	2.5:1 (max) (-7.36 dB)	1.8:1	
2	TYPICAL OUTPUT VOLTAGE @ -65 dBm to +10 dBm	PLOT ATTACHED	0.15 TO 3.75 VOLTS	
3	TSS (0.2 - 20 GHz)	-62 dBm (min)	-62dBM	
4	LOG SLOPE (± 10% TOL)	50 mV/dB	45.0 TO 50.0 MV/dB	
5	LOG LINEARITY @ -65 dBm TO +10 dBm	±2.0 dB (max)	-1.9 dB	
6	FREQUENCY FLATNESS @ -25 dBm (2 - 20 GHz)	±1.75 dB (max)	±0.8 dB	
7	FREQUENCY FLATNESS @ -25 dBm (0.2 - 2 GHz)	±2.5 dB (max)	±0.6dB	
8	RECOVERY TIME −65 TO +10 dBm	300 nS (max)	300NS	
9	RISE TIME (10% TO 90% POINTS)	30 nS (max)	19NS	
10	D.C. POWER @ +15 V (NO LOAD VIDEO)	350 mA (max)	340MA	
11	D.C. POWER @ −15 V (NO LOAD VIDEO)	200 mA (max)	137MA	

PRODUCTION MANAGER APPROVAL: DATED: 2/1/93

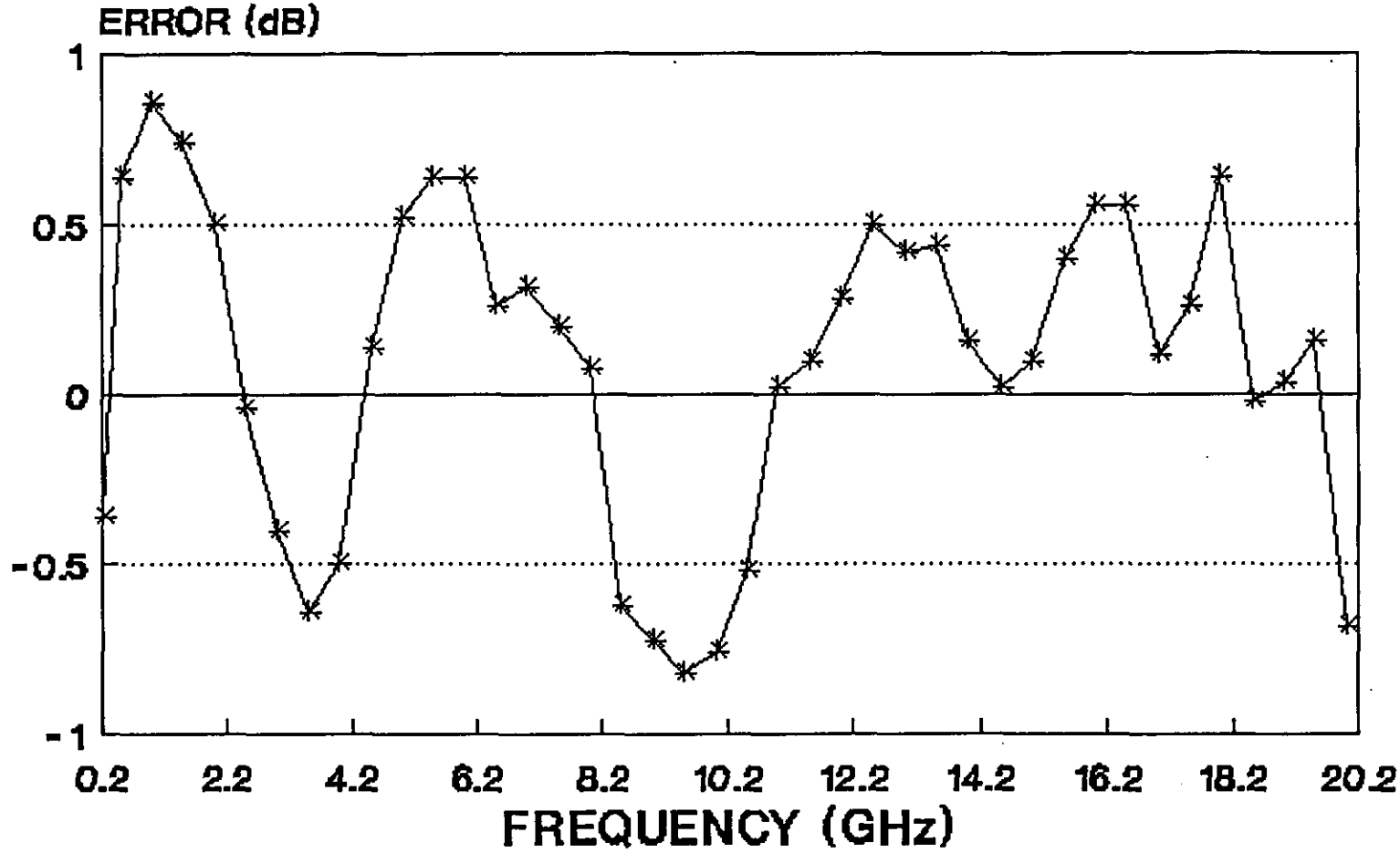
QA/QC APPROVAL: DATED: 2/1/93

0.2 - 20 GHz DLVA
FREQUENCY FLATNESS @ -55 dBm



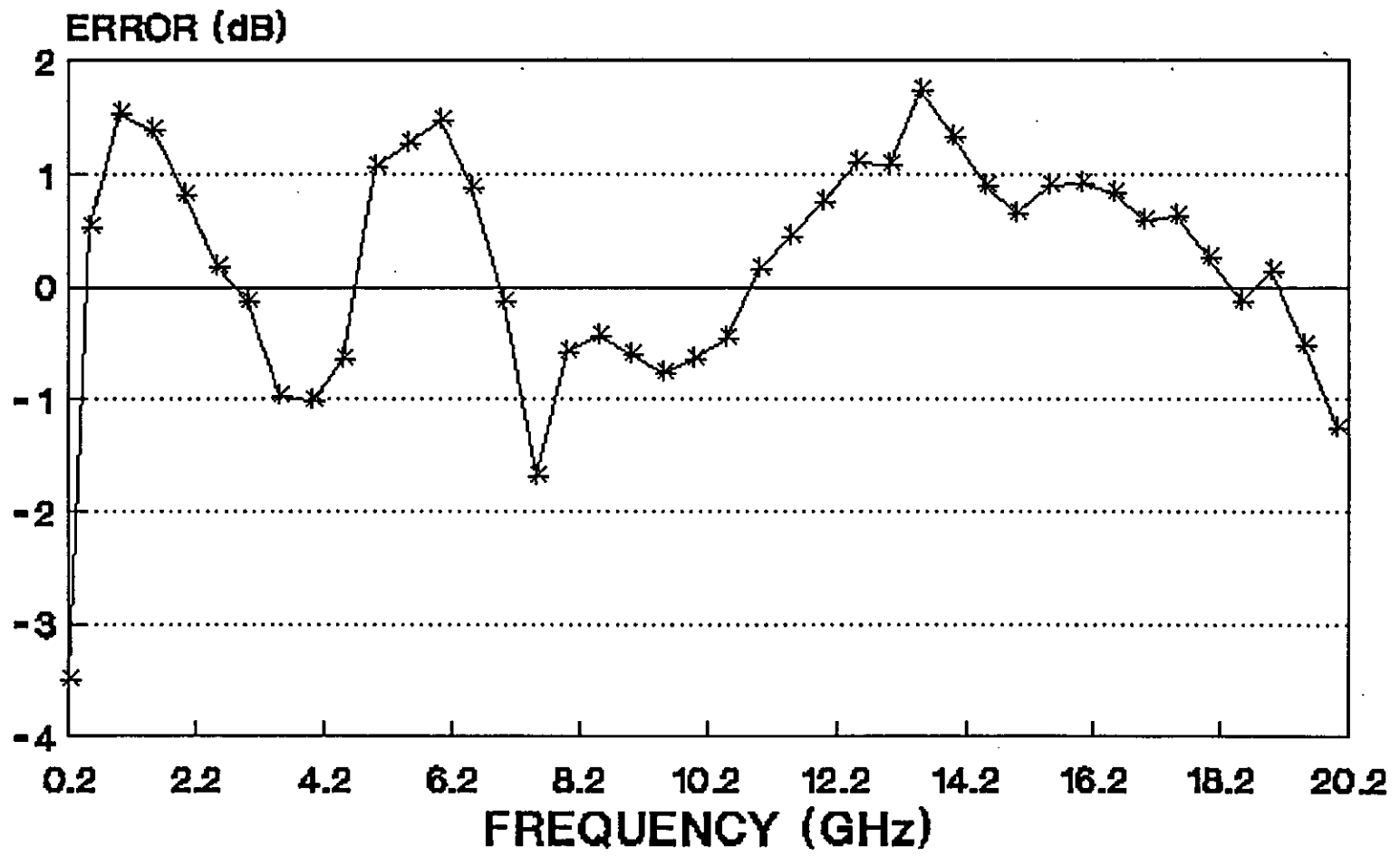
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
FREQUENCY FLATNESS @ -25 dBm



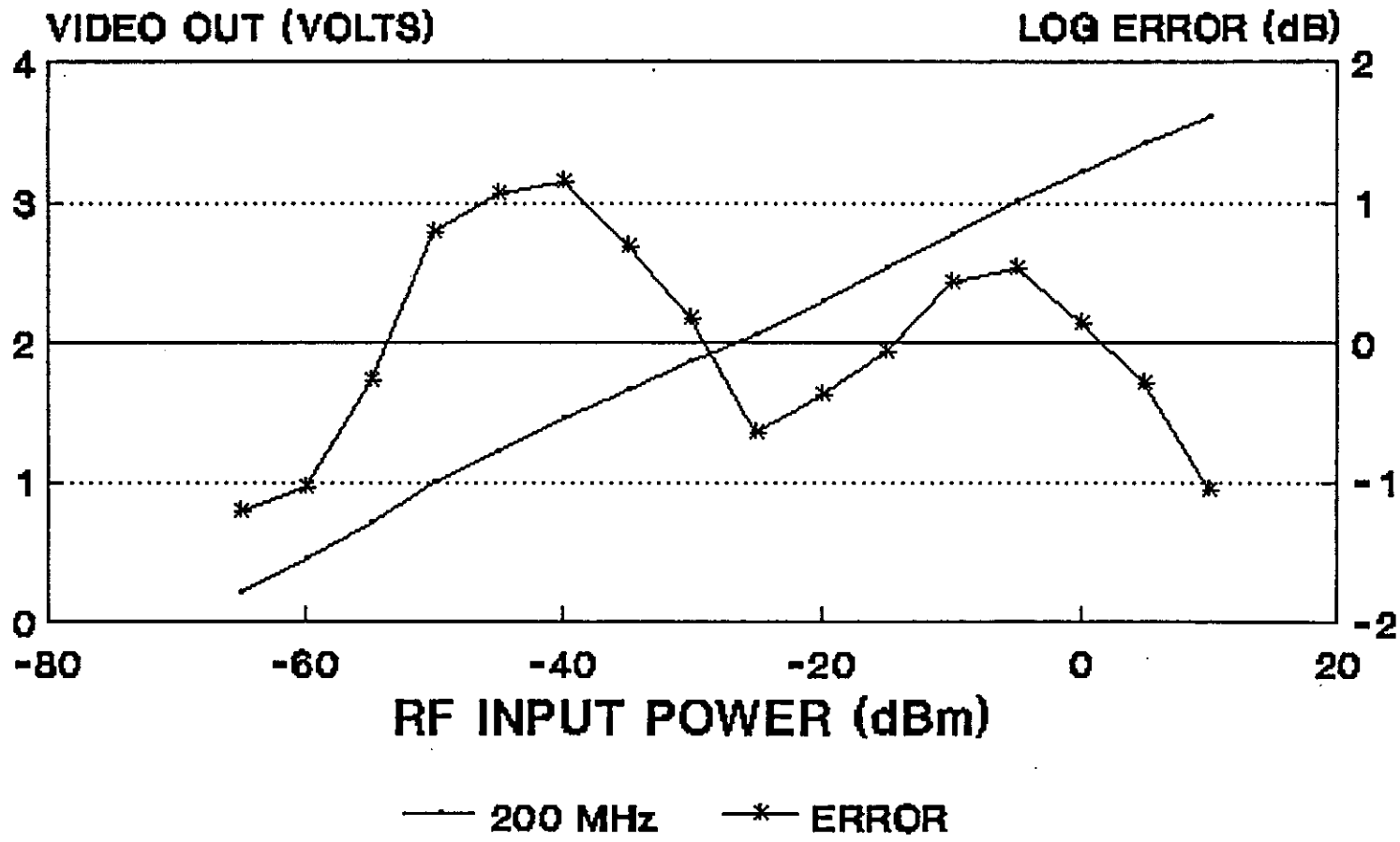
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
FREQUENCY FLATNESS @ +10 dBm



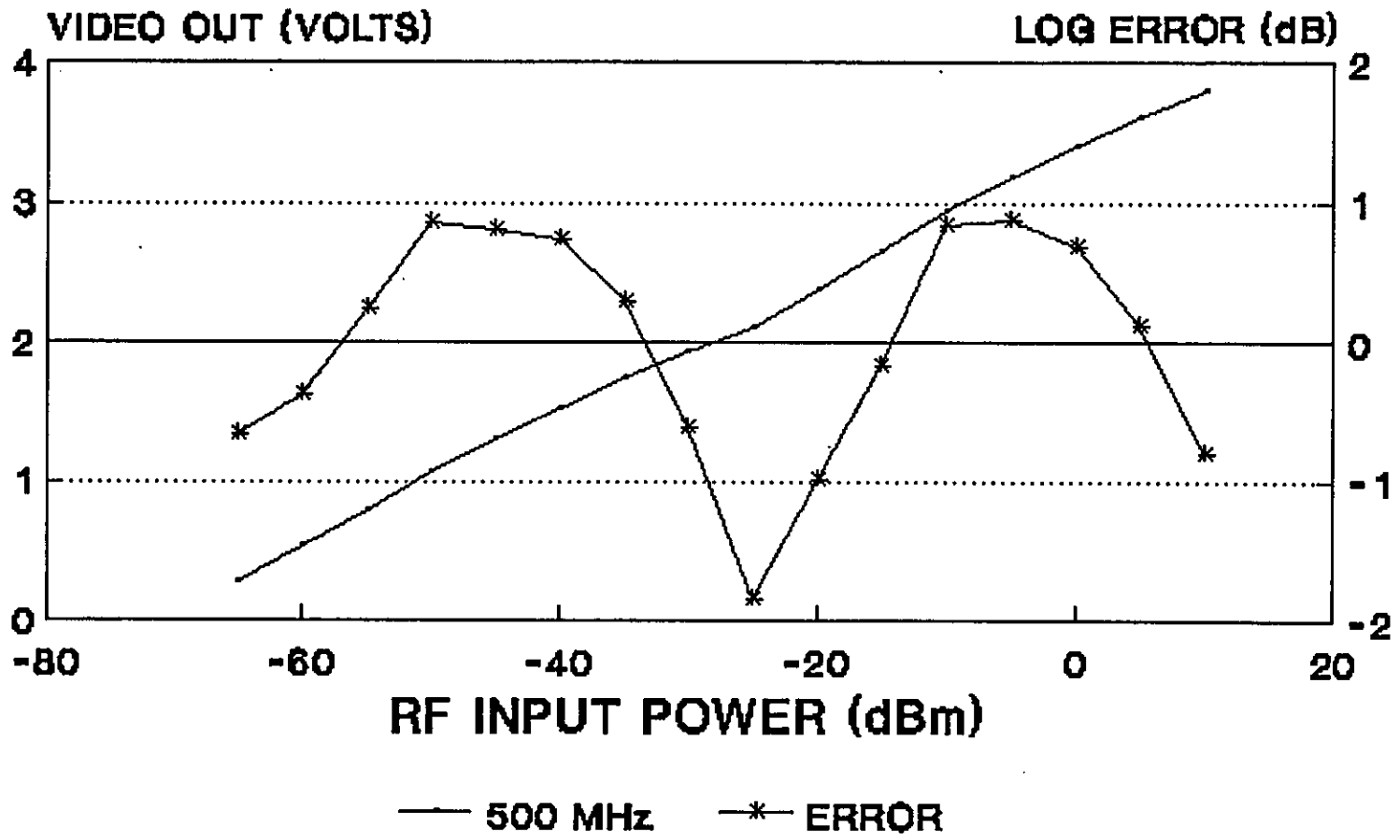
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 200MHz



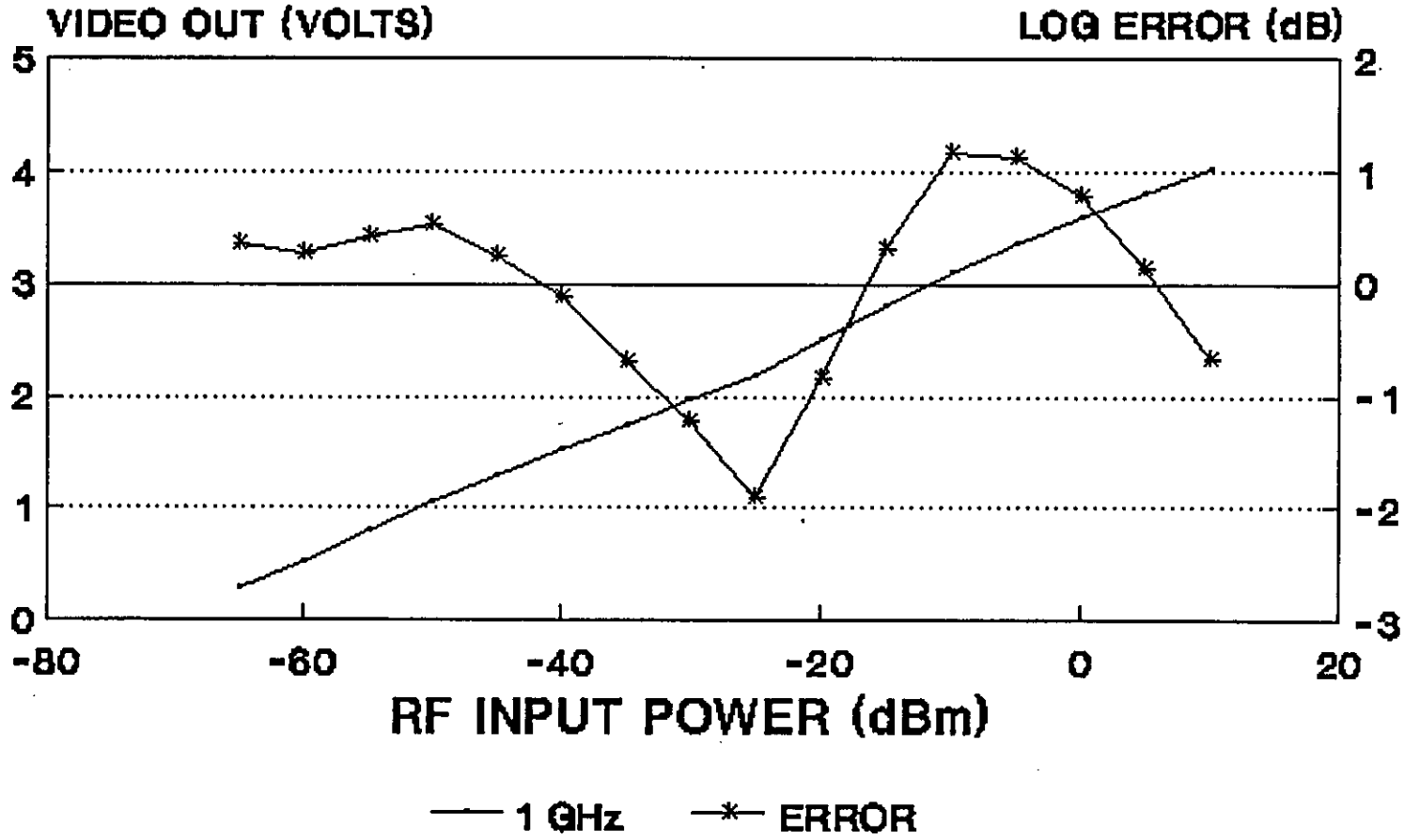
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 500MHz



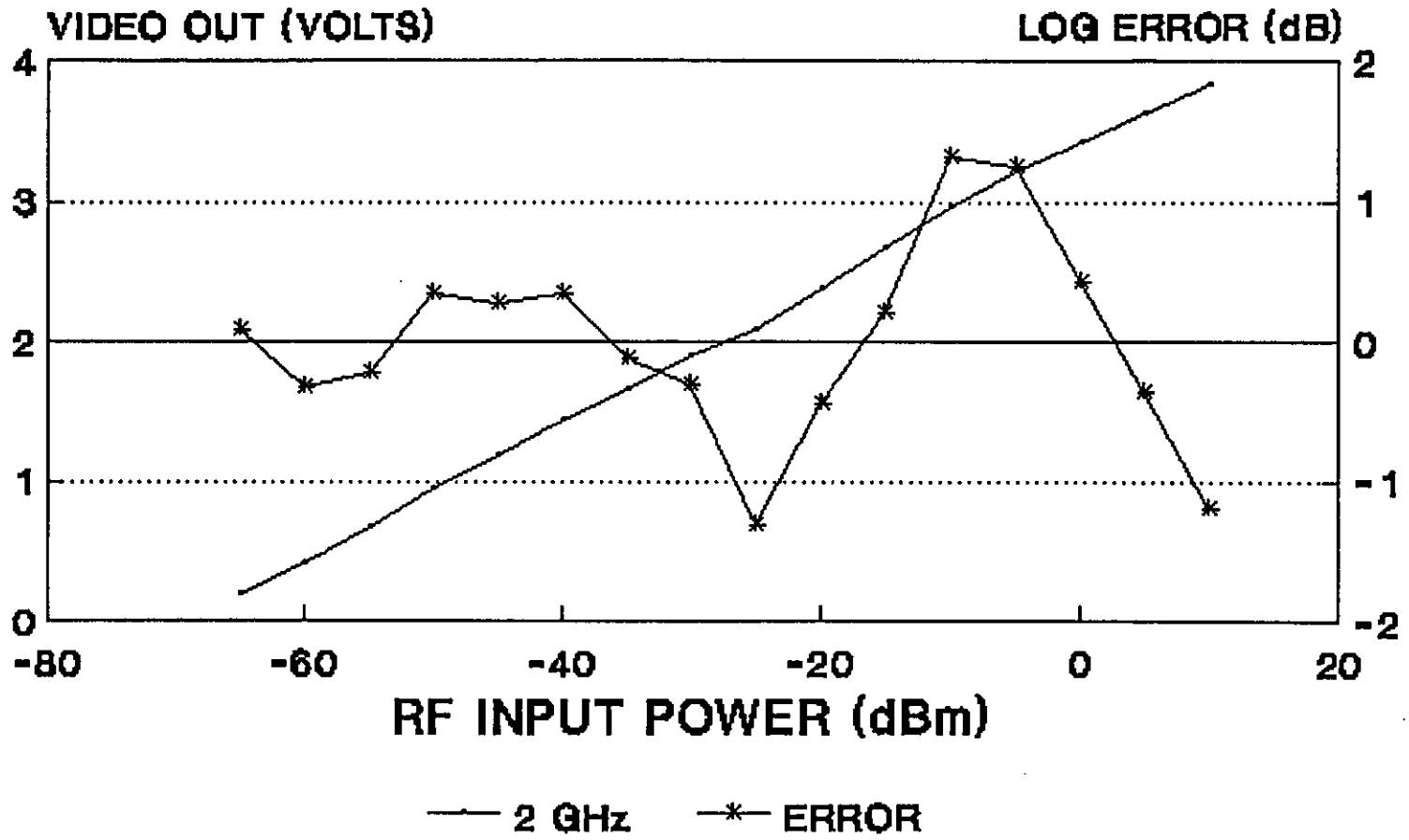
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 1GHz



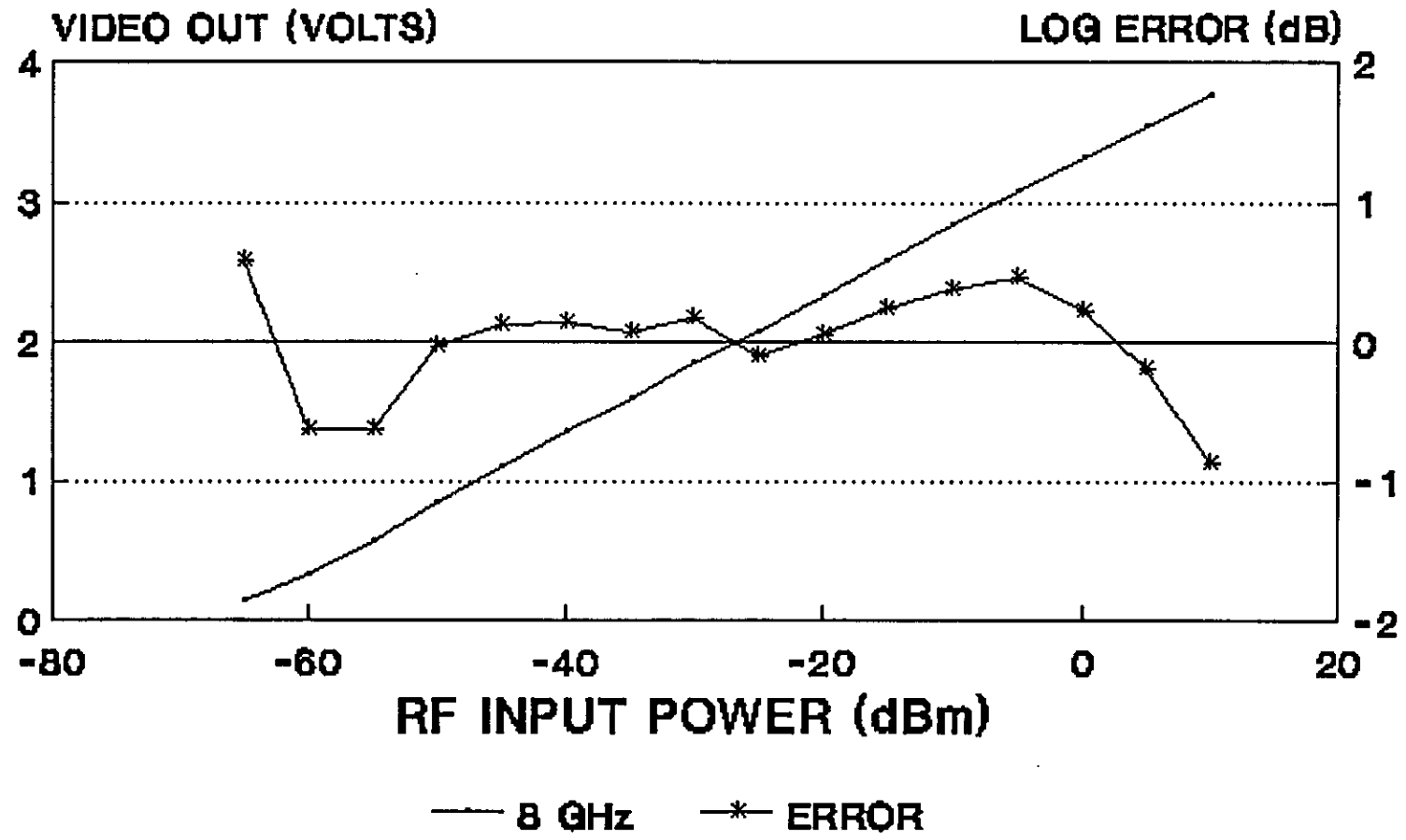
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 2GHz



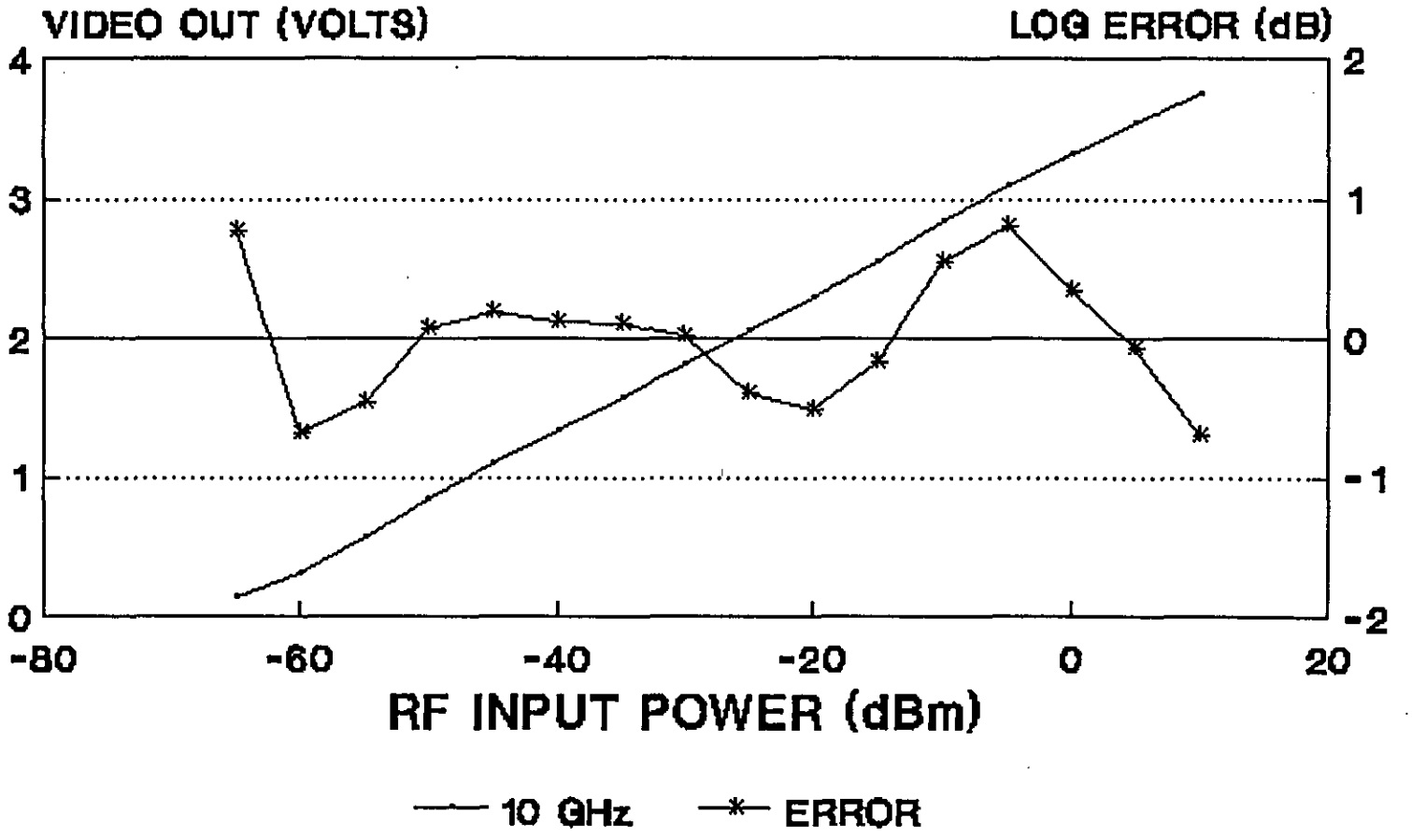
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 8GHz



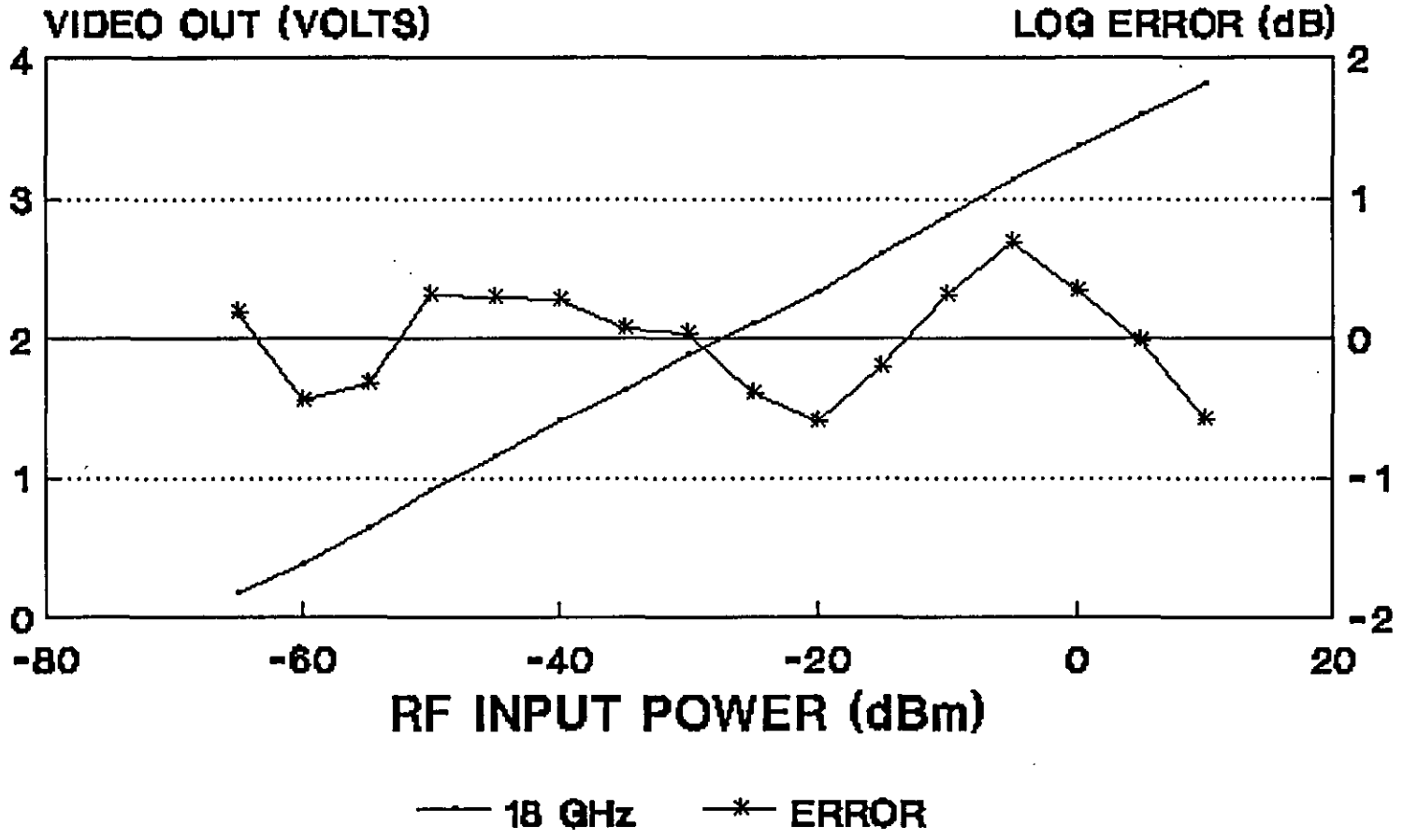
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 10GHz



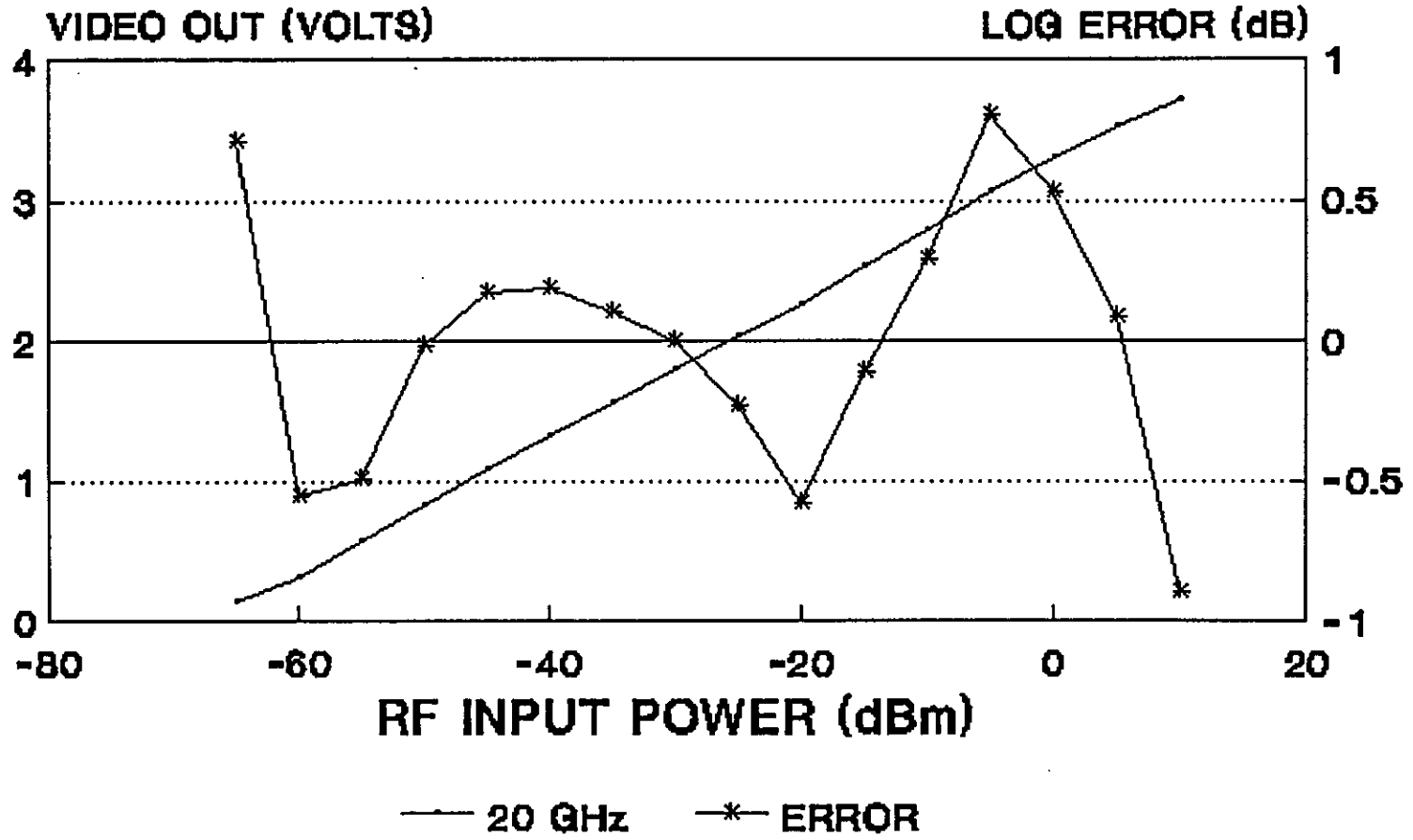
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 18GHz



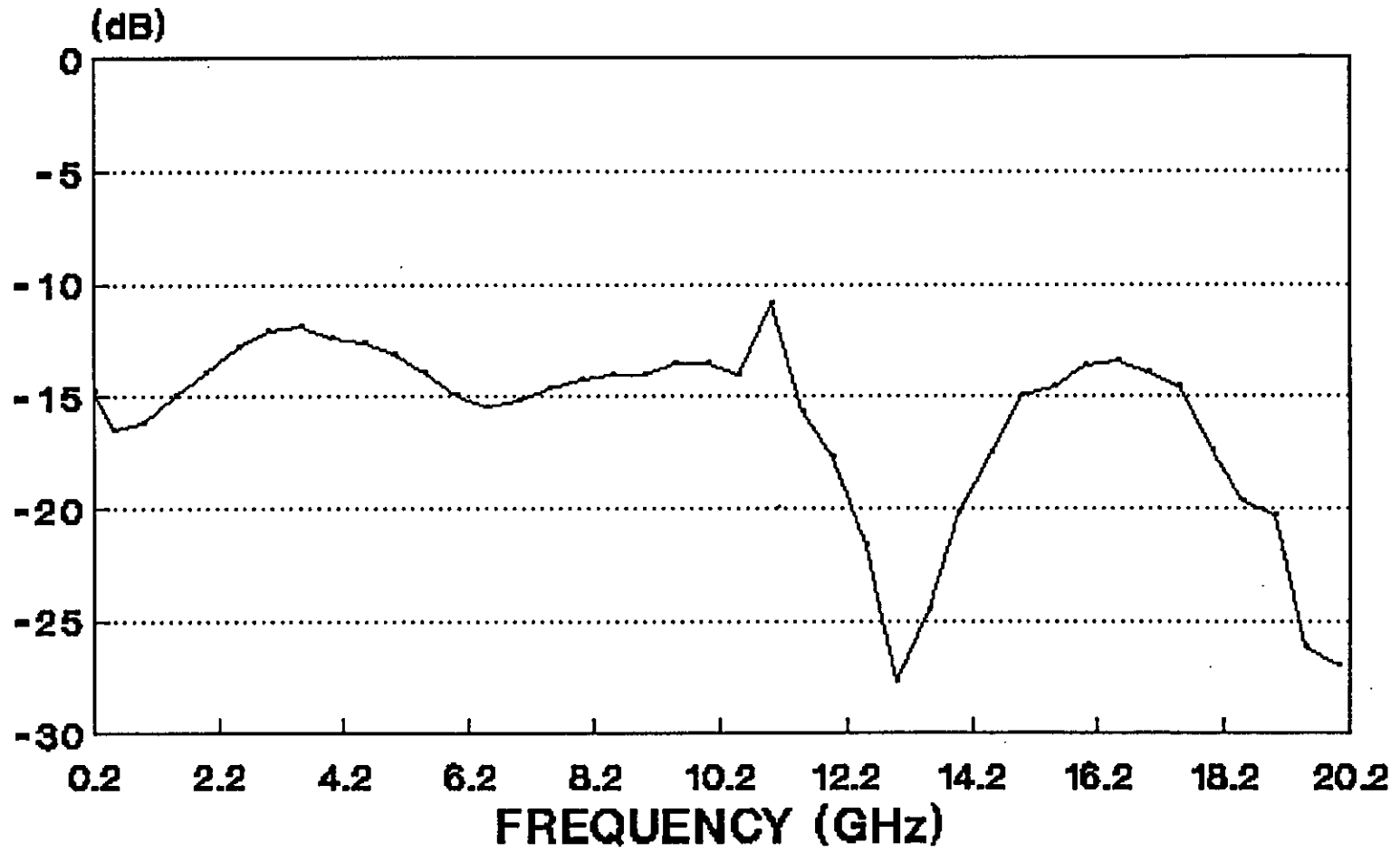
S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
LOG LINEARITY - 20GHz



S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

0.2 - 20 GHz DLVA
INPUT RETURN LOSS



S/N DL211103, 1/27/93
TESTED BY: B.B, ROOM TEMP.

RISE AND RECOVERY TIMES

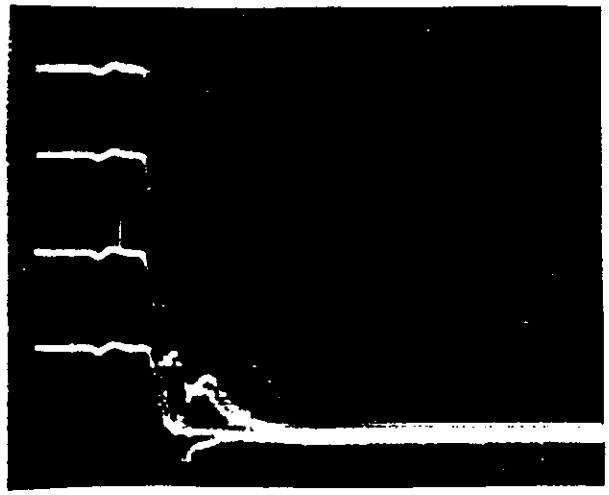
POWER LEVEL (dBm)

+10

−10

−30

−50



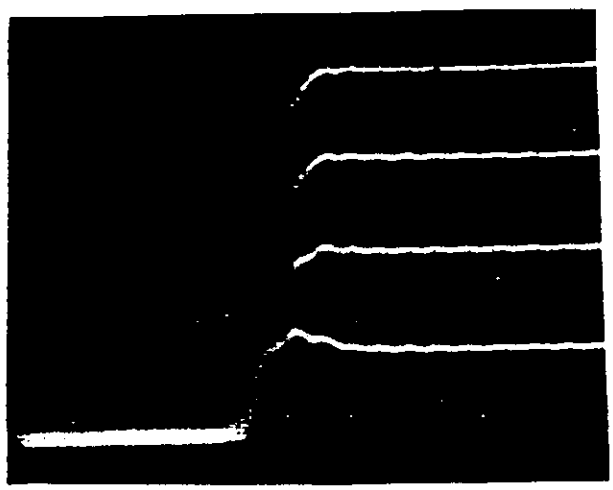
100 nS/div
0.63 V/div

+10

−10

−30

−50



20 nS/div
0.63 V/div

S/N: DL211103
TESTED BY: B.B. 1/30/93

AMERICAN MICROWAVE CORPORATION

TEST DATA

ON

2.0 TO 18.0 GHz

TRULY DC-COUPLED

70 dB MINIMUM DYNAMIC RANGE

FAST RISE AND RECOVERY TIMES

WITH
INTERNAL CW/NOISE
IMMUNITY/CANCELLATION CIRCUITRY

AMC MODEL No:
LVD-218-70 with OPTION "NI"

SERIAL NUMBERS: DL61297, DL61298, DL61299, DL612100, DL612101, DL50430, DL30443, DL30447, DL30449, DL30450, DL30451, DL30452, DL30453, DL30454, DL30455, DL30456, DL30457, DL30458.

DESIGNED
BY
A. K. GORWARA

TESTED
BY
B. BAKER

REPORTED
BY
P. D. WOOD

MARCH 7, 1997

7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

2.0 TO 18.0 GHz, 70/75dB, TRULY DC-COUPLED DETECTOR LOG VIDEO AMPLIFIER(DLVA) WITH INTERNAL CW IMMUNE CIRCUITRY

- TRULY DC-COUPLED
- WIDE BANDWIDTHS
- FAST RISE TIMES
- SUPERIOR ACCURACY
- EXTENDED DYNAMIC RANGE
- SHORT RECOVERY TIMES

SPECIFICATIONS:

• FREQUENCY RANGE	: 2.0 TO 18.0 GHz (0.5 TO 18.0GHz AVAILABLE)
• FREQUENCY FLATNESS	: ±2.5 dB MAX., 2.0dB TYP.
• TSS	: -68 dBm MIN.
• VSWR	: 2.5:1 MAX.
• DYNAMIC RANGE	: 68 dB MIN.
• LOGGING RANGE	: -68 dBm TO 0 dBm MIN.
• LOG LINEARITY	: ±2.0 dB MAX., ±1.5 dB TYP.
• LOG SLOPE	: 70 ±5mV/dB
• LOG SLOPE ACCURACY	: ±5% MAX.(SLOPE OF BEST FIT STRAIGHT LINE)
• LOG LINEARITY @ 10 GHz	: ±1.5 dB MAX., ±1.0 dB TYP.
• LOG LINEARITY OVER FREQUENCY	: ±2.25 dB MAX., ±1.75 dB TYP.
• LOG TEMPERATURE STABILITY	: ±1.75 dB MAX.(-54°C TO +85°C)
• RISE TIME (10% TO 90% POINTS)	: 35 nS TYP., 40 nS MAX.
• RECOVERY TIME	: 250 nS TYP., 350 nS MAX.
• VIDEO LOAD	: 50Ω, MIN.
• DC POWER (NO LOAD)	: +9 TO +18 vdc @ 350 mA MAX. : -9 TO -18 vdc @ 200 mA MAX.
• CW IMMUNITY (OPTIONAL)	: CANCELLATION TO -46 dBm MIN. FOR SIGNALS ≥10μS PULSE WIDTH OR CW.
• SIZE	: 3.0" X 3.5" X 0.5"

AVAILABLE OPTIONS:

• A01	: EXTENDED FREQUENCY RANGE TO 0.2 TO 20.0 GHz
• A02	: EXTENDED FREQUENCY RANGE TO 0.5 TO 18.0 GHz
• A03	: FASTER RISE/RECOVERY TIMES
• A04	: ALTERNATE LOG SLOPES
• A05	: HIGH POWER RF CW/PEAK PROTECTION
• A06	: EXTENDED LOGGING RANGE
• A07	: OTHER VIDEO LOADS
• A08	: EXTERNAL CW IMMUNE CIRCUITRY
• A09	: COMPLEMENTARY VIDEO OUTPUTS

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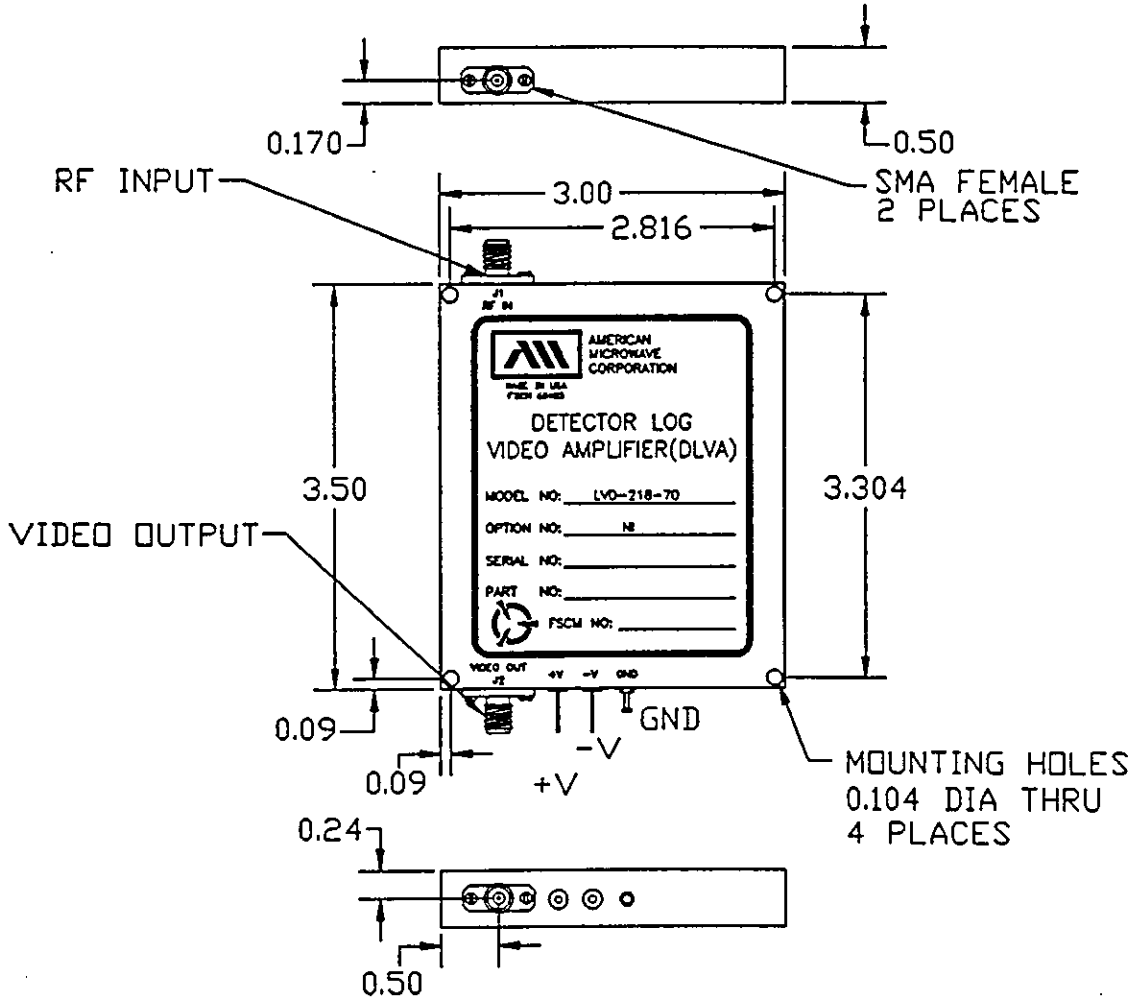
MECHANICAL OUTLINE:



DIMENSIONS ARE IN INCHES. TOLERANCES: X.XX = 0.020", X.XXX = 0.010"

LVD-218-70/75 (OPTION "NI")

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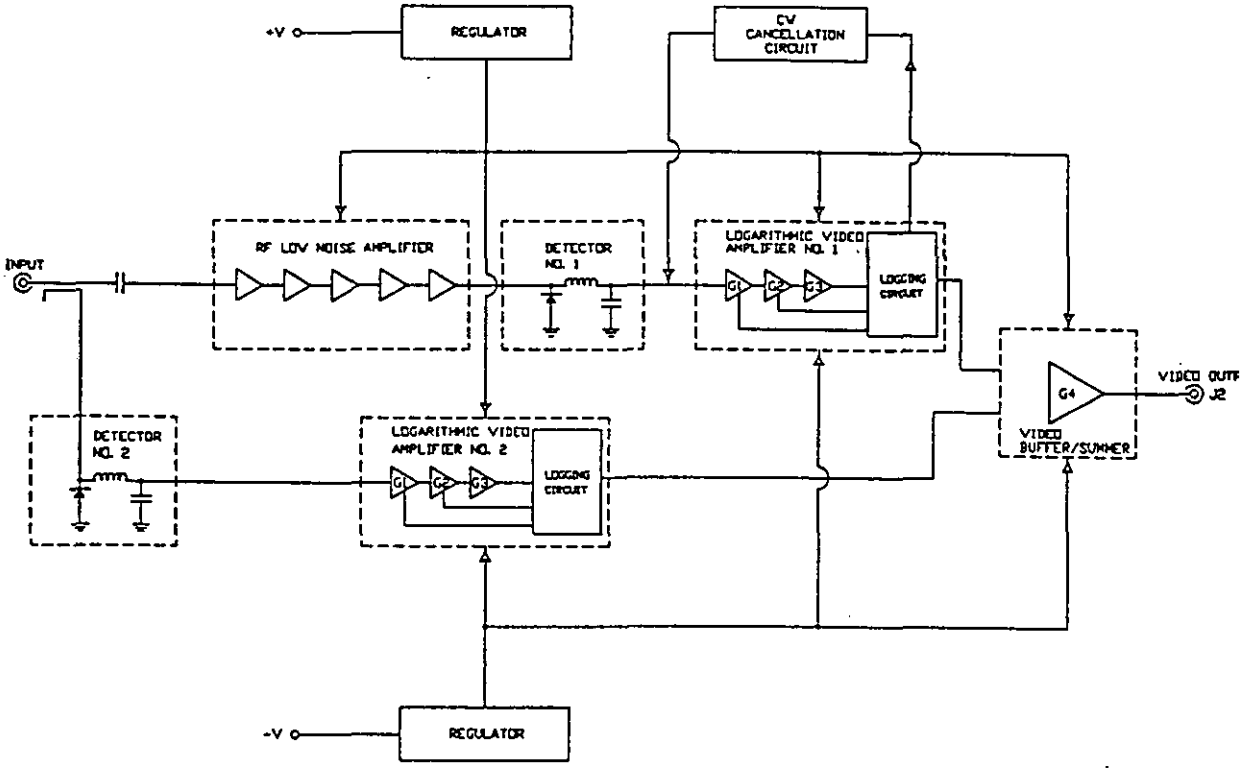
FUNCTIONAL BLOCK DIAGRAM:



ENVIRONMENTAL RATINGS:

ENVIRONMENTAL RATINGS

TEMPERATURE	-54°C TO +85°C (OPERATING) -65°C TO +100°C (STORAGE)
HUMIDITY	MIL-STD-202F, METHOD 103B COND. B
SHOCK	MIL-STD-202F, METHOD 213B COND. B
VIBRATION	MIL-STD-202F, METHOD 204D COND. B
ALTITUDE	MIL-STD-202F, METHOD 105C COND. B
TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D COND. A

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61297

FORM: KA-101 608161-4 JOB NO: 608161-4

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: KAMAN SCIENCES
JOB NO: 608161-4
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL61297

TESTED BY: B.B.
DATE: 2/25/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARK QA/QC
1	FREQUENCY	2 GHz TO 12 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (min.)	±1.5dB	√
3	TSS	-68 dB (min.)	-70dBm	✓
4	VSWR	2.5:1 (max.)	2.0:1	√
5	DYNAMIC RANGE	70 dB (min).	PASS	✓
6	LOGGING RANGE	-65 TO +5 dBm	PASS	✓
7	LOG LINEARITY	±2.0 dB (max.)	+1.0dB	√
8	LOG SLOPE ACCURACY 70 MV/dB (nom.)	±5% (max.), SLOPE OF BEST FIT STRAIGHT LINE	68.5 TO 72mV/dB	✓
9	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (max.)	PASS	✓
10	RISE TIME (10% TO 90%)	40 nSEC (max.)	16.0 Sec	✓
11	CW IMMUNITY	CANCELLATION TO -46 dBm (min.)	PASS	✓
12	D.C. POWER @ +15V	500 mA (max.) NO LOAD	320mA	√
13	D.C. POWER @ -15V	500 mA (max.) NO LOAD	139mA	✓

PRODUCTION MANAGER APPROVAL: [signature] DATED: 3/3/97.

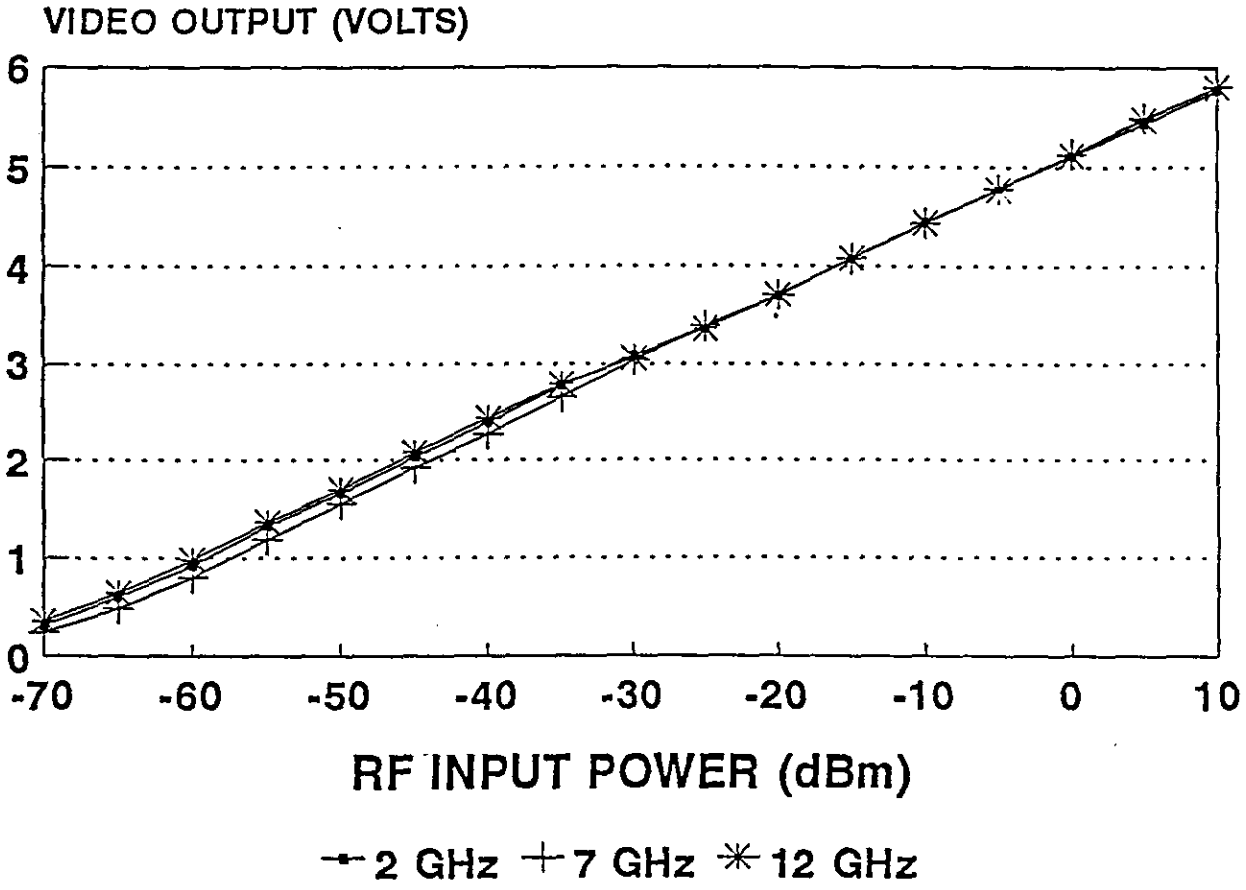
QA/QC APPROVAL: [signature] DATED: 3/3/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61297

LVD-218-70: S\N DL61297
LOG TRANSFER WITH FREQUENCY

AMERICAN MICROWAVE CORPORATION



+ 25 C, 2/25/97

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ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61298

FORM: KA-101 608161-4 JOB NO: 608161-4

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: KAMAN SCIENCES
JOB NO: 608161-4
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL61298

TESTED BY: B.B.
DATE: 2/27/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARK QA/QC
1	FREQUENCY	2 GHz TO 12 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (min.)	±1.6dB	✓
3	TSS	-68 dB (min.)	PASS	✓
4	VSWR	2.5:1 (max.)	1.7:1	✓
5	DYNAMIC RANGE	70 dB (min).	PASS	✓
6	LOGGING RANGE	-65 TO +5 dBm	PASS	✓
7	LOG LINEARITY	±2.0 dB (max.)	-0.9dB	✓
8	LOG SLOPE ACCURACY 70 MV/dB (nom.)	±5% (max.), SLOPE OF BEST FIT STRAIGHT LINE	66.5 to 68.7mV/dB	✓
9	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (max.)	PASS	✓
10	RISE TIME (10% TO 90%)	40 nSEC (max.)	25nSec	✓
11	CW IMMUNITY	CANCELLATION TO -46 dBm (min.)	PASS	✓
12	D.C. POWER @ +15V	500 mA (max.) NO LOAD	350mA	✓
13	D.C. POWER @ -15V	500 mA (max.) NO LOAD	138mA	✓

PRODUCTION MANAGER APPROVAL: _____ DATED: 3/2/97

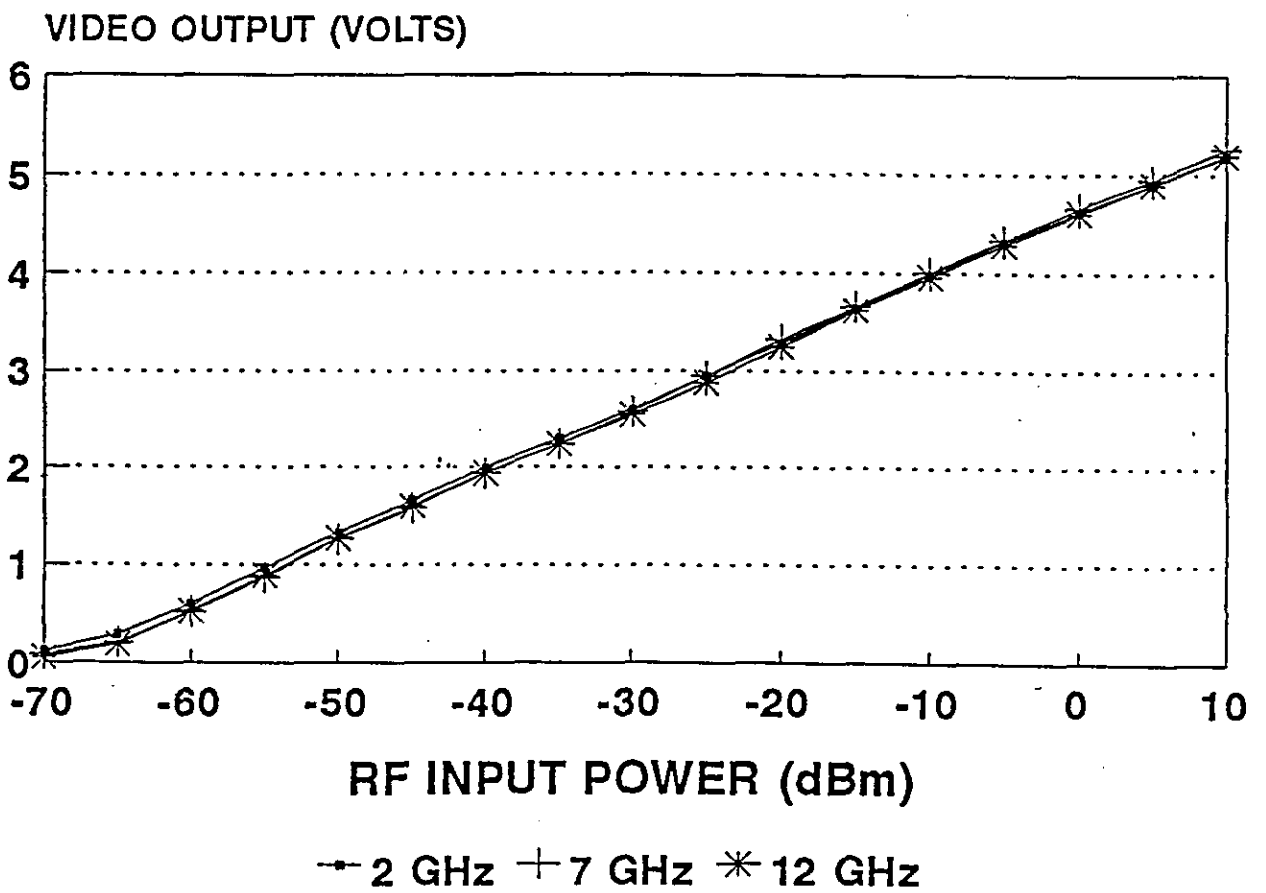
QA/QC APPROVAL: _____ DATED: 3/3/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61298

LVD-218-70: S\N DL61298
LOG TRANSFER WITH FREQUENCY

AMERICAN MICROWAVE CORPORATION



+ 25 C, 2/27/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61299

FORM: KA-101 608161-4 JOB NO: 608161-4

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: KAMAN SCIENCES
JOB NO: 608161-4
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL61299

TESTED BY: B. B.
DATE: 2/24/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARK QA/QC
1	FREQUENCY	2 GHz TO 12 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (min.)	±1.5dB	✓
3	TSS	-68 dB (min.)	-70dBm	✓
4	VSWR	2.5:1 (max.)	2.1:1	✓
5	DYNAMIC RANGE	70 dB (min).	PASS	✓
6	LOGGING RANGE	-65 TO +5 dBm	PASS	✓
7	LOG LINEARITY	±2.0 dB (max.)	+1.0dB	✓
8	LOG SLOPE ACCURACY 70 MV/dB (nom.)	±5% (max.), SLOPE OF BEST FIT STRAIGHT LINE	66.5 TO 70mV/dB	✓
9	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (max.)	PASS	✓
10	RISE TIME (10% TO 90%)	40 nSEC (max.)	20nSec	✓
11	CW IMMUNITY	CANCELLATION TO -46 dBm (min.)	PASS	✓
12	D.C. POWER @ +15V	500 mA (max.) NO LOAD	330mA	✓
13	D.C. POWER @ -15V	500 mA (max.) NO LOAD	140mA	✓

PRODUCTION MANAGER APPROVAL: [signature] DATED: 3/2/97.

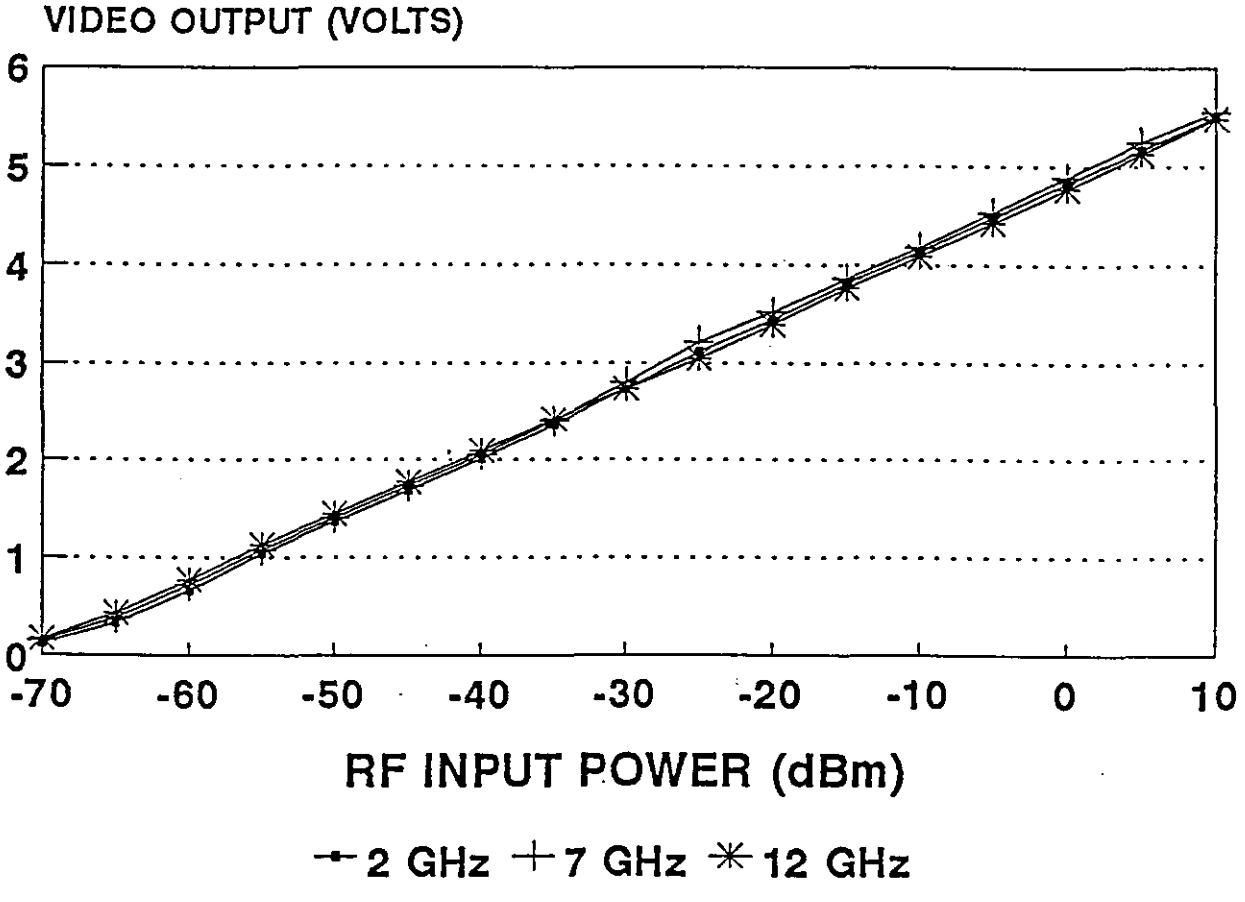
QA/QC APPROVAL: [signature] DATED: 3/3/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL61299

LVD-218-70: S\N DL61299
LOG TRANSFER WITH FREQUENCY

AMERICAN MICROWAVE CORPORATION



+ 25 C, 2/24/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL612100

FORM: KA-101 608161-4 JOB NO: 608161-4

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: KAMAN SCIENCES
JOB NO: 608161-4
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL612100

TESTED BY: BB.
DATE: 2/24/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARK QA/QC
1	FREQUENCY	2 GHz TO 12 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (min.)	±1.5dB	✓
3	TSS	-68 dB (min.)	-70dBm	✓
4	VSWR	2.5:1 (max.)	1.9:1	✓
5	DYNAMIC RANGE	70 dB (min).	PASS	✓
6	LOGGING RANGE	-65 TO +5 dBm	PASS	✓
7	LOG LINEARITY	±2.0 dB (max.)	-1.3dB	✓
8	LOG SLOPE ACCURACY 70 MV/dB (nom.)	±5% (max.), SLOPE OF BEST FIT STRAIGHT LINE	71.5 TO 73.5 MV/dB	✓
9	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (max.)	PASS	✓
10	RISE TIME (10% TO 90%)	40 nSEC (max.)	PASS	✓
11	CW IMMUNITY	CANCELLATION TO -46 dBm (min.)	PASS	✓
12	D.C. POWER @ +15V	500 mA (max.) NO LOAD	370mA	✓
13	D.C. POWER @ -15V	500 mA (max.) NO LOAD	137mA	✓

PRODUCTION MANAGER APPROVAL: _____ DATED: 3/3/97

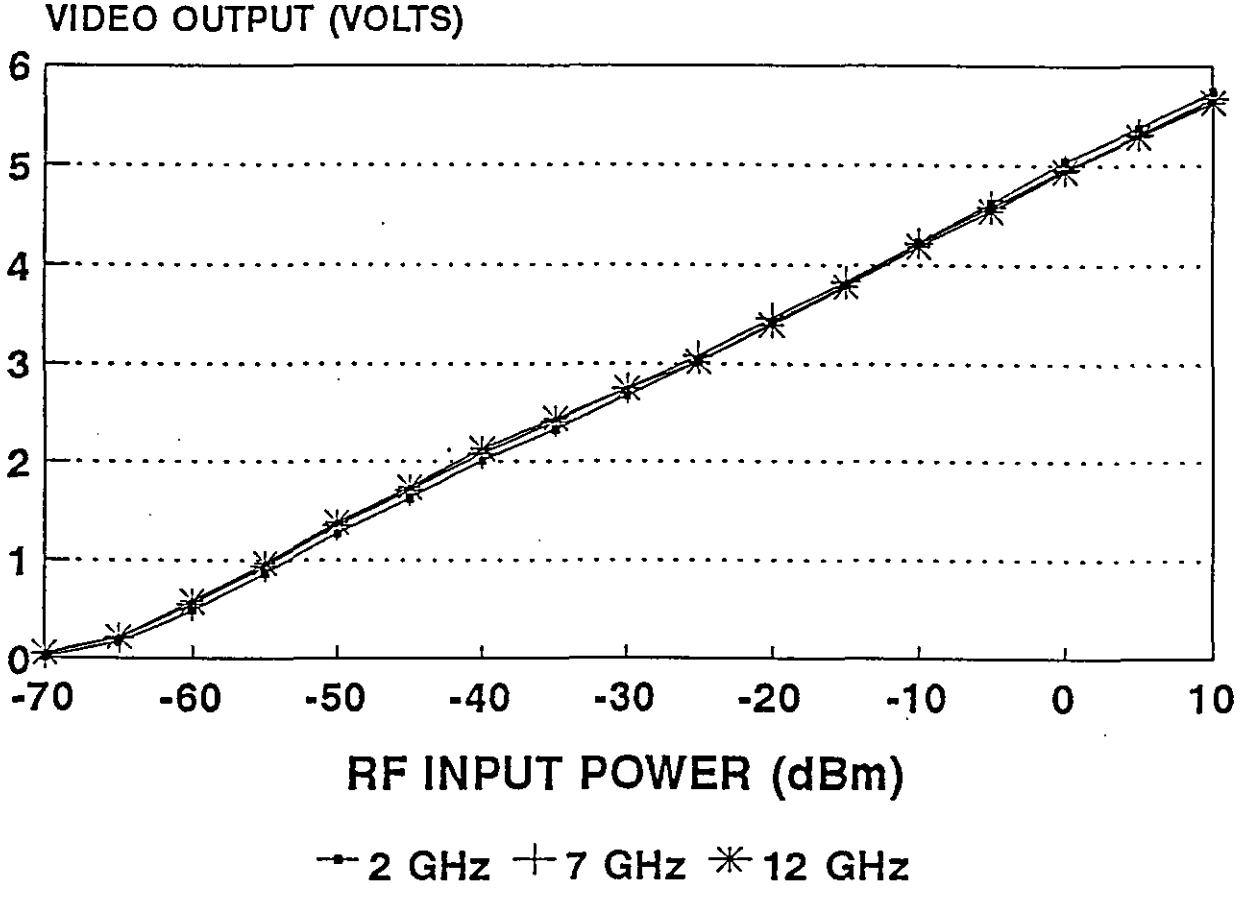
QA/QC APPROVAL: _____ DATED: 3/3/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL612100

LVD-218-70: S\N DL612100
LOG TRANSFER WITH FREQUENCY

AMERICAN MICROWAVE CORPORATION



+ 25 C, 2/24/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL612101

FORM: KA-101 608161-4 JOB NO: 608161-4

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: KAMAN SCIENCES
JOB NO: 608161-4
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL612101

TESTED BY: B.B.
DATE: 2/27/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARK QA/QC
1	FREQUENCY	2 GHz TO 12 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (min.)	±1.5dB	✓
3	TSS	-68 dB (min.)	-70dBm	✓
4	VSWR	2.5:1 (max.)	2.1:1	✓
5	DYNAMIC RANGE	70 dB (min).	PASS	✓
6	LOGGING RANGE	-65 TO +5 dBm	PASS	✓
7	LOG LINEARITY	±2.0 dB (max.)	-1.05dB	✓
8	LOG SLOPE ACCURACY 70 MV/dB (nom.)	±5% (max.), SLOPE OF BEST FIT STRAIGHT LINE	70 TO 72 mV/dB	✓
9	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (max.)	PASS	✓
10	RISE TIME (10% TO 90%)	40 nSEC (max.)	20nSec	✓
11	CW IMMUNITY	CANCELLATION TO -46 dBm (min.)	PASS	✓
12	D.C. POWER @ +15V	500 mA (max.) NO LOAD	330mA	✓
13	D.C. POWER @ -15V	500 mA (max.) NO LOAD	137mA	✓

PRODUCTION MANAGER APPROVAL: _____ DATED: 3/3/97

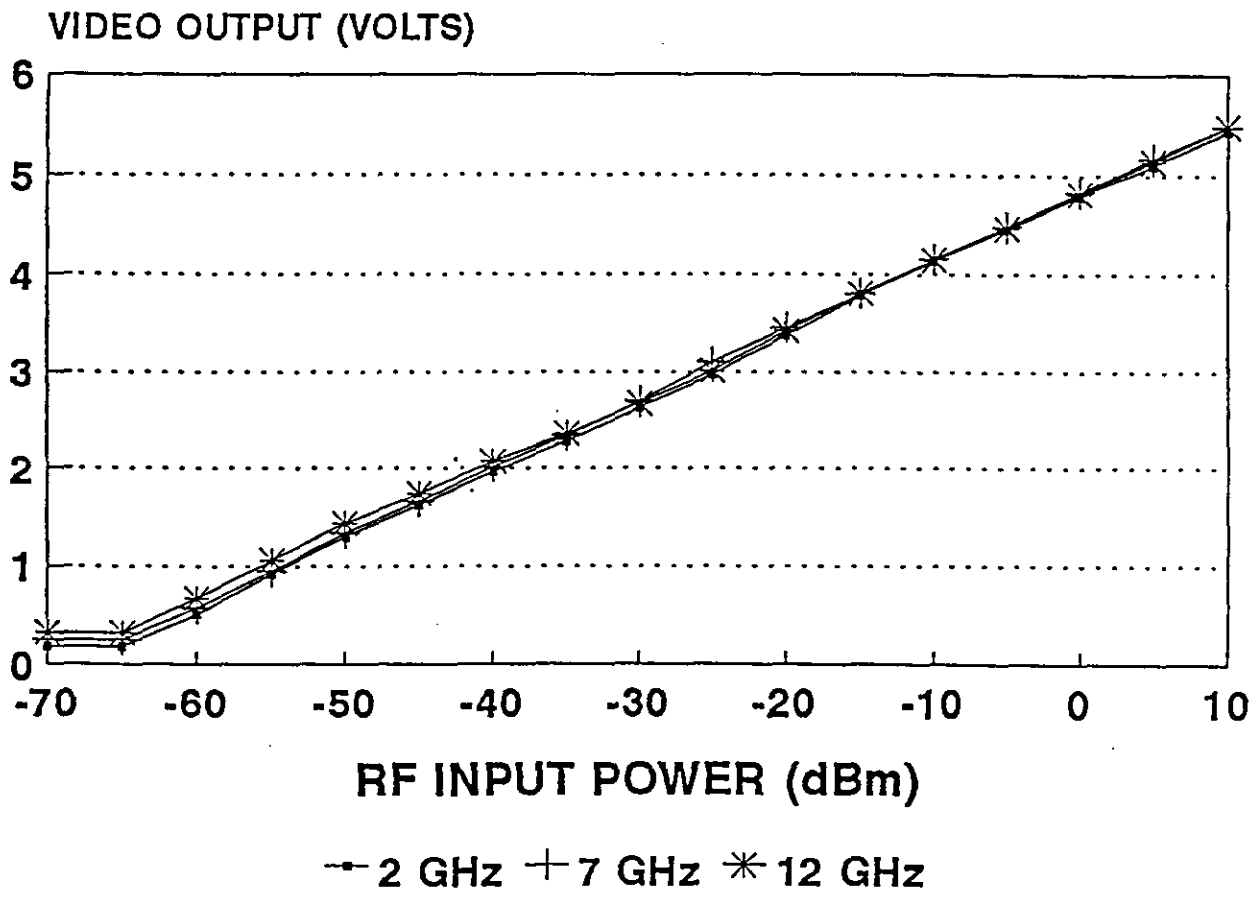
QA/QC APPROVAL: _____ DATED: 3/3/97

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL612101

LVD-218-70: S\N DL612101
LOG TRANSFER WITH FREQUENCY

AMERICAN MICROWAVE CORPORATION



+ 25 C, 2/27/97

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ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL50430

FORM: DLVA-66/0595

JOB NO: 50348

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: NRL
JOB NO: 50348
MODEL NO: LVD-218-70 OPTION NI
SERIAL NO: DL50430

TESTED BY: B.B.
TEMPERATURE: 0 to +60°C
DATE: 7/31/95

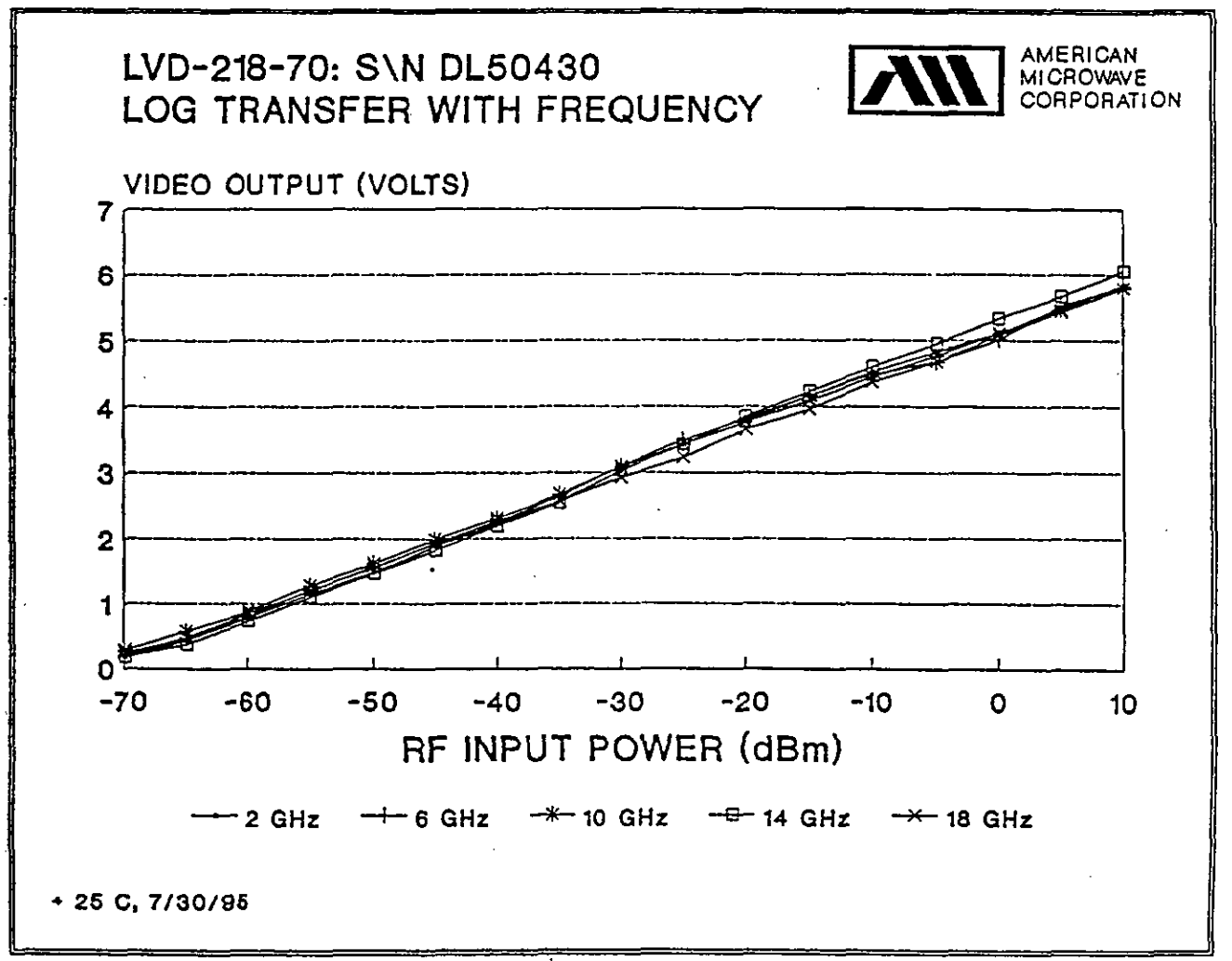
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY	2 - 18 GHz	PASS	✓
2	FREQUENCY FLATNESS	±2.5 dB (MAX)	±1.9dB	✓
3	TSS	-68 dB (MIN)	-68 dBm	✓
4	VSWR	2.5:1 (MAX)	PASS	✓
5	DYNAMIC RANGE	68 dB (MIN)	PASS	✓
6	LOGGING RANGE	-68 dBm TO 0 Dbm	PASS	✓
7	LOG LINEARITY	±2.0 dB (MAX)	-1.9dB	✓
8	LOG SLOPE	70 ±5mV/dB	67 to 71 mV/dB	✓
9	LOG SLOPE ACCURACY	±5% (MAX), SLOPE OF BEST FIT STRAIGHT LINE	PASS	✓
10	LOG TEMPERATURE STABILITY (0°C TO +60°C)	±1.75 dB (MAX)	±1.2dB	✓
11	RISE TIME (10% TO 90%)	40 nSEC. (MAX)	12n SEC	✓
12	RECOVERY TIME	350 nSEC. (MAX)	PASS	✓
13	VIDEO LOAD		93Ω (MIN)	✓
14	CW IMMUNITY	CANCELLATION TO -46 dBm (MIN)	PASS	✓
12	D.C. POWER @ +15 V	500 mA (MAX) NO LOAD	330 mA	✓
13	D.C. POWER @ -15 V	500 mA (MAX) NO LOAD	143 mA	✓

PRODUCTION MANAGER APPROVAL: R. Hale DATED: 8/1/95

QA/QC APPROVAL: [signature] DATED: 8/1/95

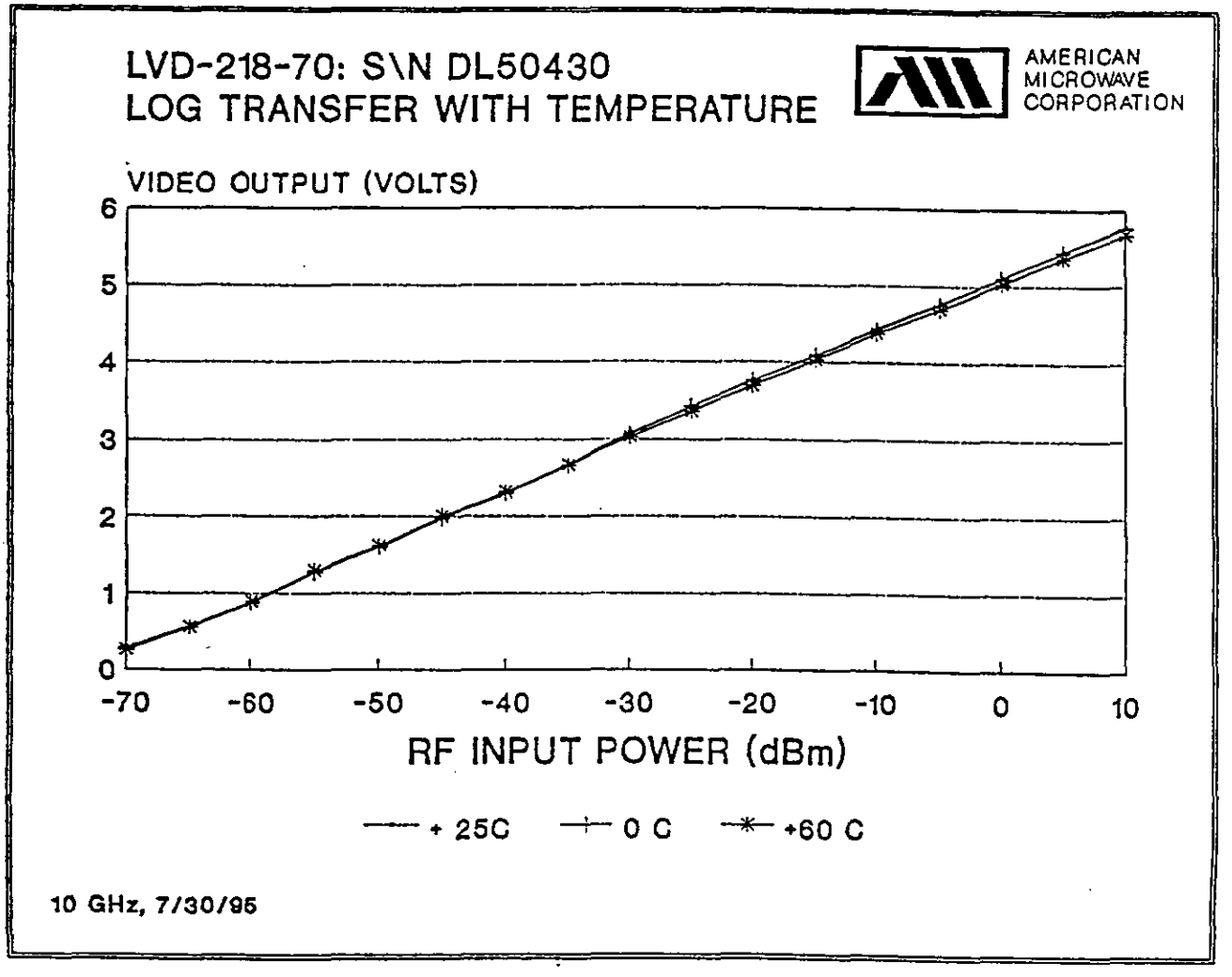
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL50430



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL50430



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30443

FORM: DLVA-16/0393 JOB NO:206151 -R1

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B.B.

JOB NO: 206151 -R1 DATE: 10/20/93

MODEL NO: LVD-218-70

SERIAL NO: DL30443

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	
2	INPUT VSWR	2.5:1 (max.)	2.2:1	
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	-68dBm -70dBm	
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±1.5dB	
6	LOG SLOPE	70 ±5 mV/dB	69mV/dB	
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	±2.0dB	
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-1.0dB	
9	RISE TIME	35 nsec typical 40 nsec (max.)	30nSEC	
10	CW IMMUNITY	-46 dBm	PASS	
11	DC POWER @ +15V (No Load)	600 mA (max.)	390mA	
12	DC POWER @ −15V (No Load)	250 mA (max.)	135mA	

PRODUCTION MANAGER APPROVAL: L. Hoover DATED: 10/21/93

QA/QC APPROVAL: Kay Hall DATED: 10/21/93

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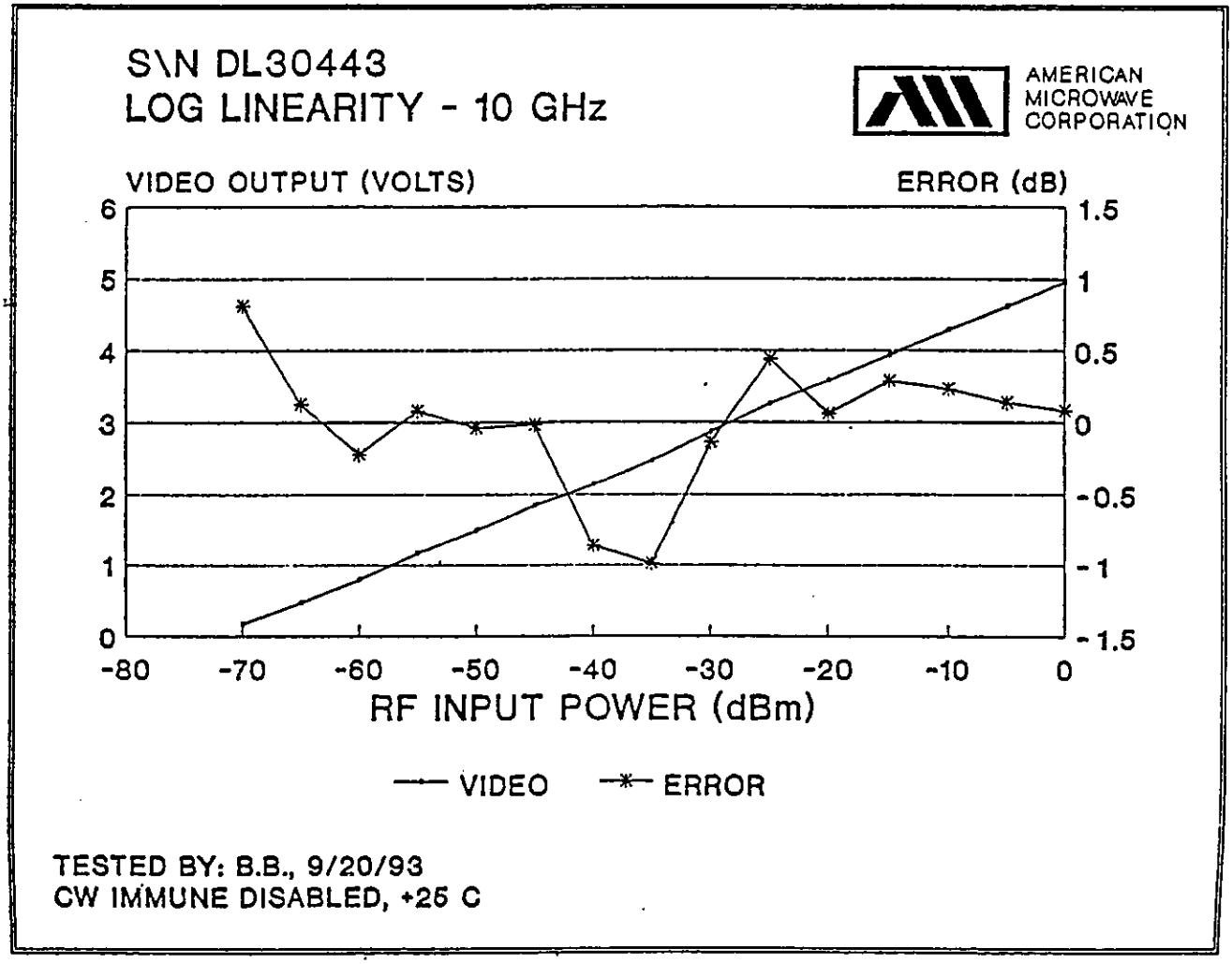
ACTUAL MEASURED TEST DATA

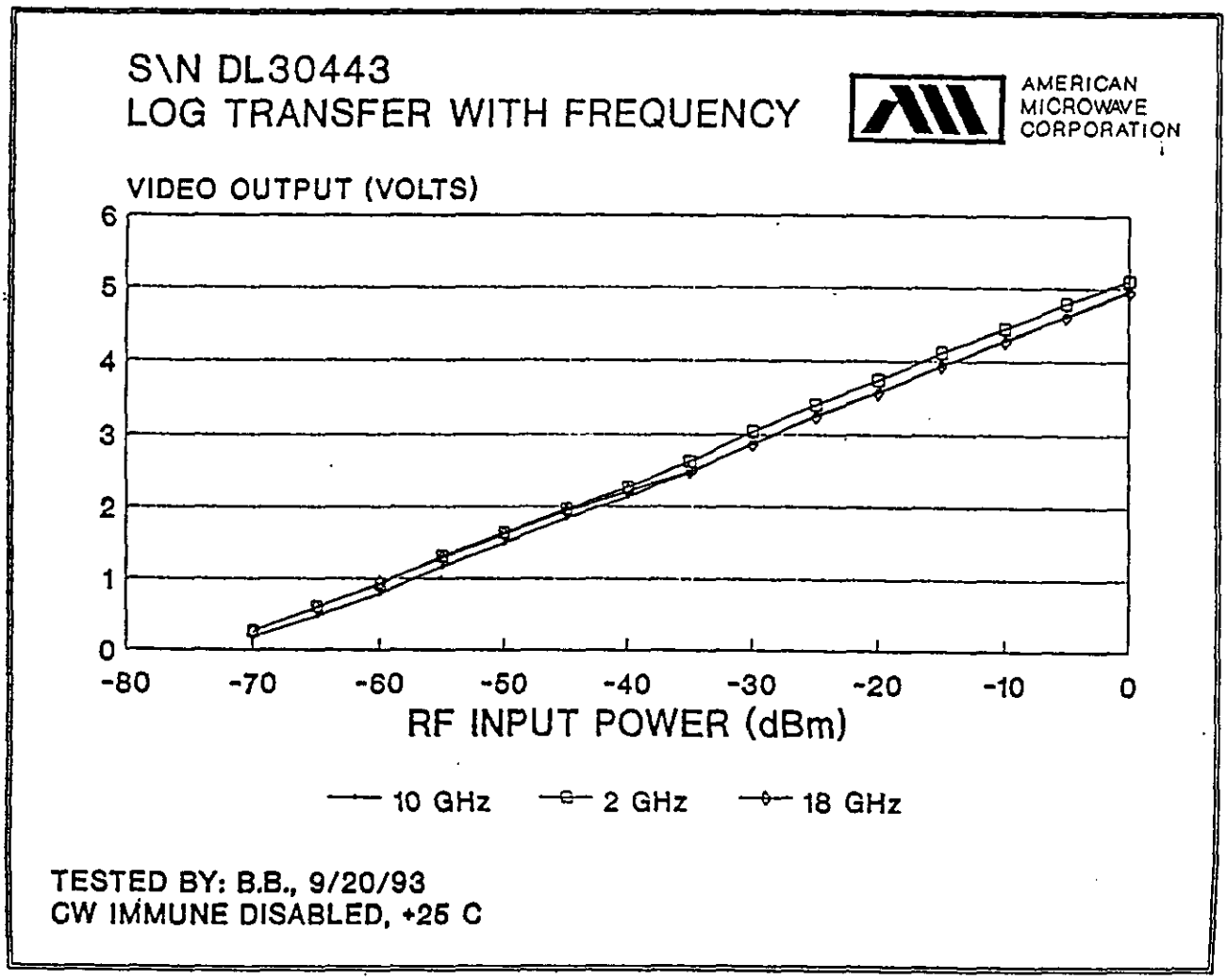
SERIAL NUMBER: DL30443



TESTED BY: B.B., 9/20/93
CW IMMUNE DISABLED, +25 C

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30443



TESTED BY: B.B., 9/20/93
CW IMMUNE DISABLED, +25 C

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30447

FORM: DLVA-16/0393 JOB NO:206151 - R1

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 -R1 DATE: 9/20/93

MODEL NO: LVD-218-70

SERIAL NO: DL30447

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	
2	INPUT VSWR	2.5:1 (max.)	2.0:1	
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	-69dBm -71dBm	
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±1.5dB	
6	LOG SLOPE	70 ±5 mV/dB	69mV/dB	
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	±2.0dB	
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	±0.7dB	
9	RISE TIME	35 nsec typical 40 nsec (max.)	30nSEC	
10	CW IMMUNITY	-46 dBm	PASS	
11	DC POWER @ +15V (No Load)	600 mA (max.)	325mA	
12	DC POWER @ −15V (No Load)	250 mA (max.)	130mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 10/21/93

QA/QC APPROVAL: [signature] DATED: 10/21/93

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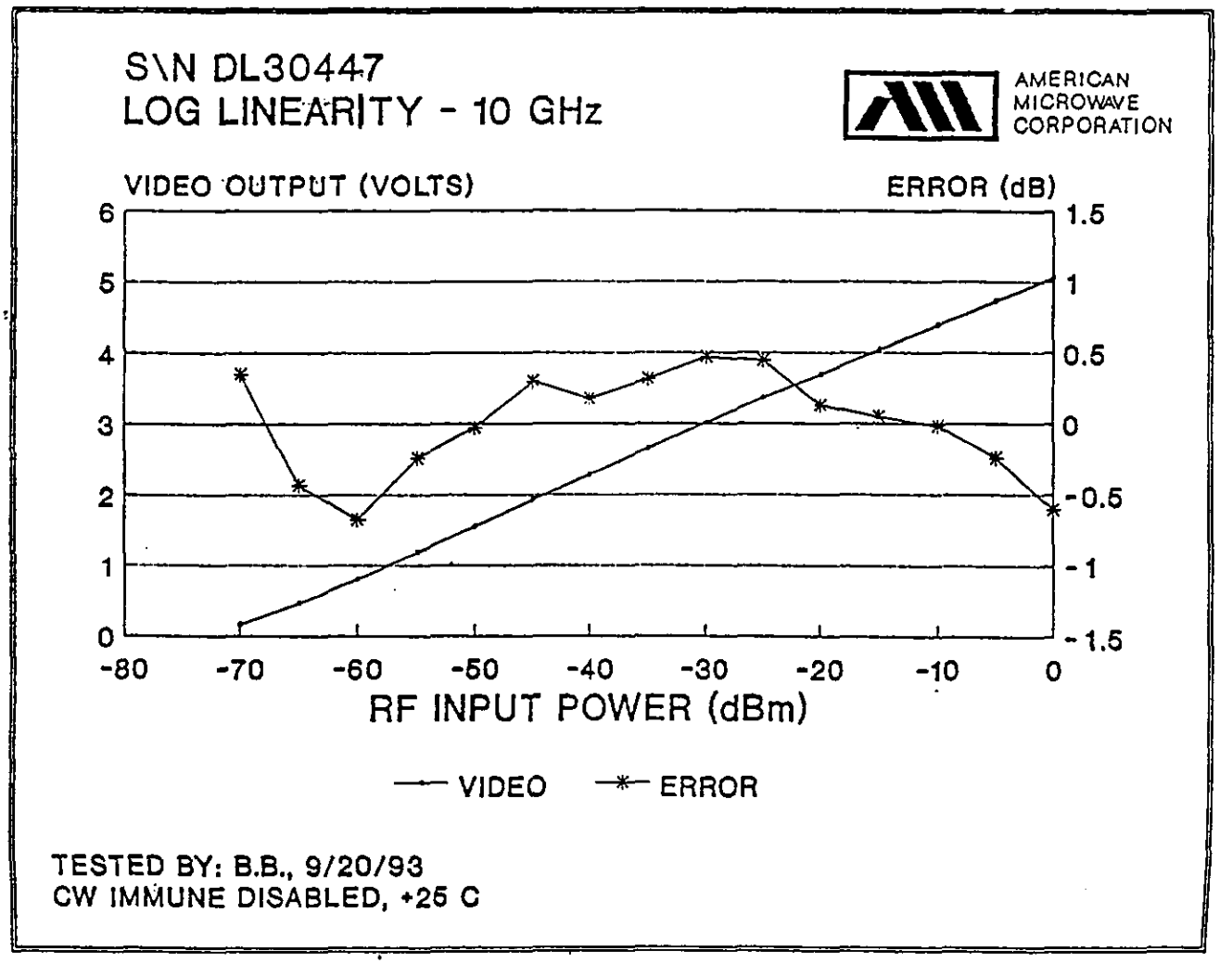
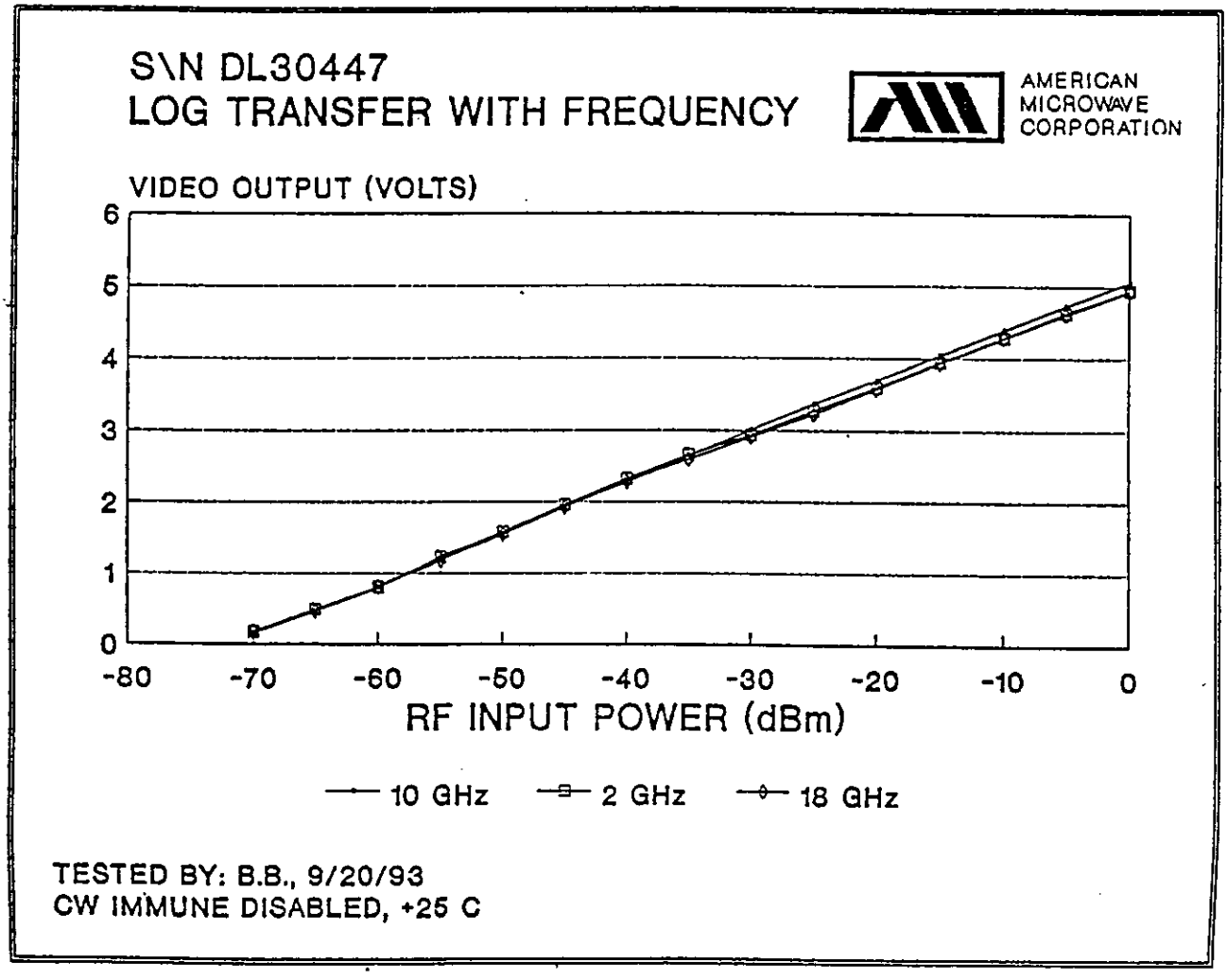
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30447



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30447



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30449

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30449

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.1:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	-0.8dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	+0.6dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	310mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	140mA	✓

PRODUCTION MANAGER APPROVAL: SRM DATED: 4/30/93

QA/QC APPROVAL: RW DATED: _____

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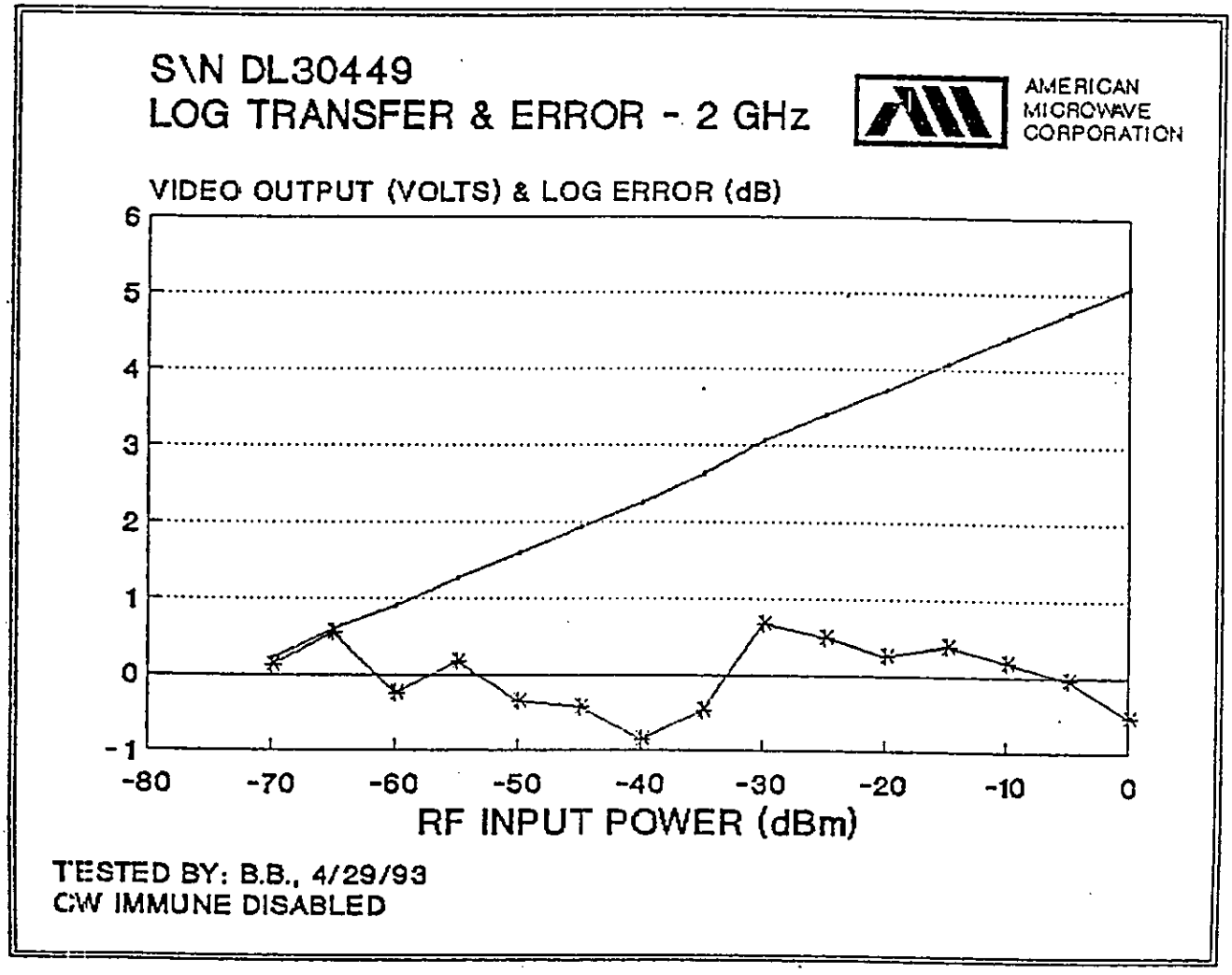
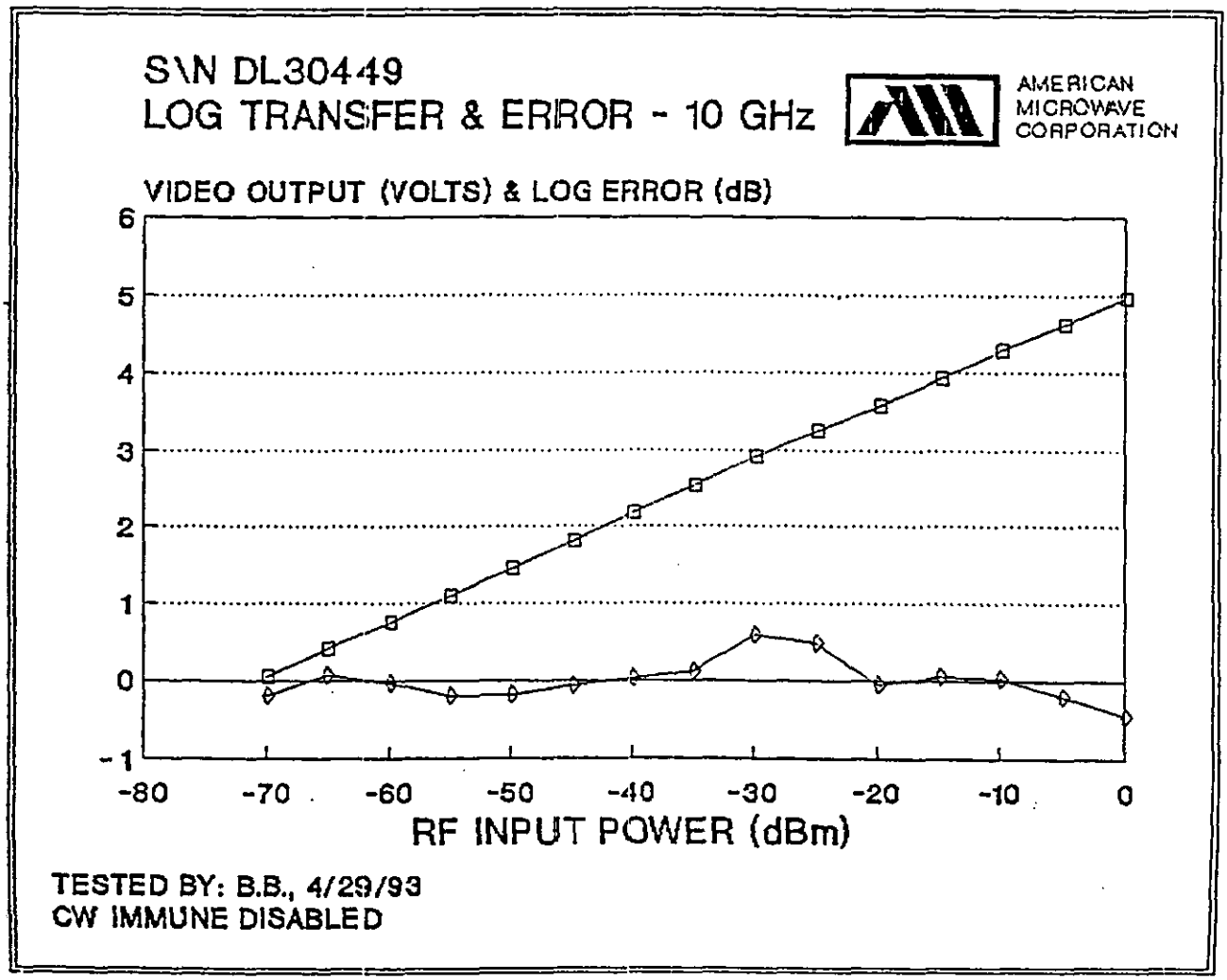
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30449



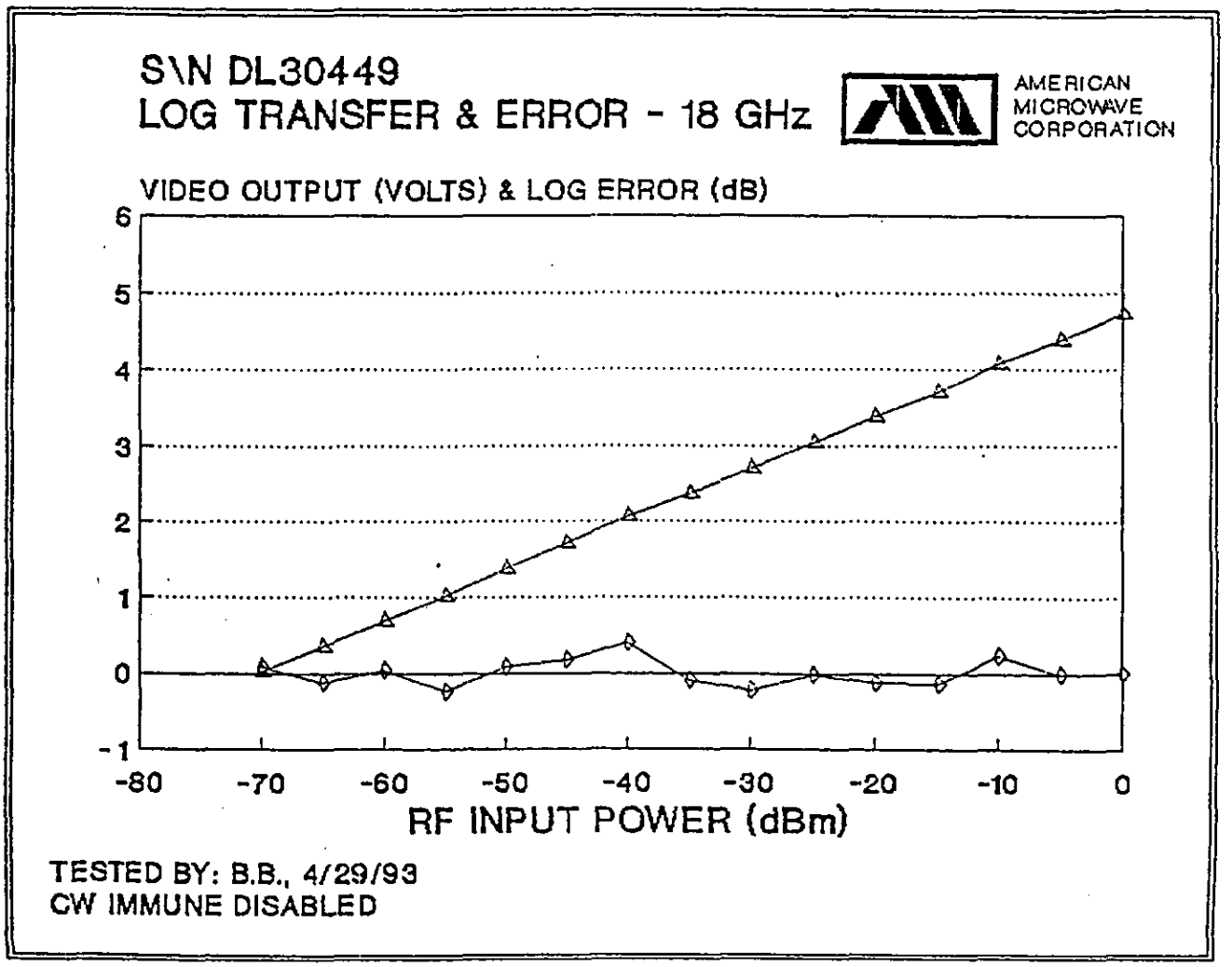
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30449



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30449



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30450

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30450

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.1:0	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	68mV/dB	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	±1.0dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-1.0dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	320mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	130mA	✓

PRODUCTION MANAGER APPROVAL: SPR DATED: 4/30/93

QA/QC APPROVAL: RW DATED: 4/30/93

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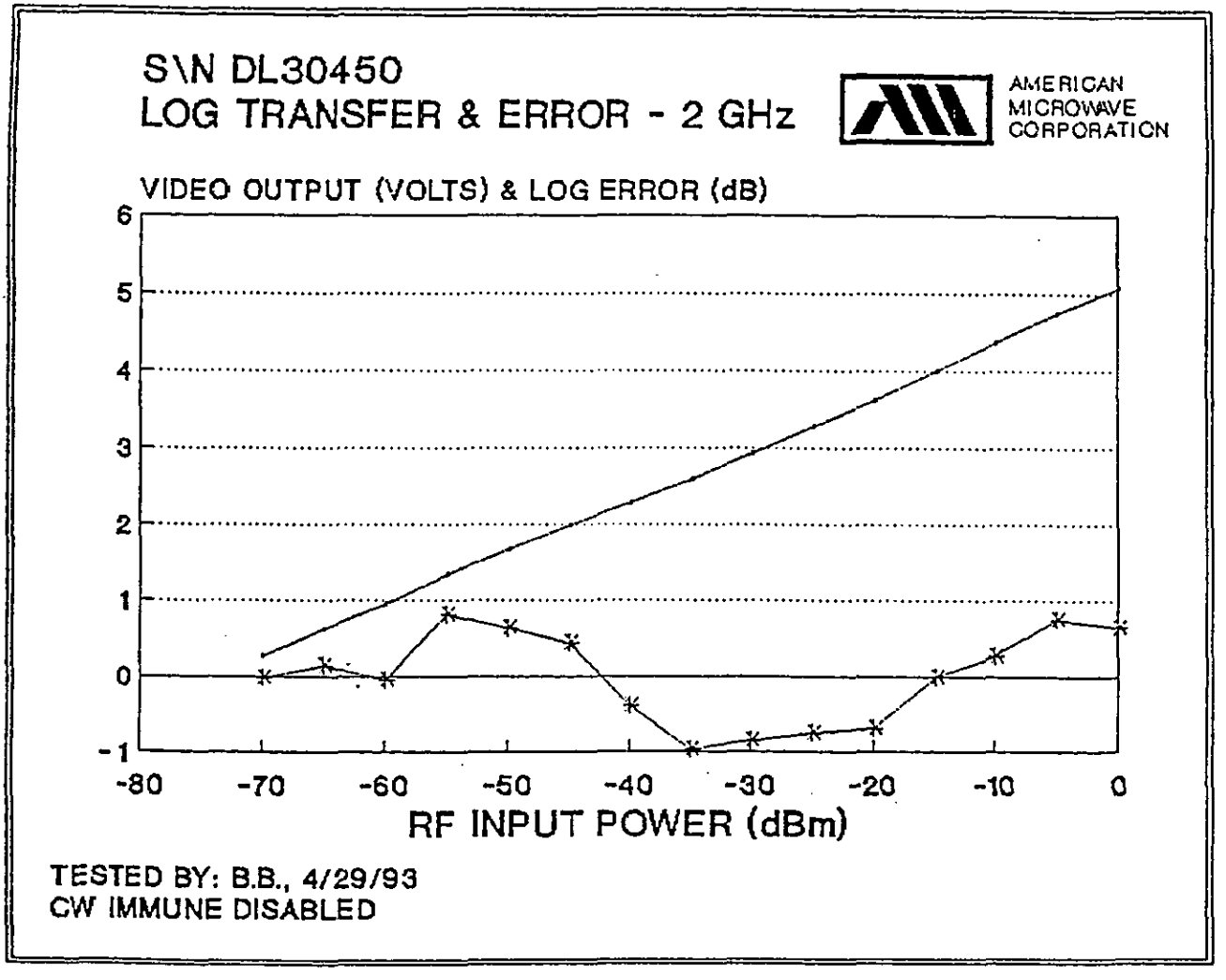
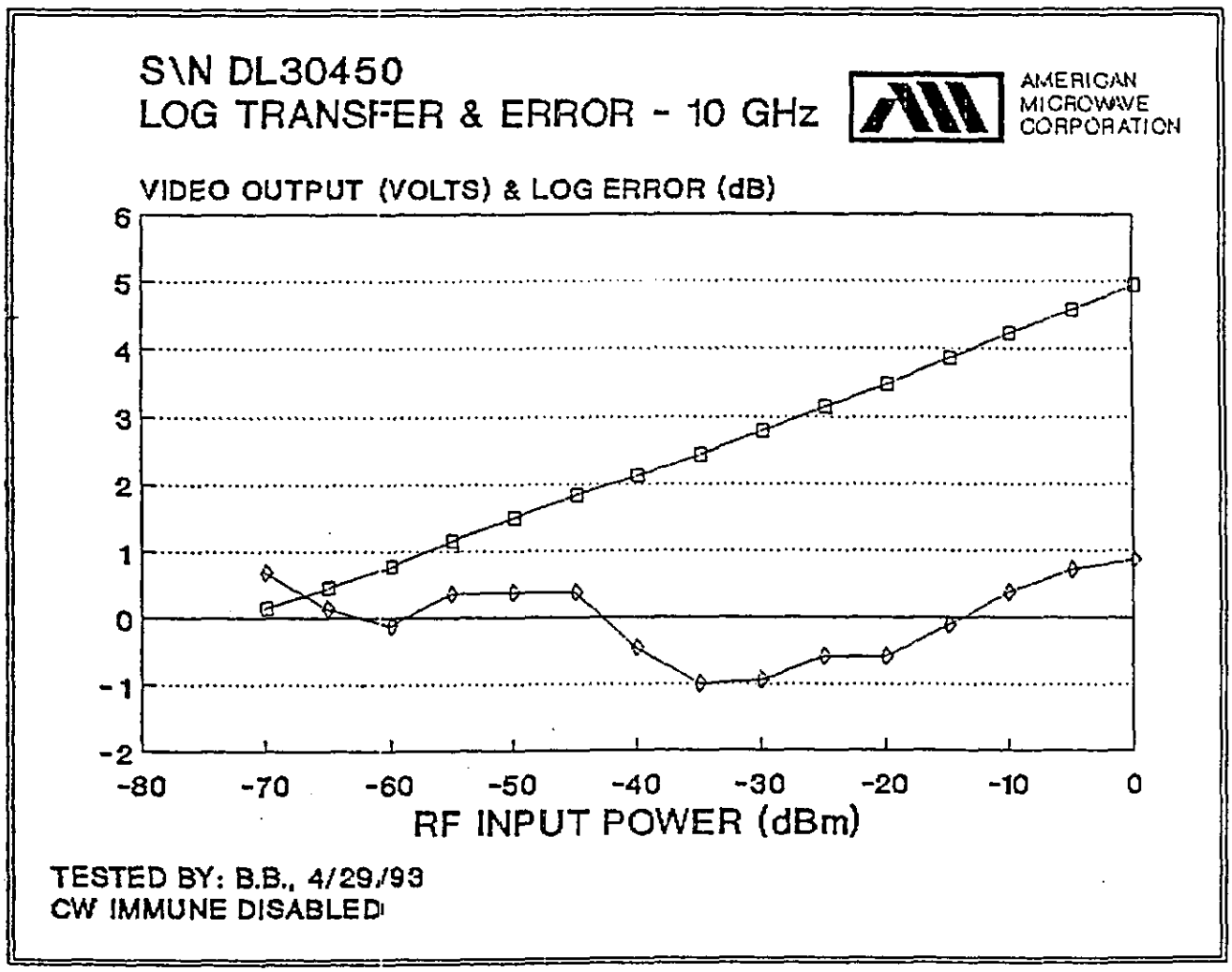
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30450



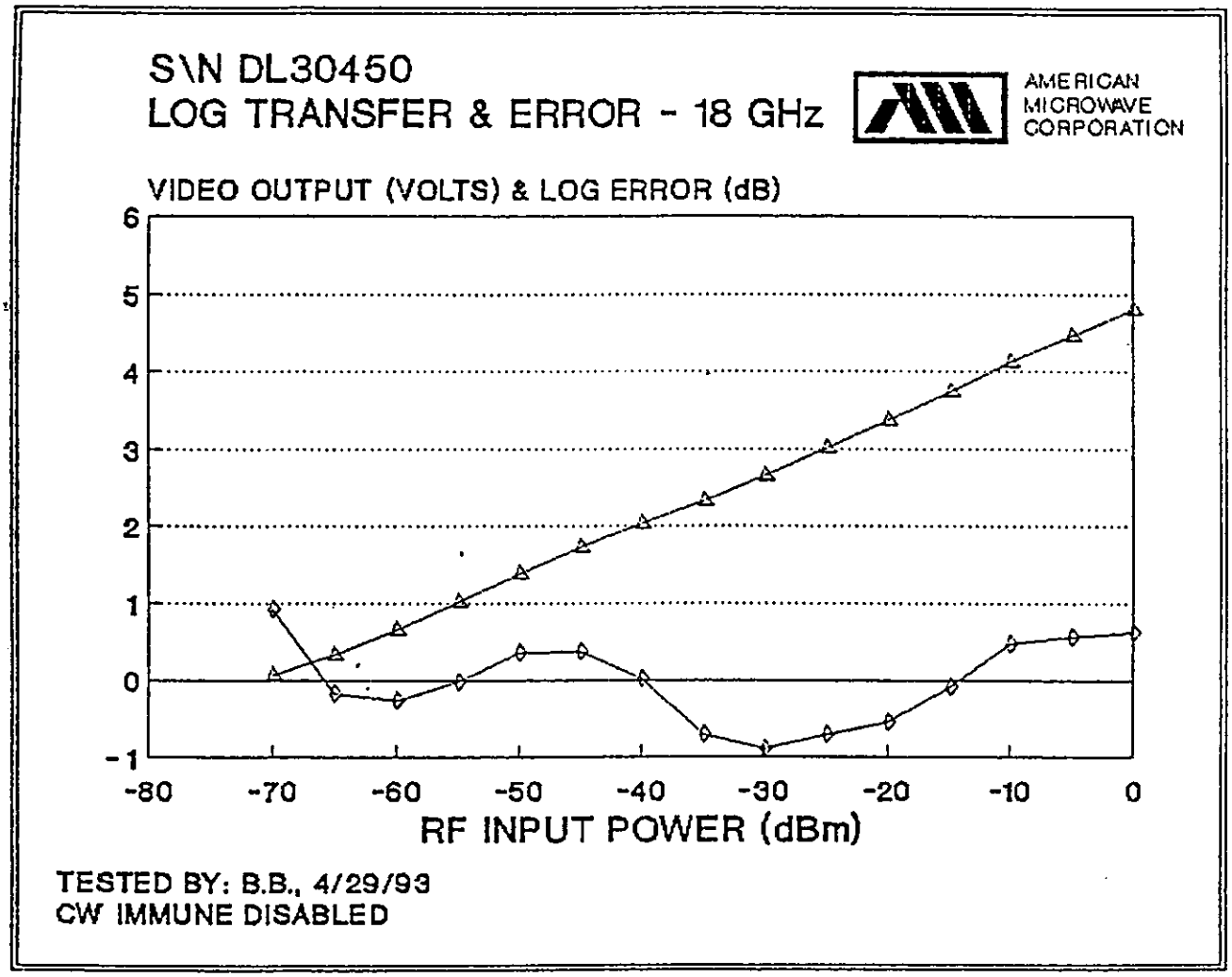
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30450



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30450



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30451

FORM: DLVA-16/0393 JOB NO:206151 -R1

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B.B.

JOB NO: 206151 -R1 DATE: 9/20/93

MODEL NO: LVD-218-70

SERIAL NO: DL30451

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	
2	INPUT VSWR	2.5:1 (max.)	2.4:1	
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	-68dBm -70dBm	
4	DYNAMIC RANGE (-66 dBm to 0 dBm at +85°C) (-68 dBm to 0 dBm at -28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ -28°C	PASS	
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.25dB	
6	LOG SLOPE	70 ±5 mV/dB	69mV/dB	
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	±2.0dB	
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	±0.6dB	
9	RISE TIME	35 nsec typical 40 nsec (max.)	30nSEC	
10	CW IMMUNITY	-46 dBm	PASS	
11	DC POWER @ +15V (No Load)	600 mA (max.)	340mA	
12	DC POWER @ -15V (No Load)	250 mA (max.)	135mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 10/21/93

QA/QC APPROVAL: [signature] DATED: 10/21/93

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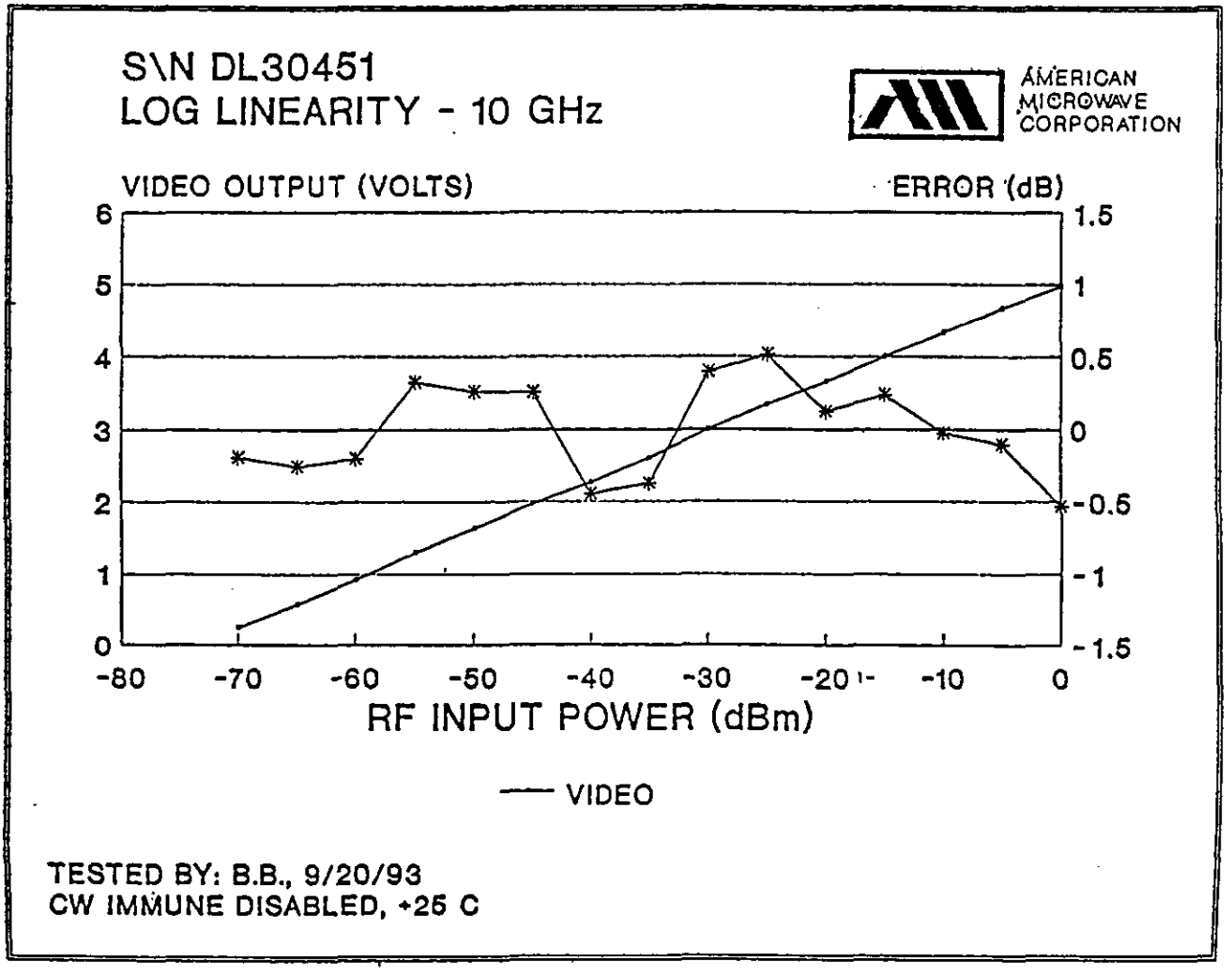
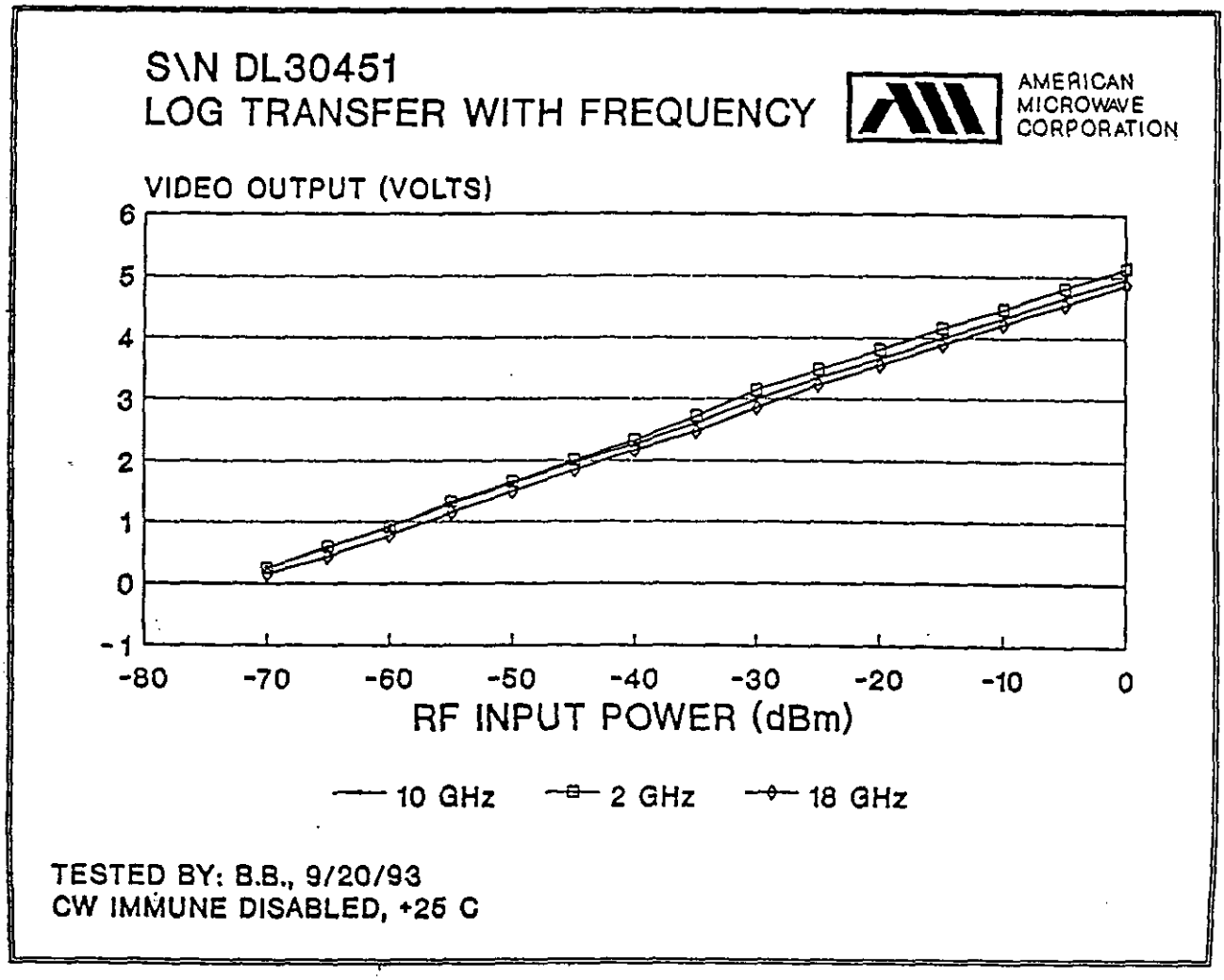
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30451



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30451



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30452

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B.B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30452

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.4:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	-1.6dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-1.5dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	320 mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	141 mA	✓

PRODUCTION MANAGER APPROVAL: SRO DATED: 4/30/93

QA/QC APPROVAL: RW DATED: 4/30/93

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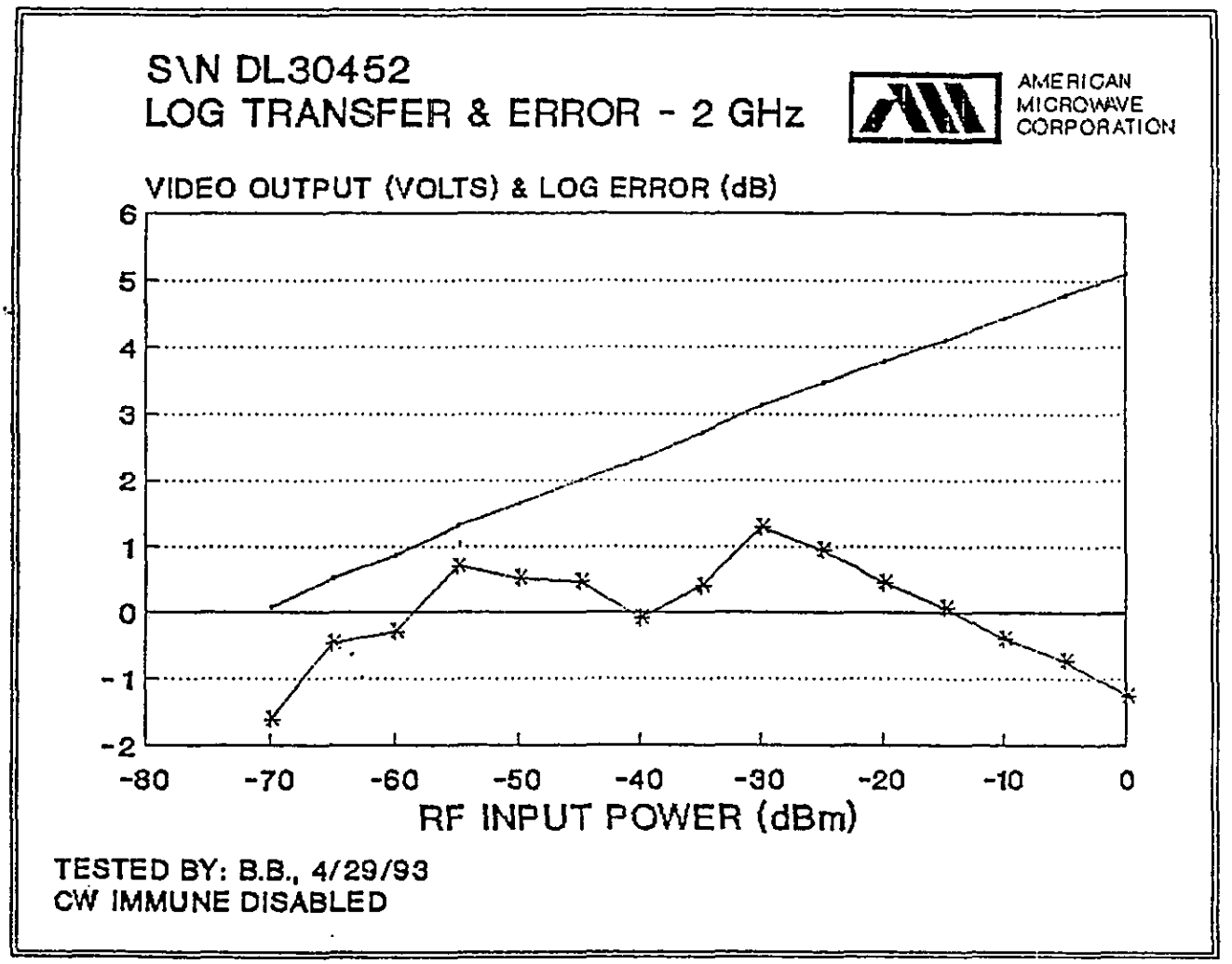
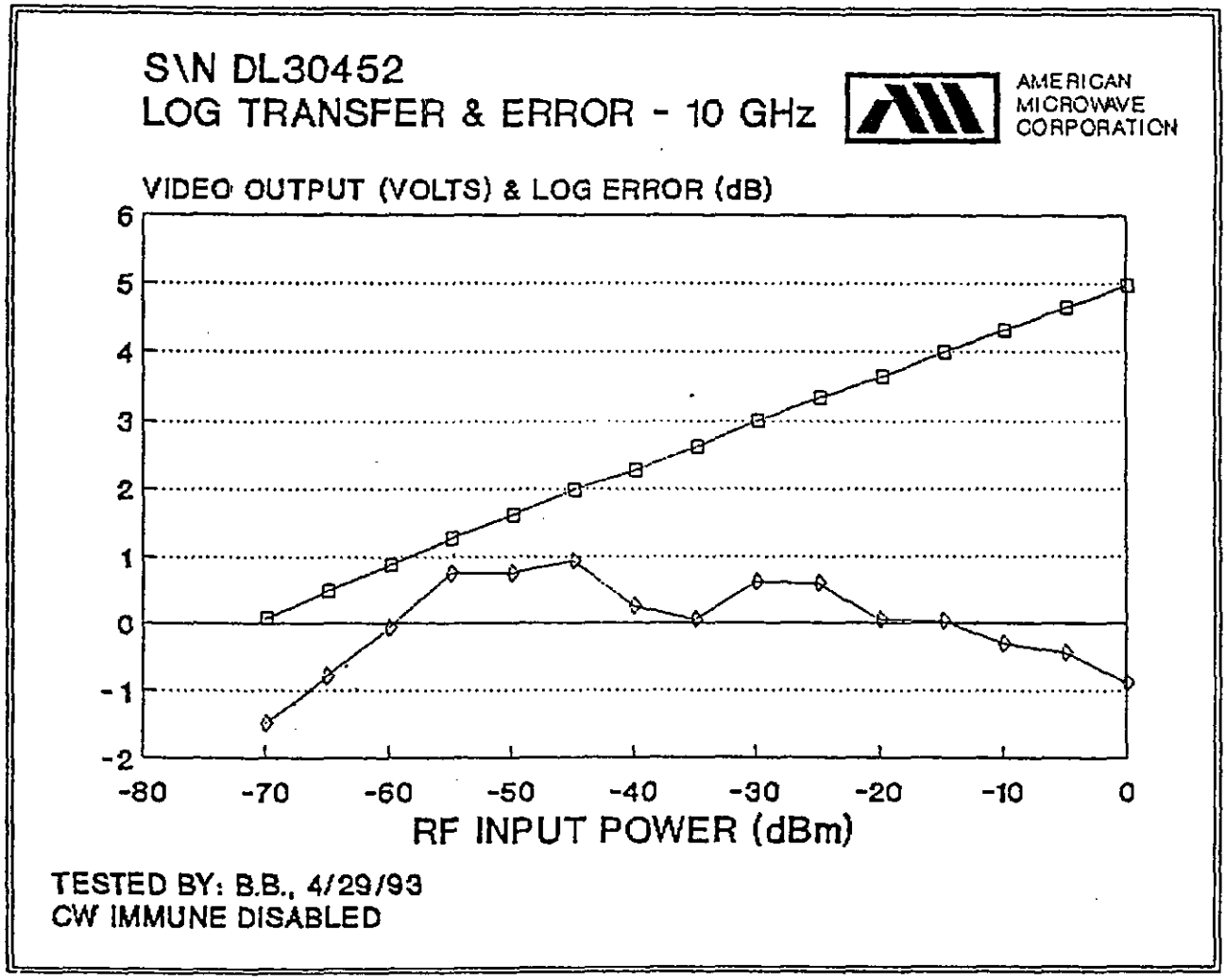
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30452



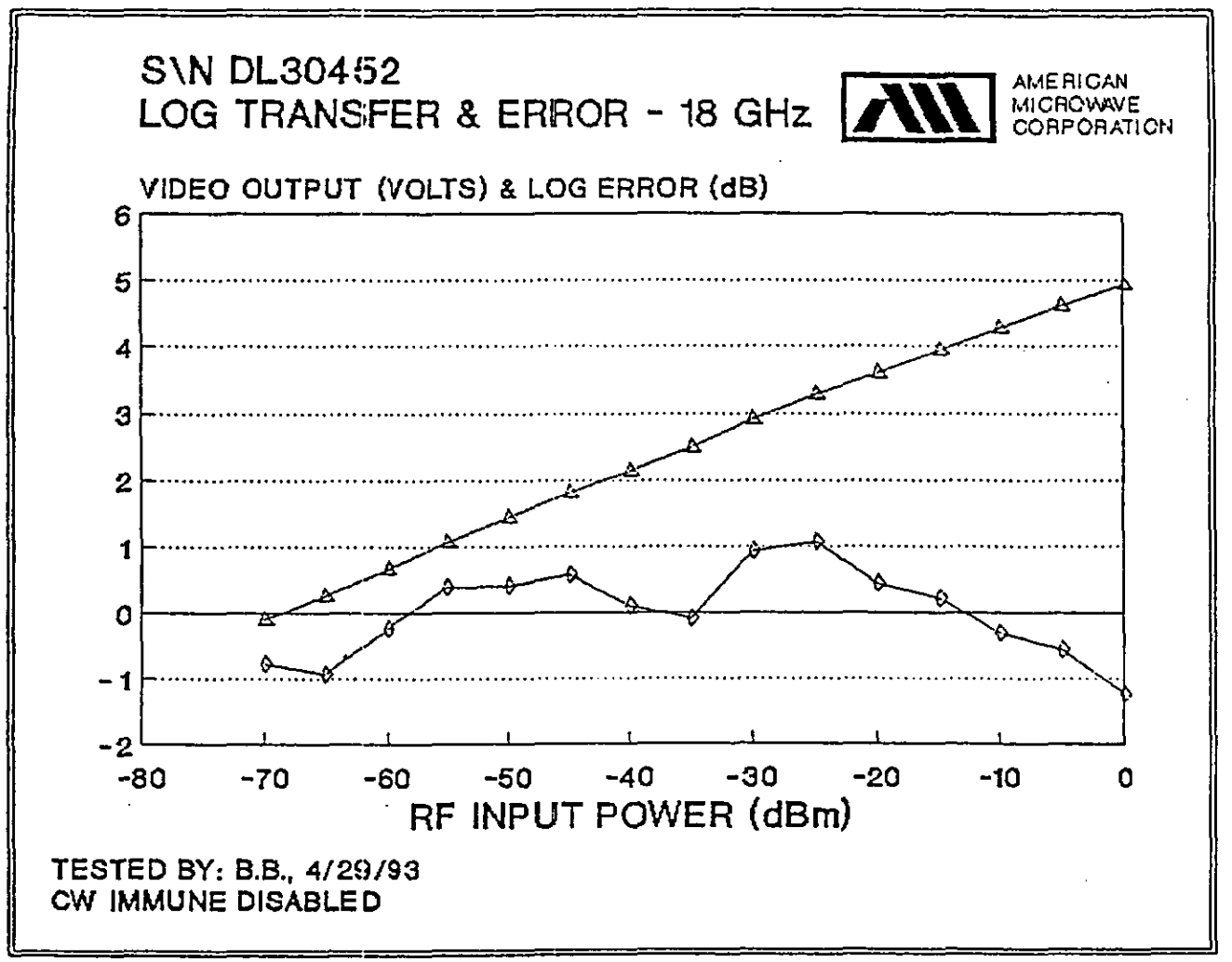
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30452



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30452



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30453

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30453

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.4:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	-1.3dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-1.3dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	320mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	145mA	✓

PRODUCTION MANAGER APPROVAL: SRL DATED: 4/30/93

QA/QC APPROVAL: [illegible] DATED: 4/30/93

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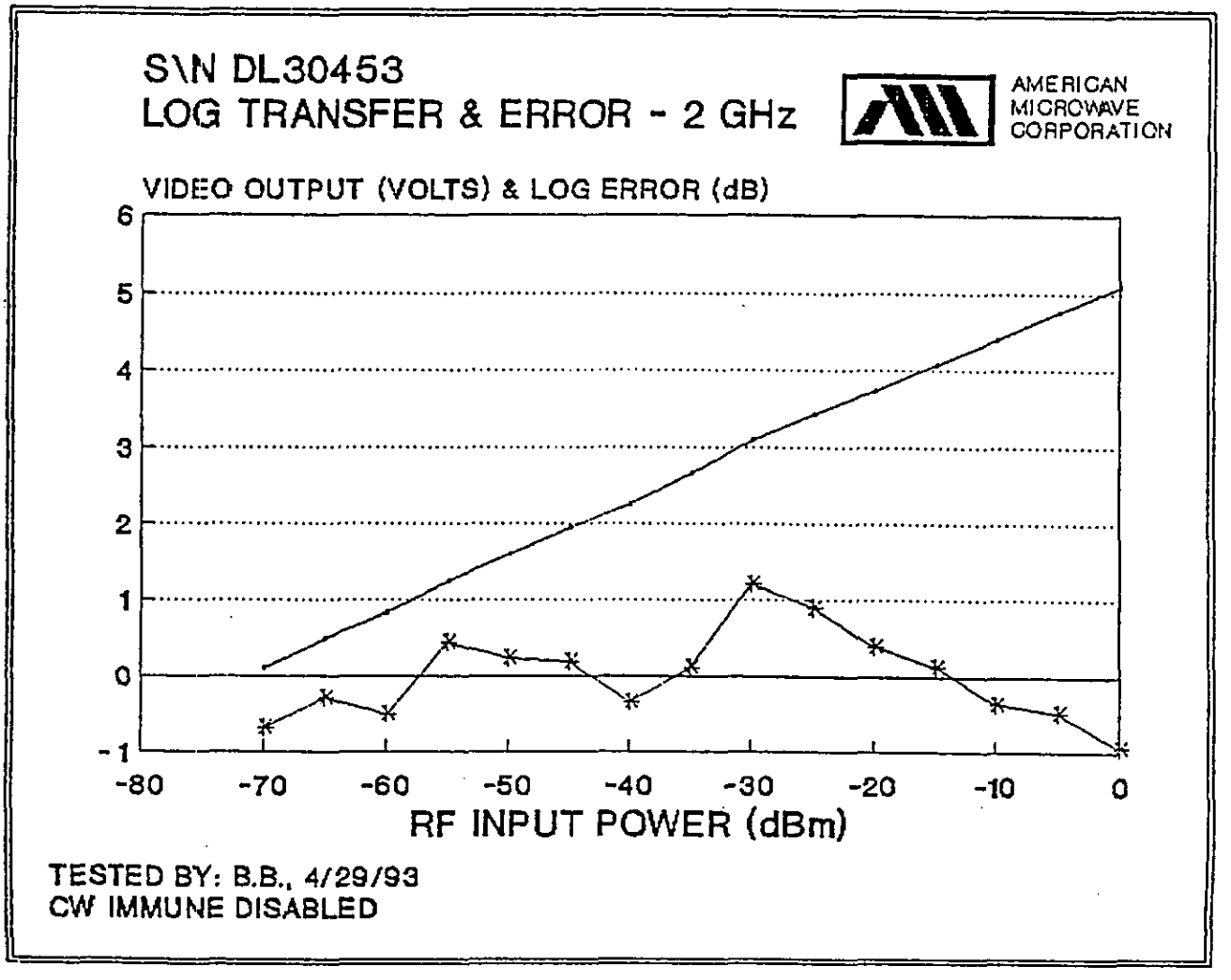
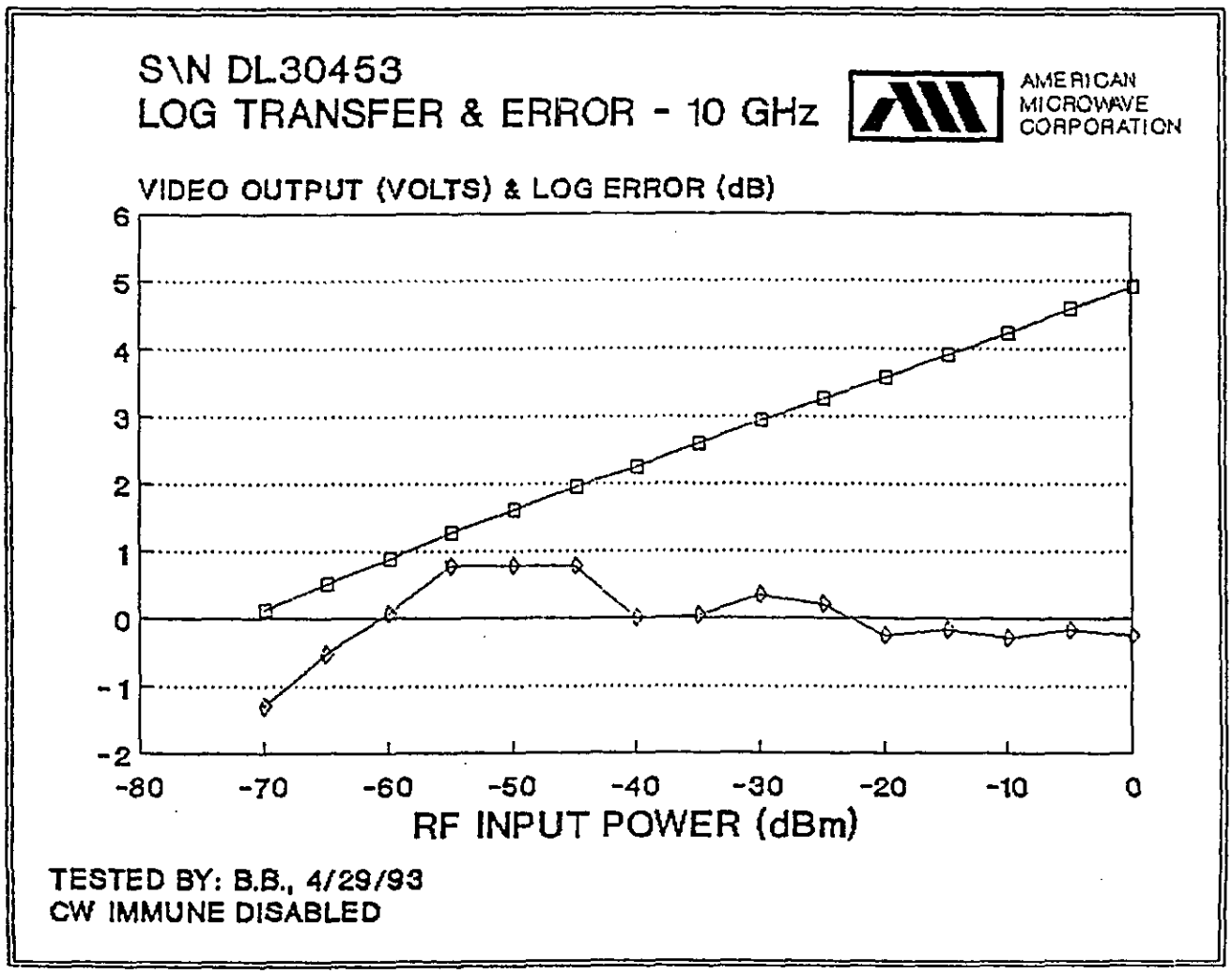
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30453



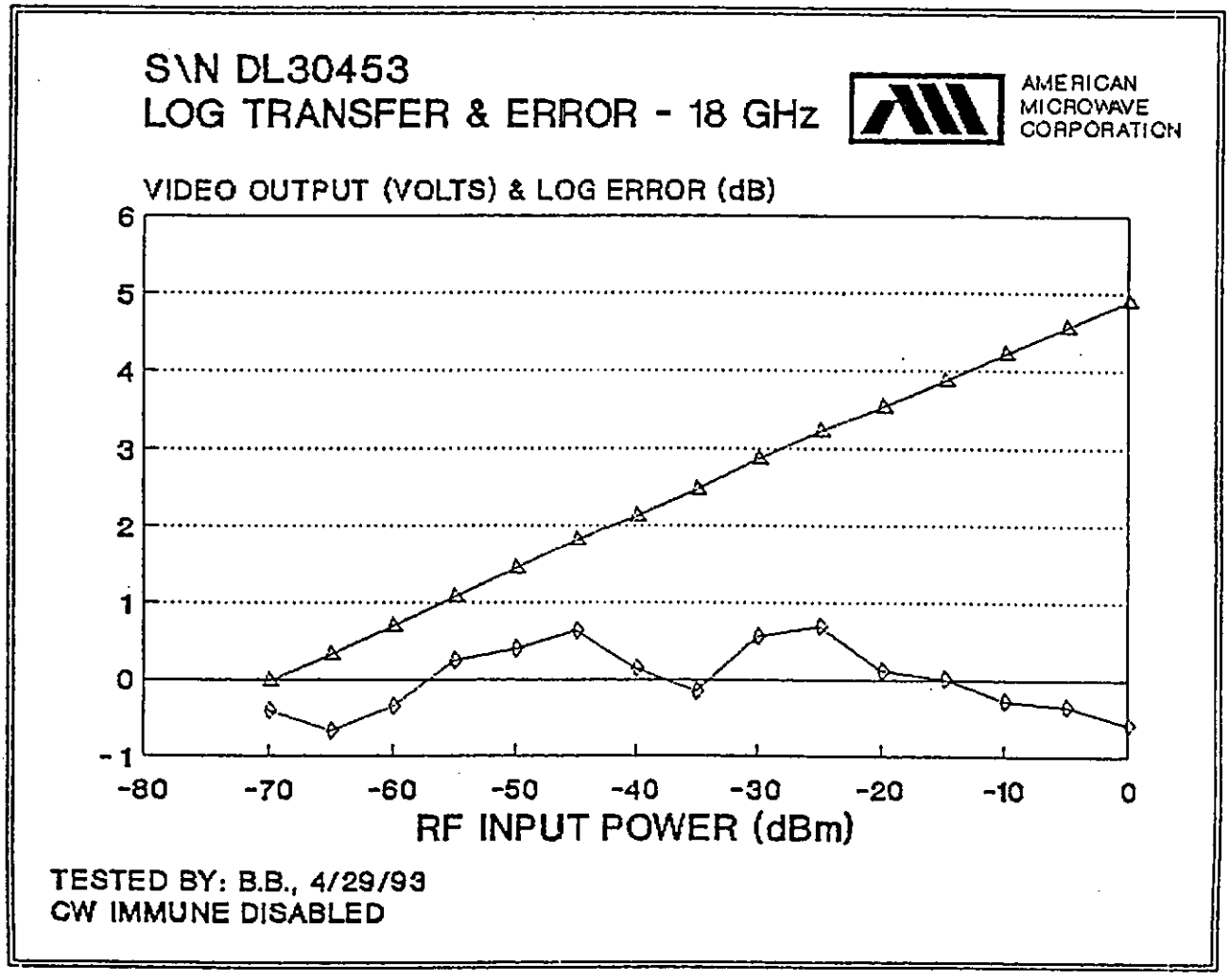
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30453



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30453



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30454

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30454

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.2:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.0dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	+1.0dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	+0.5dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	330mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	144mA	✓

PRODUCTION MANAGER APPROVAL: SRR DATED: 4/30/93

QA/QC APPROVAL: RW DATED: 4/30/93

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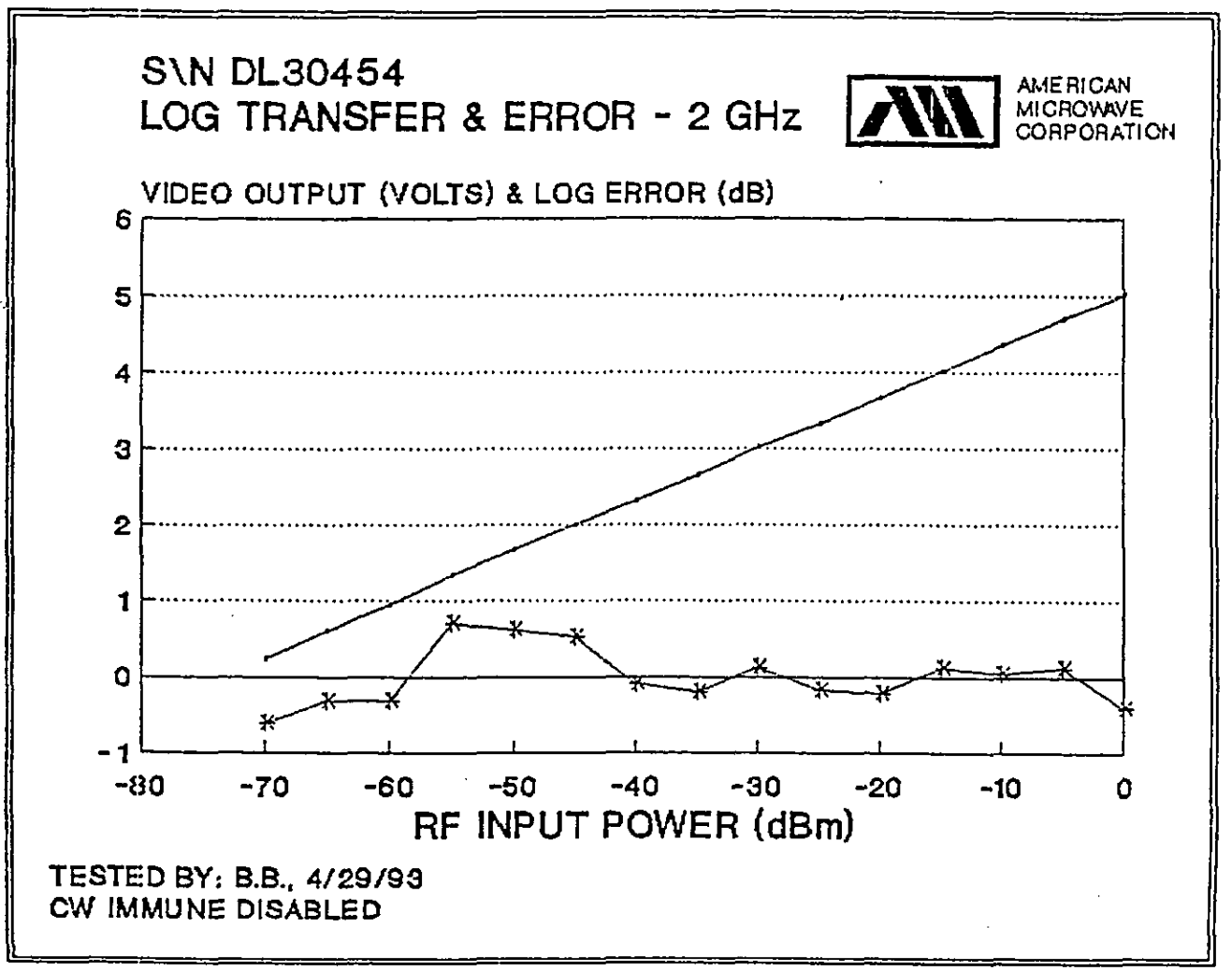
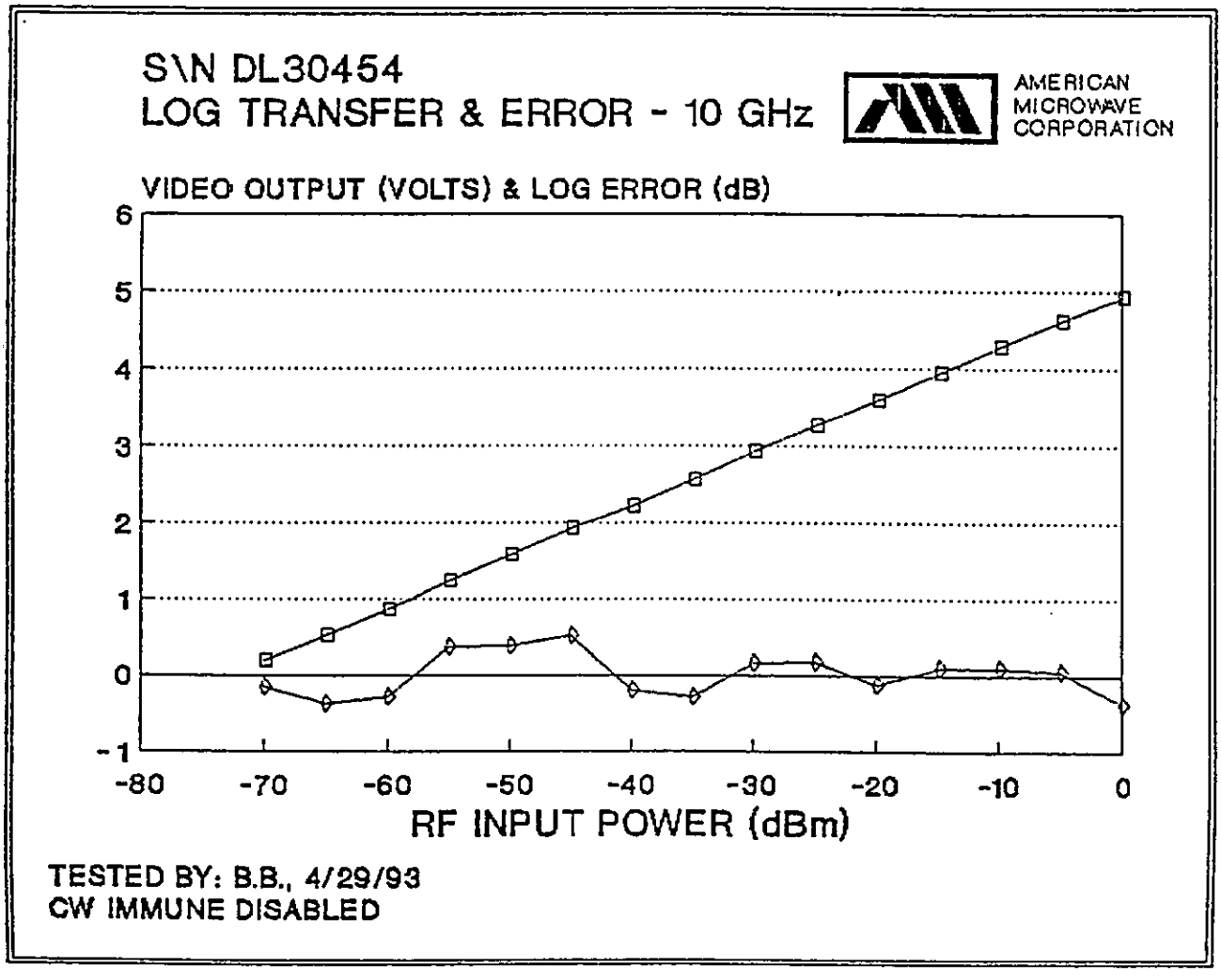
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30454



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30454



ACTUAL MEASURED TEST DATA

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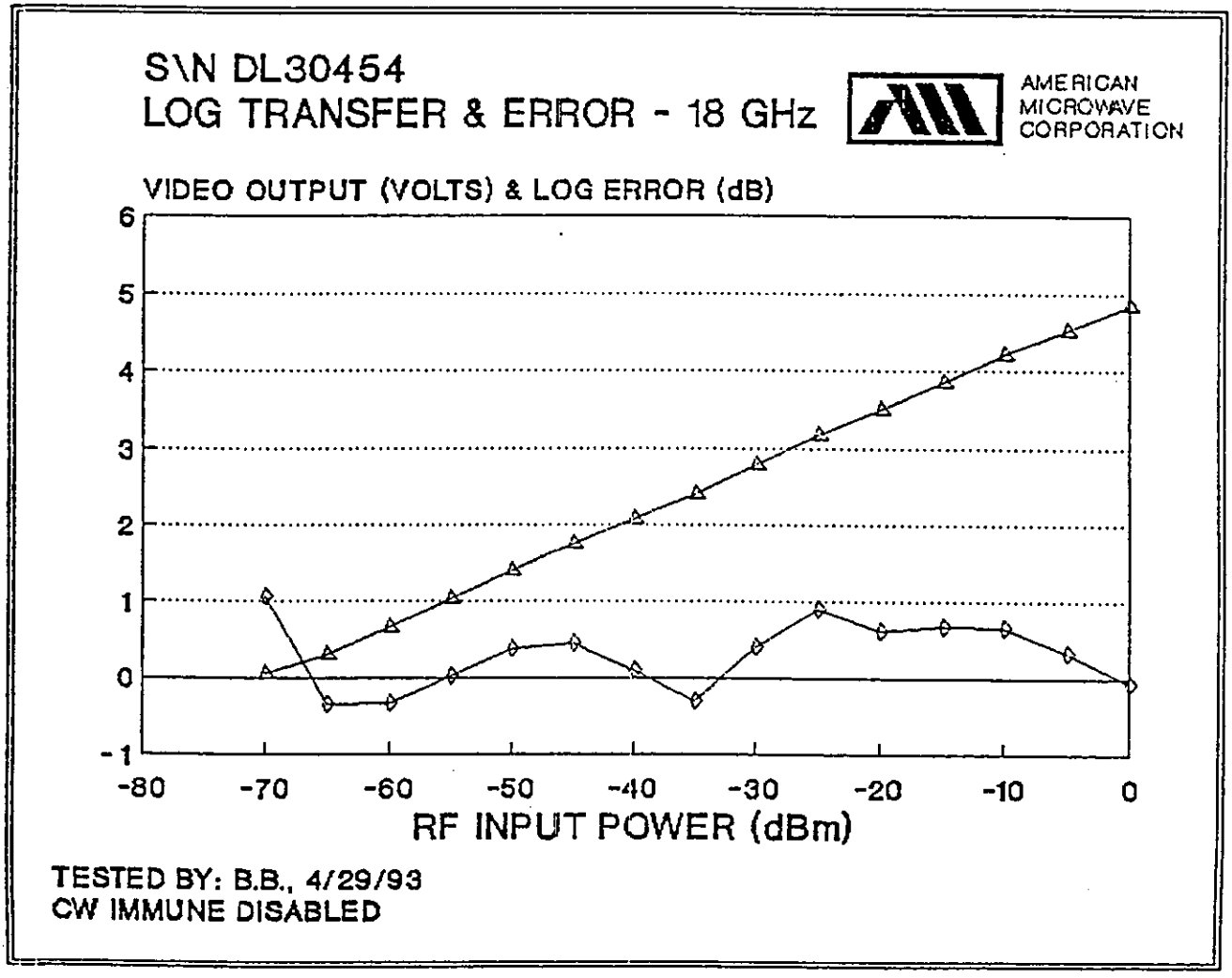

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30455

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30455

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.0:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.0dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	+1.2dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-0.6dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	320mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	145mA	✓

PRODUCTION MANAGER APPROVAL: SKP DATED: 4/20/93

QA/QC APPROVAL: QW DATED: 4/30/93

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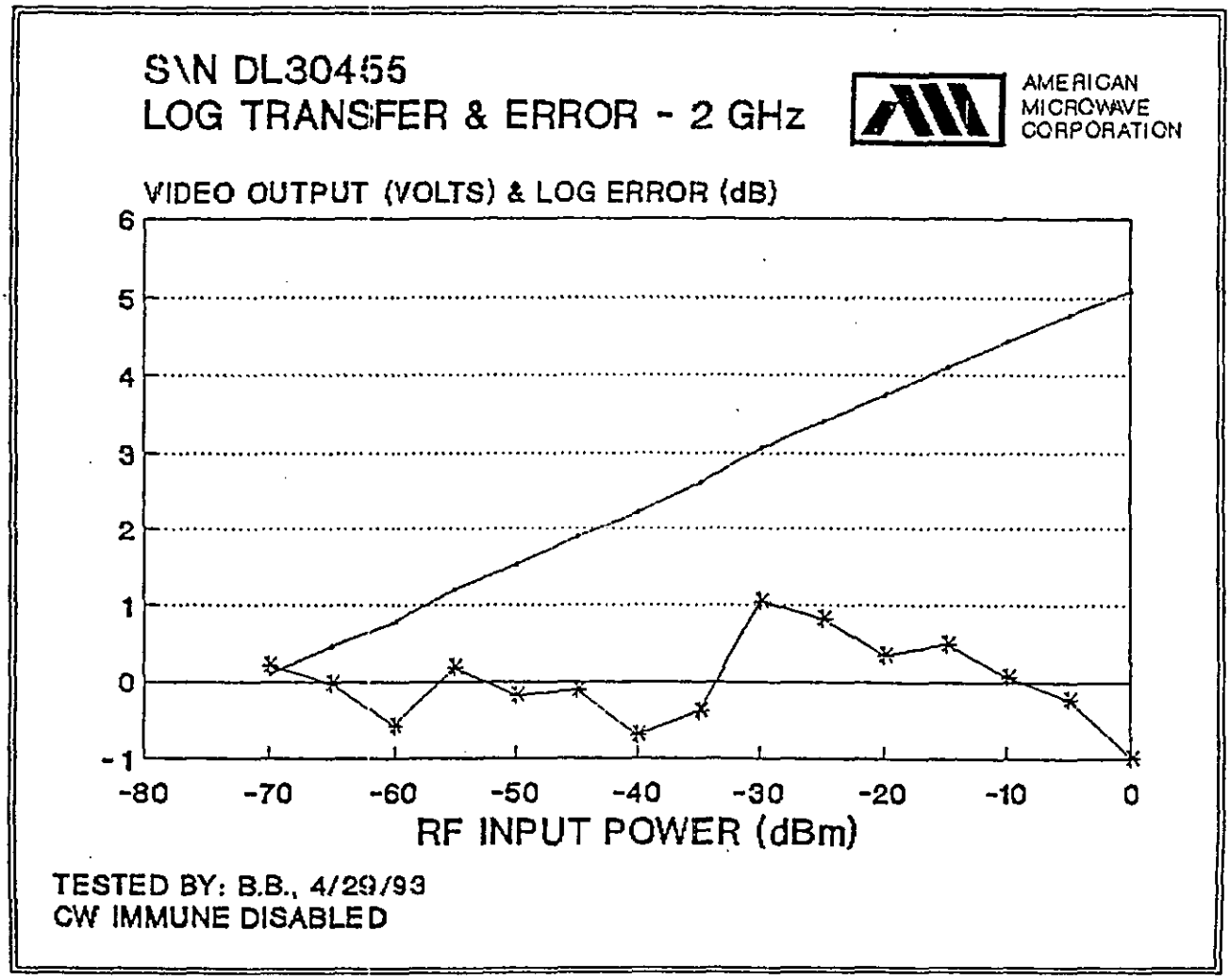
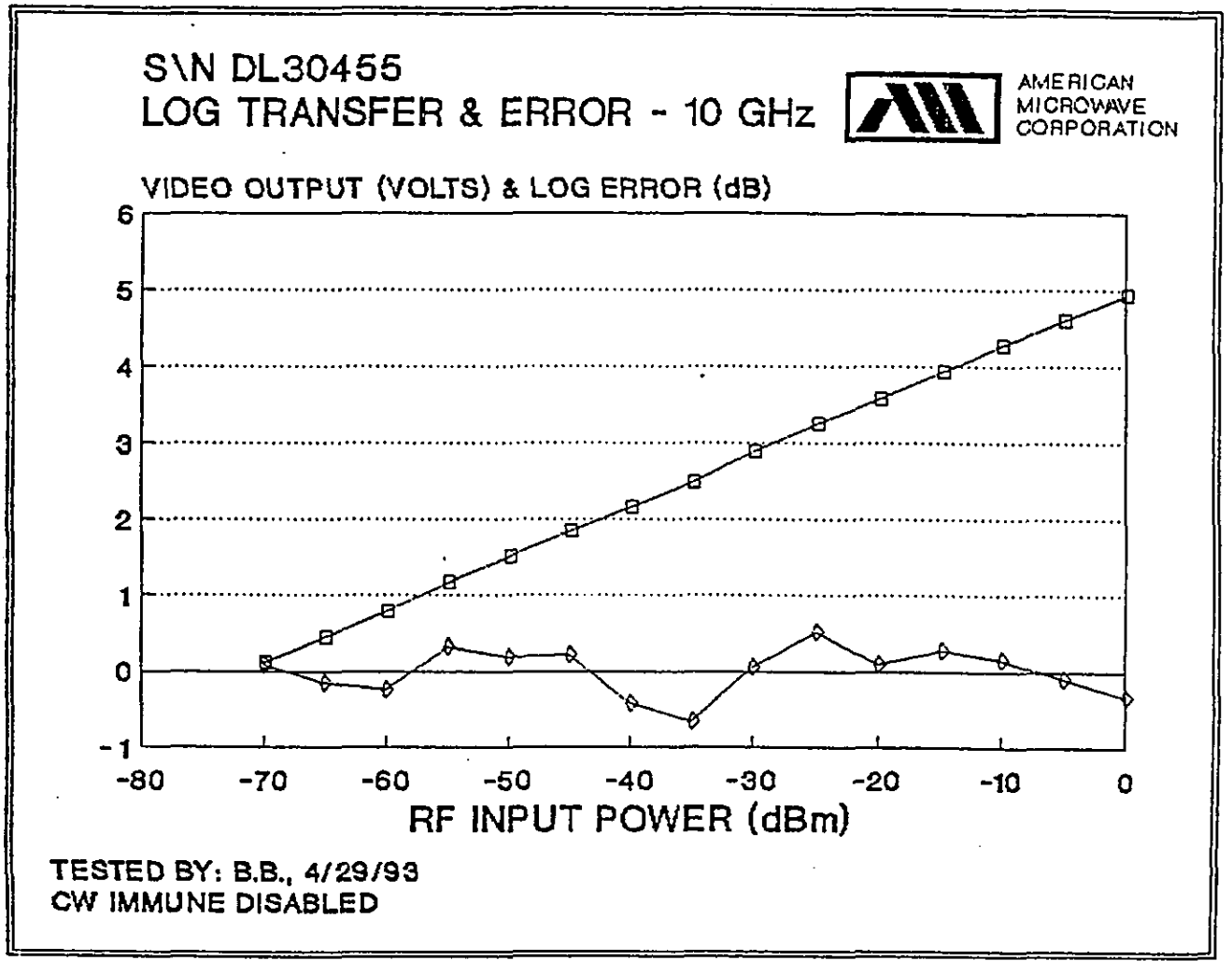
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30455



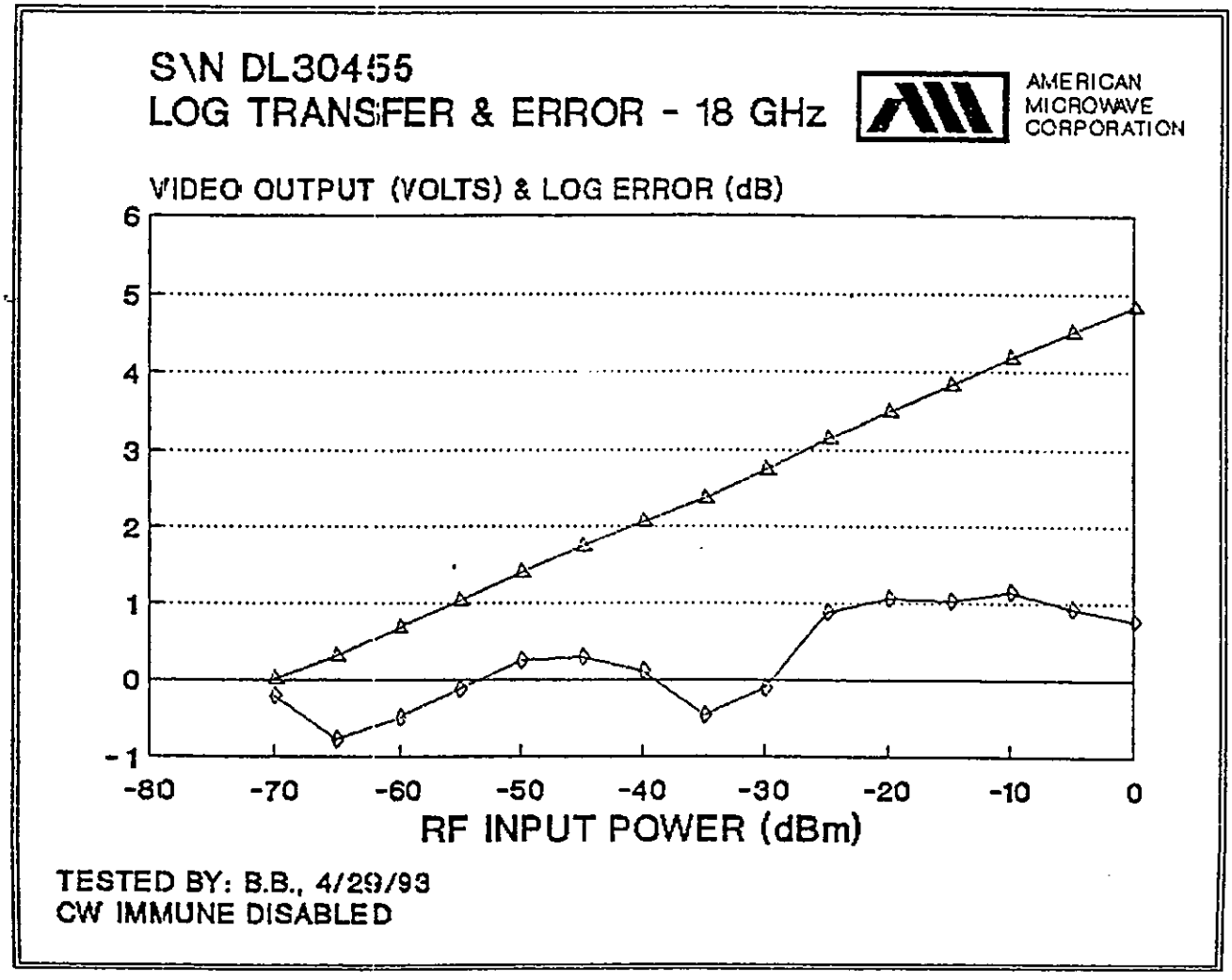
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30455



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30455



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30456

FORM: DLVA-16/0393 JOB NO:206151 -R1

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER–DLVA

CUSTOMER: CTC/CSIST TESTED BY: B.B.

JOB NO: 206151 -R1 DATE: 10/20/93

MODEL NO: LVD-218-70

SERIAL NO: DL30456

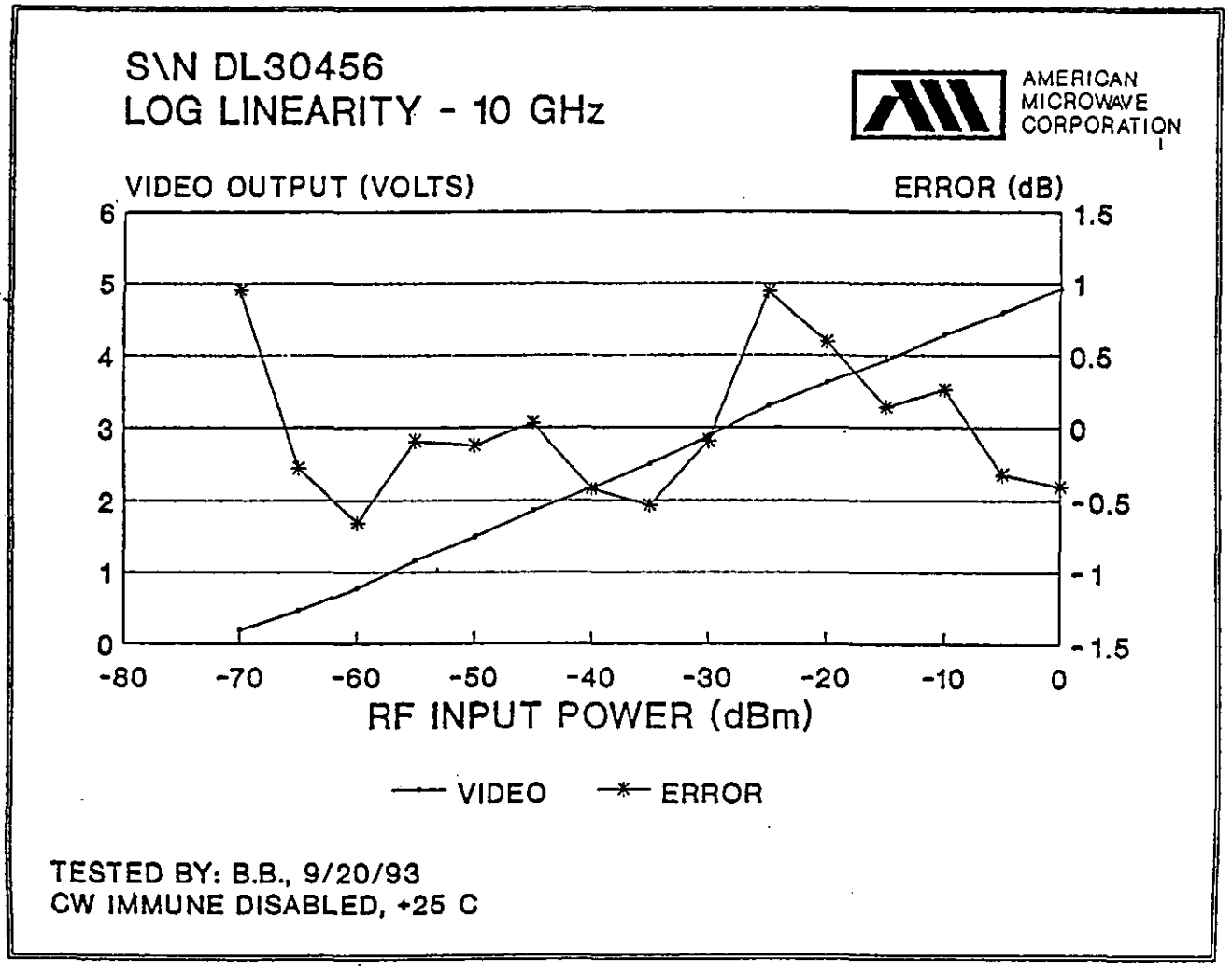
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	
2	INPUT VSWR	2.5:1 (max.)	2.5:1	
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	-68dBm -70dBm	
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	
6	LOG SLOPE	70 ±5 mV/dB	69mV/dB	
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	±2.0dB	
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	+1.0dB	
9	RISE TIME	35 nsec typical 40 nsec (max.)	30nSEC	
10	CW IMMUNITY	-46 dBm	PASS	
11	DC POWER @ +15V (No Load)	600 mA (max.)	390mA	
12	DC POWER @ −15V (No Load)	250 mA (max.)	140mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 10/21/93

QA/QC APPROVAL: [signature] DATED: 10/21/93

ACTUAL MEASURED TEST DATA

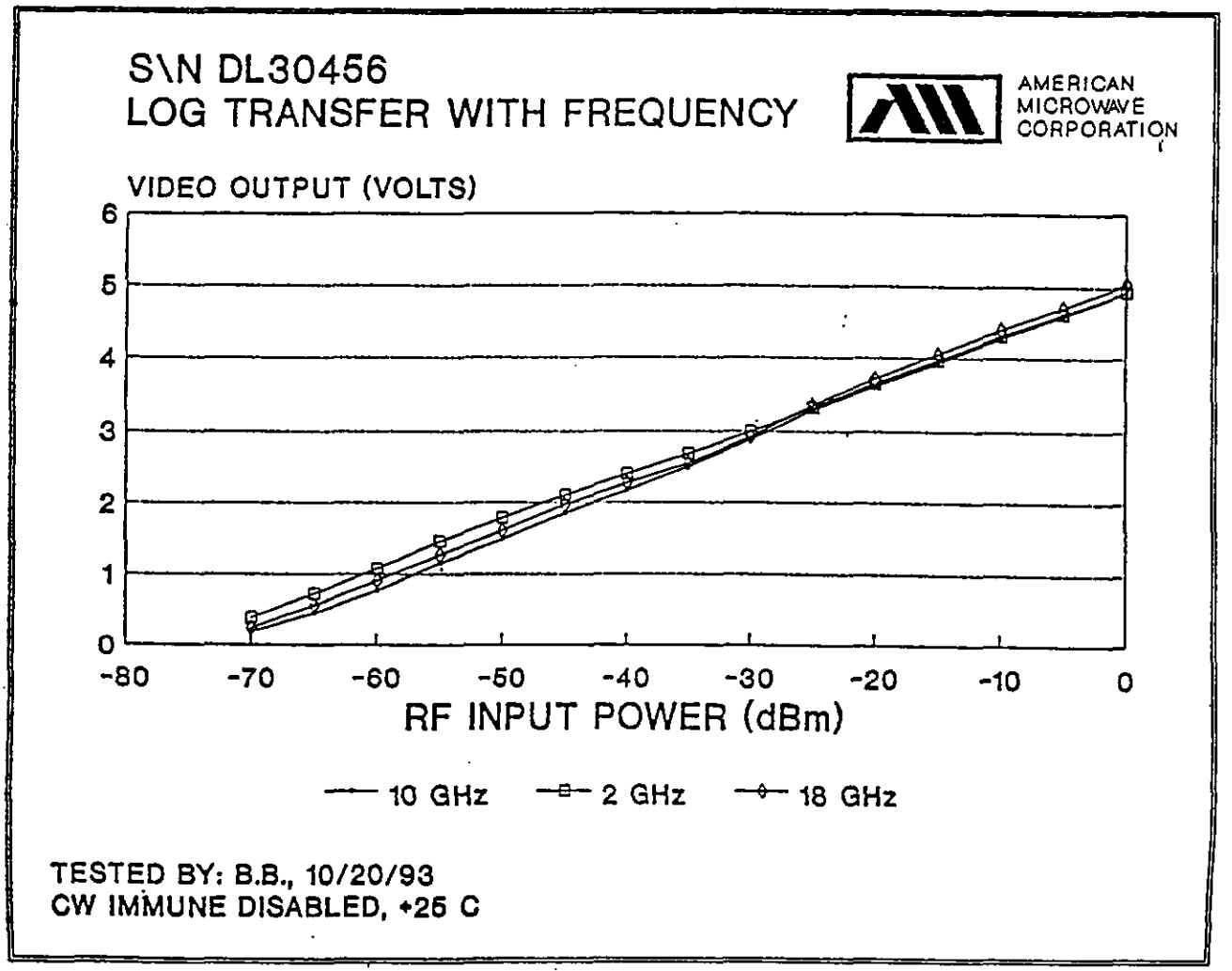
SERIAL NUMBER: DL30456



TESTED BY: B.B., 9/20/93
CW IMMUNE DISABLED, +25 C

ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30456



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30457

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30457

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.1:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (-66 dBm to 0 dBm at +85°C) (-68 dBm to 0 dBm at -28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ -28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	PASS	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	-1.2dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	-0.7dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	370mA	✓
12	DC POWER @ -15V (No Load)	250 mA (max.)	200mA	✓

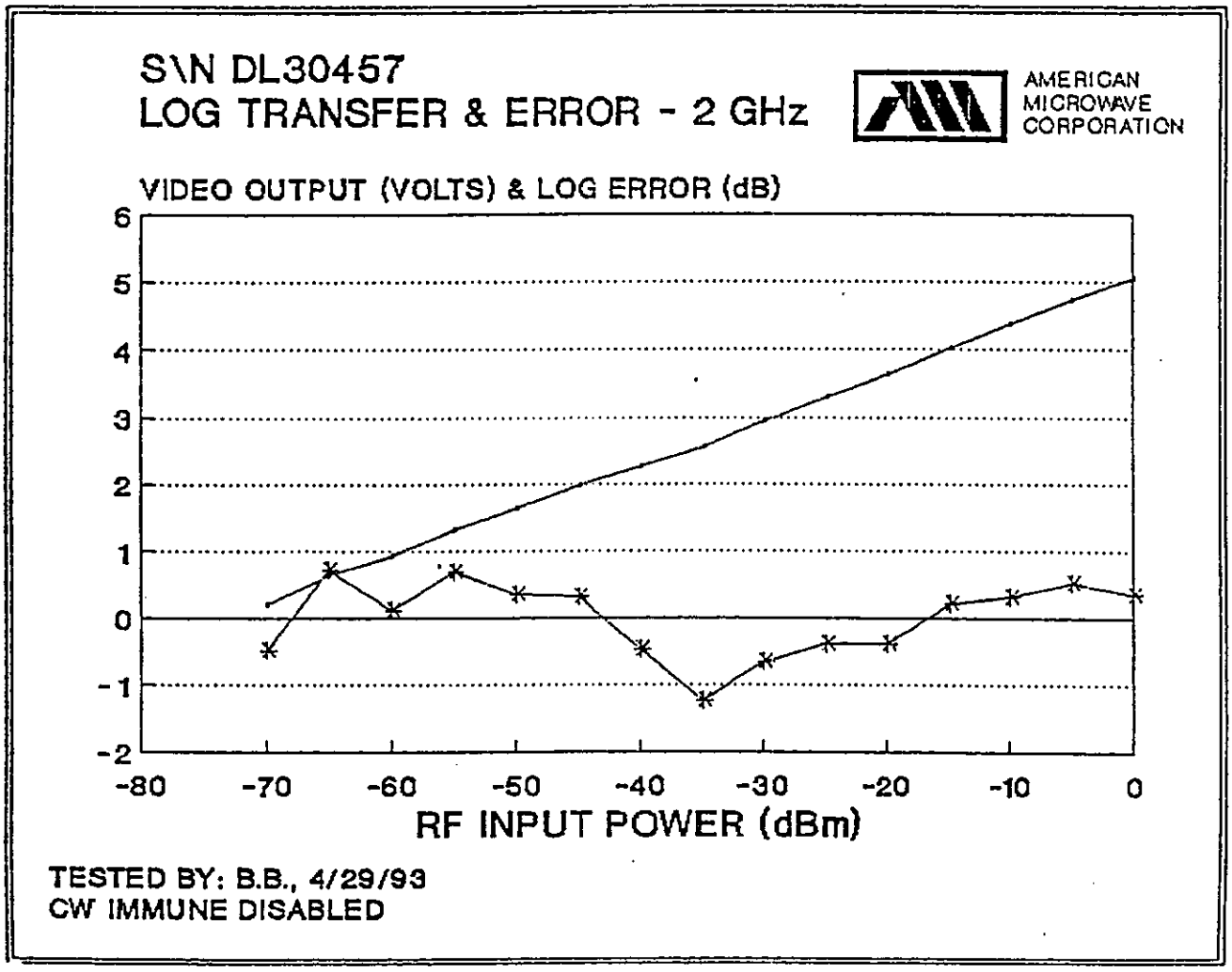
PRODUCTION MANAGER APPROVAL: SRP DATED: 4/30/93

QA/QC APPROVAL: RW DATED: 4/30/93

AMERICAN MICROWAVE CORPORATION
7311-G GROVE ROAD, FREDERICK, MARYLAND 21704 • TEL. (301) 662-4700 • FAX (301) 662-4938

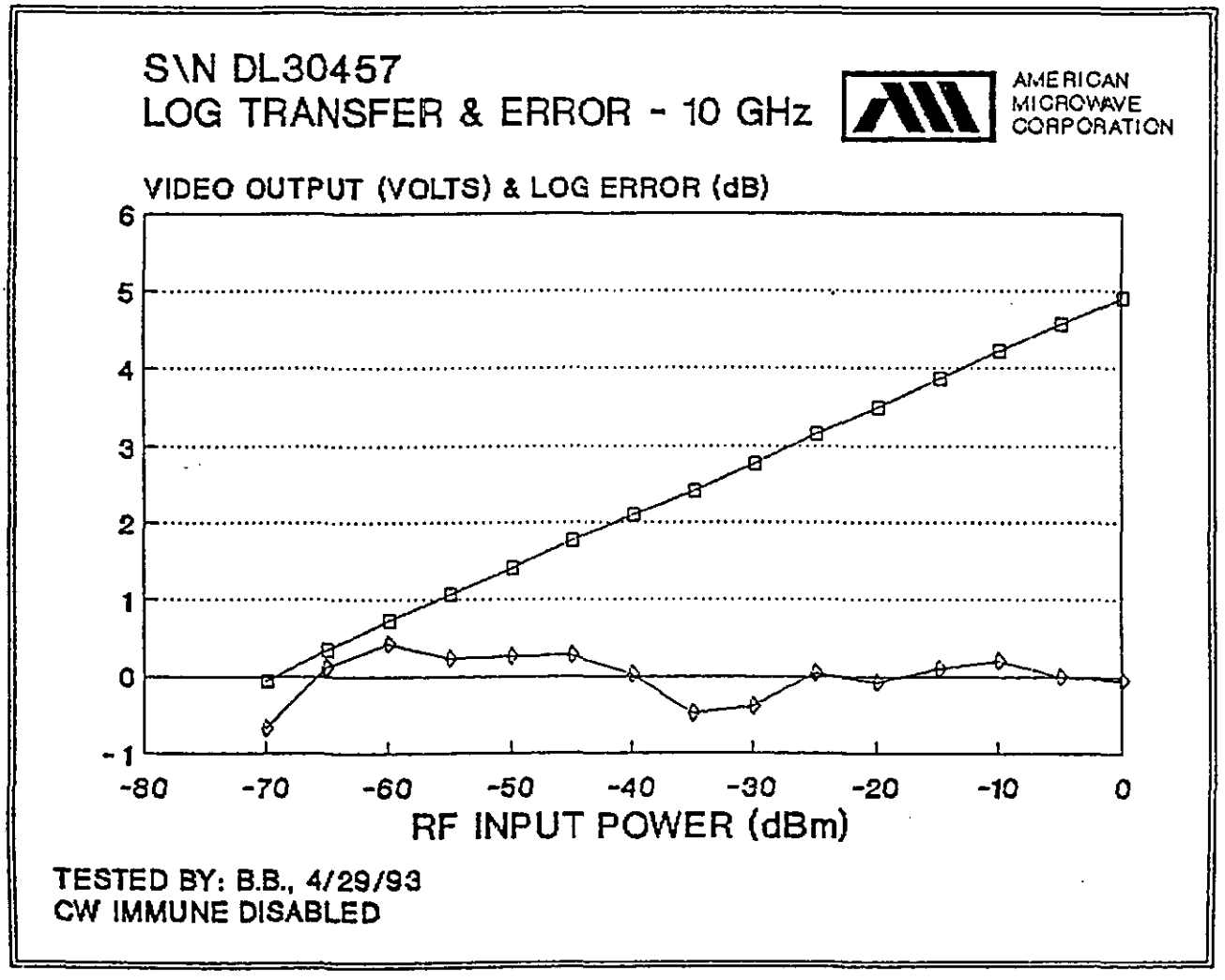
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30457



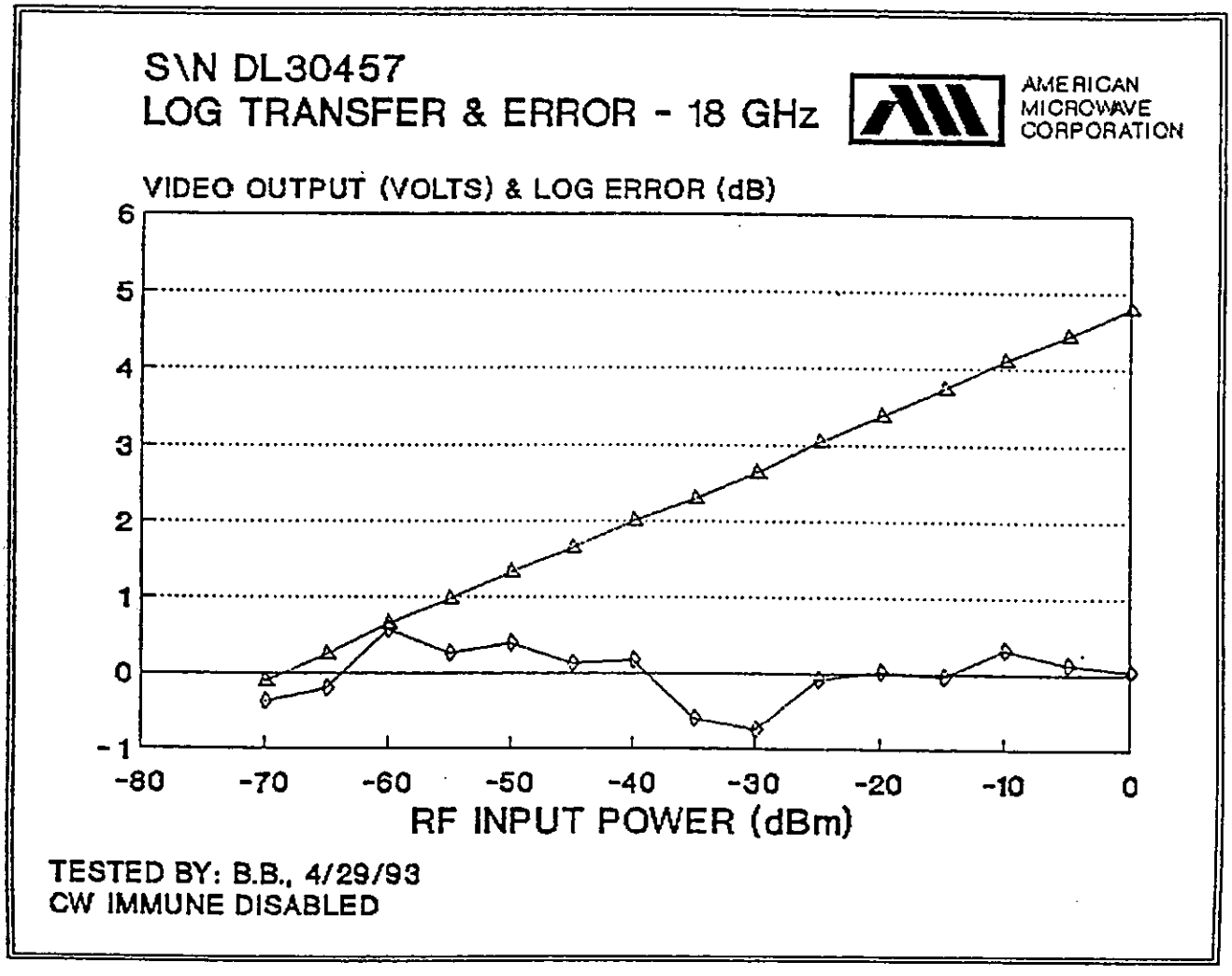
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30457



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30457



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30458

FORM: DLVA-16/0393 JOB NO:206151

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: CTC/CSIST TESTED BY: B. B.

JOB NO: 206151 DATE: 4/29/93

MODEL NO: LVD-218-70

SERIAL NO: DL30458

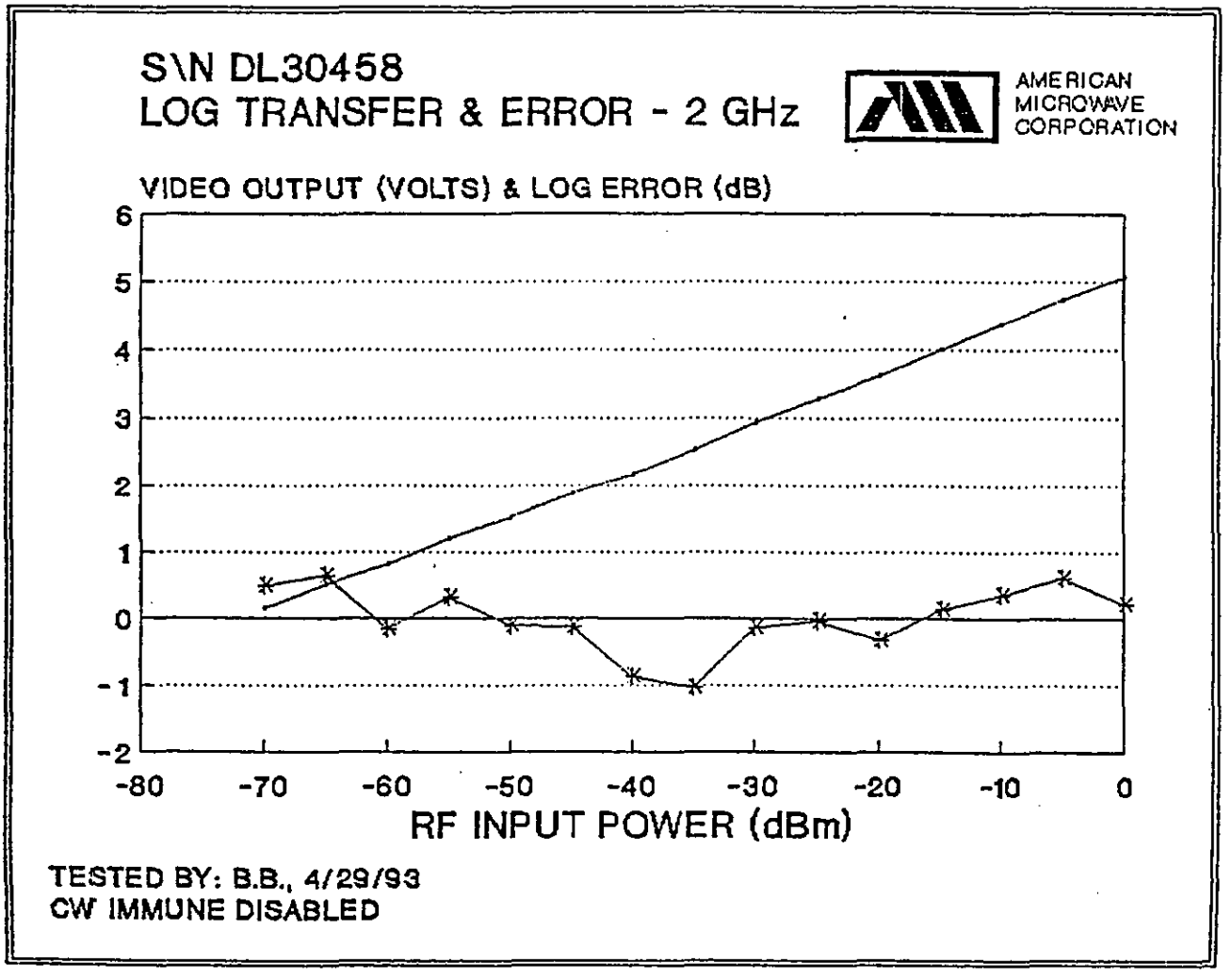
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT FREQUENCY	2 to 18 GHz	PASS	✓
2	INPUT VSWR	2.5:1 (max.)	2.0:1	✓
3	TANGENTIAL SIGNAL SENSITIVITY (TSS)	-66 dBm (min.) @ +85°C -68 dBm (min.) @ -28°C	PASS	✓
4	DYNAMIC RANGE (−66 dBm to 0 dBm at +85°C) (−68 dBm to 0 dBm at −28°C)	66 dB (min.) @ +85°C 68 dB (min.) @ −28°C	PASS	✓
5	FREQUENCY FLATNESS	±2.5 dB (max) (±2.0 dB Design Goal)	±2.5dB	✓
6	LOG SLOPE	70 ±5 mV/dB	70mV/dB	✓
7	LOG LINEARITY (Worst Case Accuracy)	±2.5 dB (max.) (±2.0 dB Design Goal) (Plot Attached)	+1.7dB	✓
8	LOG LINEARITY @ 10 GHz	±1.5 dB (max.) (±1.0 dB Design Goal) (Plot Attached)	+1.3dB	✓
9	RISE TIME	35 nsec typical 40 nsec (max.)	PASS	✓
10	CW IMMUNITY	-46 dBm	PASS	✓
11	DC POWER @ +15V (No Load)	600 mA (max.)	310mA	✓
12	DC POWER @ −15V (No Load)	250 mA (max.)	130mA	✓

PRODUCTION MANAGER APPROVAL: SRR DATED: 4/30/93

QA/QC APPROVAL: RW DATED: 4/30/93

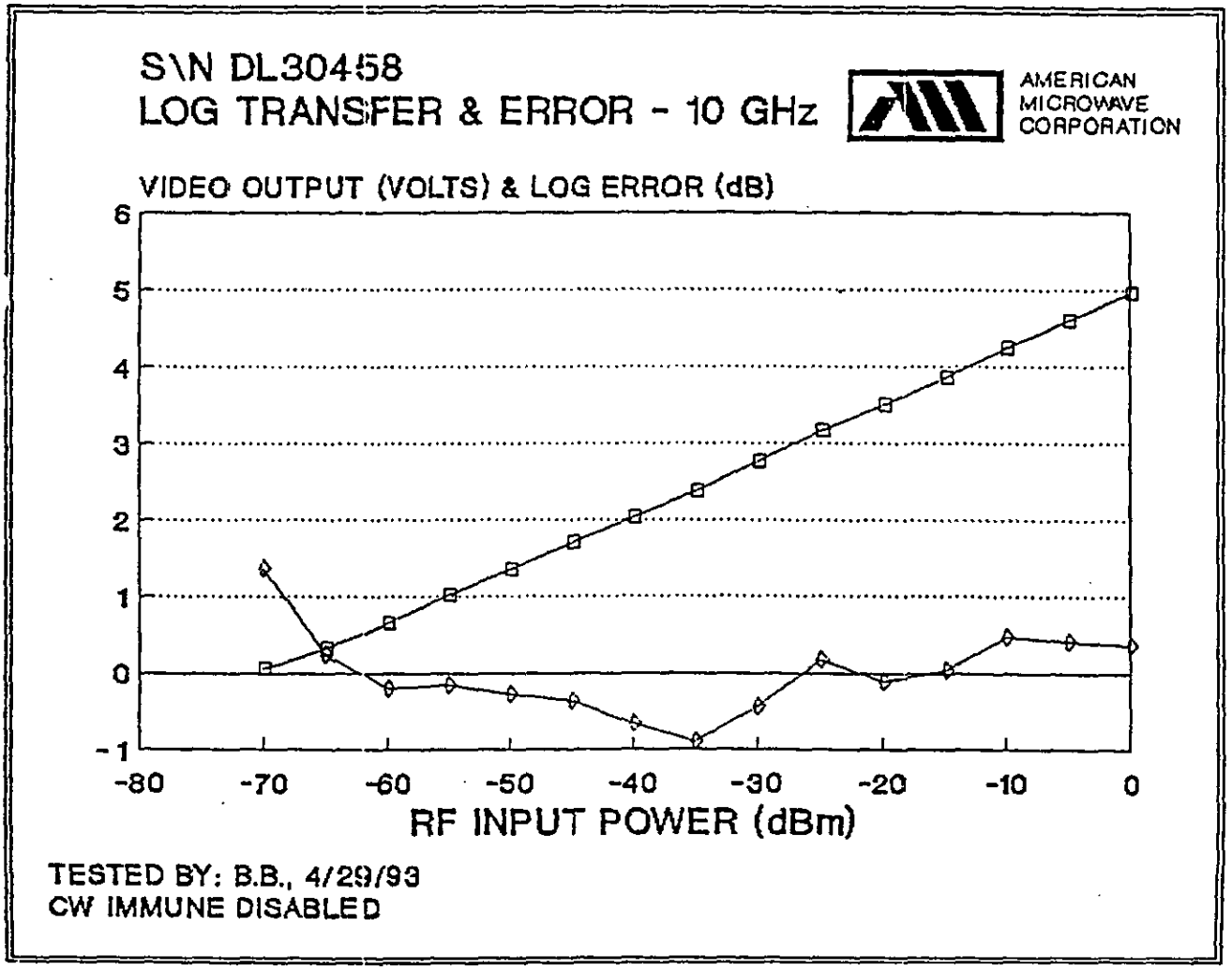
ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30458



ACTUAL MEASURED TEST DATA

SERIAL NUMBER: DL30458



ACTUAL MEASURED TEST DATA

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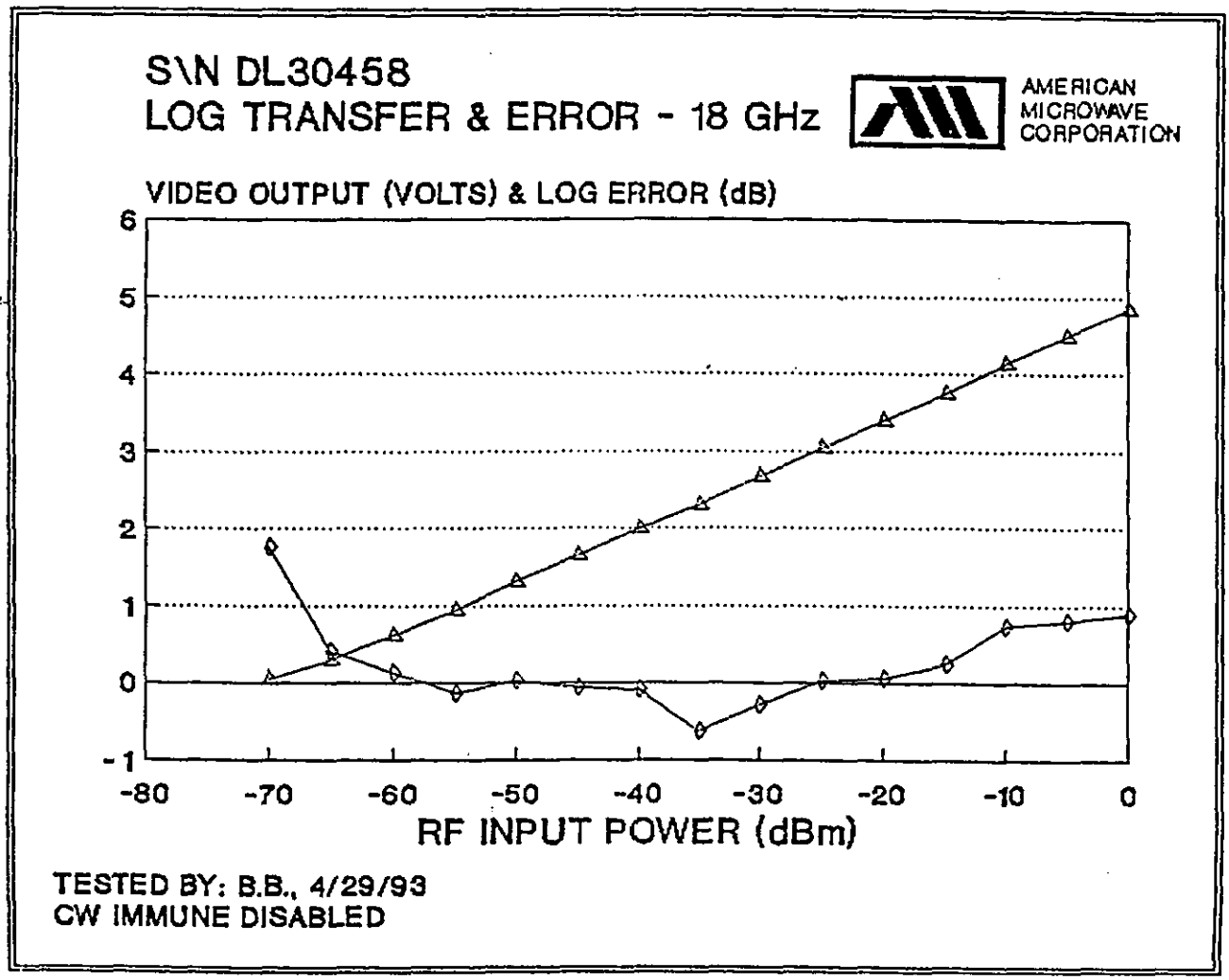

AMERICAN MICROWAVE CORPORATION

TEST DATA

ON

8.0 TO 18.0 GHz
(2.0 TO 18.0 GHz OR 0.5 TO 18.0 GHz UNITS ARE AVAILABLE)

MINIATURE

LOW CURRENT DRAW

LOW VOLTAGE (UNREGULATED)

-60 dBm TANGENTIAL SENSITIVITY
(-65 dBm UNITS ARE AVAILABLE)

65 dB DYNAMIC RANGE
(60 dB, 65 dB, 70 dB, and 75 dB UNITS ARE AVAILABLE)

HIGH RELIABILITY

EXTENDED RANGE
DETECTOR LOGARITHMIC VIDEO AMPLIFIER
(ER-DLVA)

AMC MODEL No:
LVDM-218-70/75 OPTION 818-65-60
SERIAL NUMBERS: DL711204

DESIGNED
BY
A. K. GORWARA

TESTED
BY
B. BAKER

REPORTED
BY
P. D. WOOD

27 JANUARY 1998

7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

AMERICAN MICROWAVE CORPORATION

8.0 TO 18.0 GHz
HIGH RELIABILITY
65 dB DYNAMIC RANGE
DETECTOR LOG VIDEO AMPLIFIER

- MINIATURE
- VERY STABLE
- FAST SETTLING
- HIGH RELIABILITY
- LOW CURRENT DRAW
- WIDE DYNAMIC RANGE

SPECIFICATIONS

• FREQUENCY	: 8.0 TO 18.0 GHz (6 TO 18 GHz, 2 TO 6 GHz, 2 TO 18 GHz, OR 0.5 TO 18 GHz UNITS ARE AVAILABLE)
• LOG SLOPE (WITH 100 Ω ±5% LOAD)	: 50 mV/dB ±5 mV NOMINAL (OTHER SLOPES AVAILABLE)
• LOGGING DYNAMIC RANGE	: -60 TO +5 dBm MIN. (OUTPUT VOLTAGE 0.2 TO 3.35 VOLTS) (60 dB, 65 DB, 70 dB, OR 75 dB DYNAMIC RANGE UNITS ARE AVAILABLE)
• LOG LINEARITY	: ±1.75 dB MAX., ±1.5 dB TYP. (FROM BEST FIT STRAIGHT LINE)
• FREQUENCY FLATNESS (8.0 TO 18.0 GHz)	: ±1.75 dB MAX., ±1.5 dB TYP.
• OUTPUT STABILITY OVER TEMPERATURE	: ±1.0 dB MAX. (0°C TO +60°C)
• TSS LEVEL	: -60 dBm MIN. (-65 dBm UNITS ARE AVAILABLE)
• RISE TIME (10% TO 90% POINTS)	: 20 nS MAX.
• SETTLING TIME	: 40 nS MAX., 30nS TYP.
• RECOVERY TIME	: 400 nS MAX., 250 nS TYP.
• INPUT VSWR@ -20 dBm (8.0 to 18.0 GHz)	: 3.0:1 MAX., 2.5:1 TYP.
• D. C. OFFSET	: ±1.5 dB MAX., ±1.0 dB TYP.
• VIDEO LOAD IMPEDANCE	: 100 Ω
• RF INPUT POWER	: +15 dBm MAX.
• D. C. POWER (EXTERNALLY REGULATED	: +9 vdc ±5%, @ +275 mA MAX.
AND NO LOAD CONDITION)	: - 9 vdc ±5%, @ - 150 mA MAX.
• SIZE	: 3.4" x 1.75" x 0.5"
• WEIGHT	: ≤4.0 oz.

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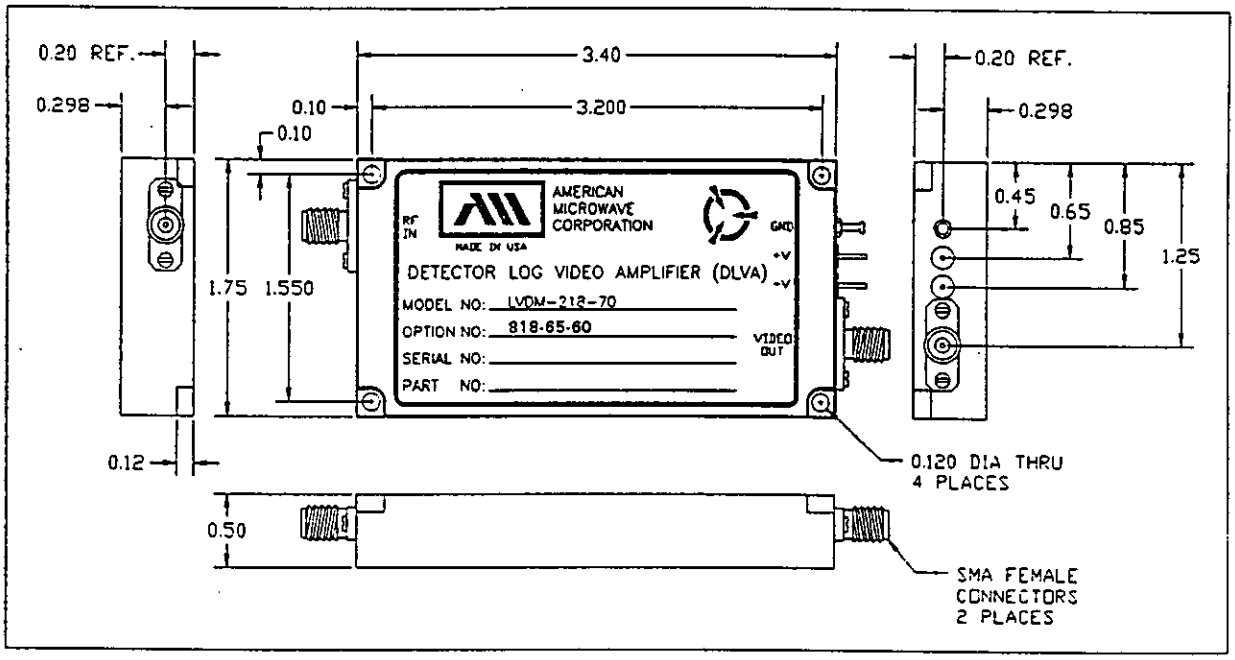
MECHANICAL OUTLINE



ENVIRONMENTAL SPECIFICATIONS

STANDARD RATINGS:

• TEMPERATURE	-54°C TO +85°C (OPERATING) -65°C TO +100°C (STORAGE)
• HUMIDITY	MIL-STD-202F, METHOD 103B CONDITION B
• SHOCK	MIL-STD-202F, METHOD 213B CONDITION B
• VIBRATION	MIL-STD-202F, METHOD 204D CONDITION B
• ALTITUDE	MIL-STD-202F, METHOD 105C CONDITION B
• TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D CONDITION A

HIGH RELIABILITY RATINGS :

* (THESE SPECIFICATIONS ARE AVAILABLE, INQUIRE WITH FACTORY FOR DETAILS)

• ACCELERATION (POWER SPECTRAL DENSITY)	0.2G² /Hz FROM 10-500Hz X,Y & Z AXIS, 2 HOURS PER AXIS
• RANDOM VIBRATION (POWER SPECTRAL DENSITY)	X AXIS TO 100 Hz @ 0.04 G² /Hz, 150 - 400 Hz @ 1.0 G² /Hz Y AXIS TO 130 Hz @ 0.04 G² /Hz, 130 - 250 Hz @ 4.0 G² /Hz, 250-500 Hz, 6 dB Z AXIS TO 100 Hz @ 0.1 G² /Hz, 100 - 300 Hz @ 4.0 G² /Hz, 300-500 Hz, 6 dB
• SINESOIDAL VIBRATION	X AXIS 35 - 100 Hz @ 6 G RMS, 100 - 250 Hz @ 15 G RMS Y & Z AXIS 35 - 100 Hz @ 6 G RMS, 100 - 250 Hz @ 30 G RMS

(ACTUAL TESTING HAS BEEN PERFORMED FOR VIBRATIONS PER MIL-STD-202F, METHOD 204, 0.2G² /Hz FROM 10-500Hz X,Y & Z AXIS, 15 MINUTES PER AXIS)

SUMMARY TEST DATA

FORM: LVDM-70-MP 25/0997

AMERICAN MICROWAVE CORPORATION

JOB NO: 709191-3

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: McDONNELL DOUGLASS
JOB NO: 709191-3
MODEL NO: LVDM-218-70/75 OPTION 818, GH
SERIAL NO: NL 711204
CW APPLICATION

TESTED BY: BB
TEMPERATURE: 0°C TO +60°C
DATE: 1/23/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT VSWR @ -20dBm (8 - 18 GHz)	3.0:1 (MAX)	1.95:1	✓
2	TYPICAL OUTPUT VOLTAGE @ -60 dBm TO +5 dBm	PLOT ATTACHED	0.2 TO 3.35 VOLTS	✓
3	TSS (8 - 18 GHz)	-60 dBm (MIN)	-61dBm	✓
4	LOG SLOPE (± 10% TOL)	50 mV/dB	48.7 TO 51.2mV/dB	✓
5	LOG LINEARITY @ -60 dBm TO + 5 dBm	±1.75 dB (MAX) ±1.5 dB TYPICAL	-1.4dB(MAX) ±0.8dB typ	✓
6	FREQUENCY FLATNESS (8 - 18 GHz)	±1.75 dB (MAX) ±1.5 dB TYPICAL	±1.2dB (MAX)	✓
7	OUTPUT STABILITY (0°C TO 60°C)	±1.0 dB (MAX)	±0.4dB	✓
8	D.C. POWER @ +9V REGULATED WITH NO LOAD	275 mA (MAX) 225 mA TYPICAL	255 mA (MAX)	✓
9	D.C. POWER @ -9 V REGULATED WITH NO LOAD	150 mA (MAX) 125 mA TYPICAL	108 mA (MAX)	✓

PRODUCTION MANAGER APPROVAL: Helen Hutchison DATED: 1/23/98

QA/QC APPROVAL: INSP. BY QI DATED: 1/23/98

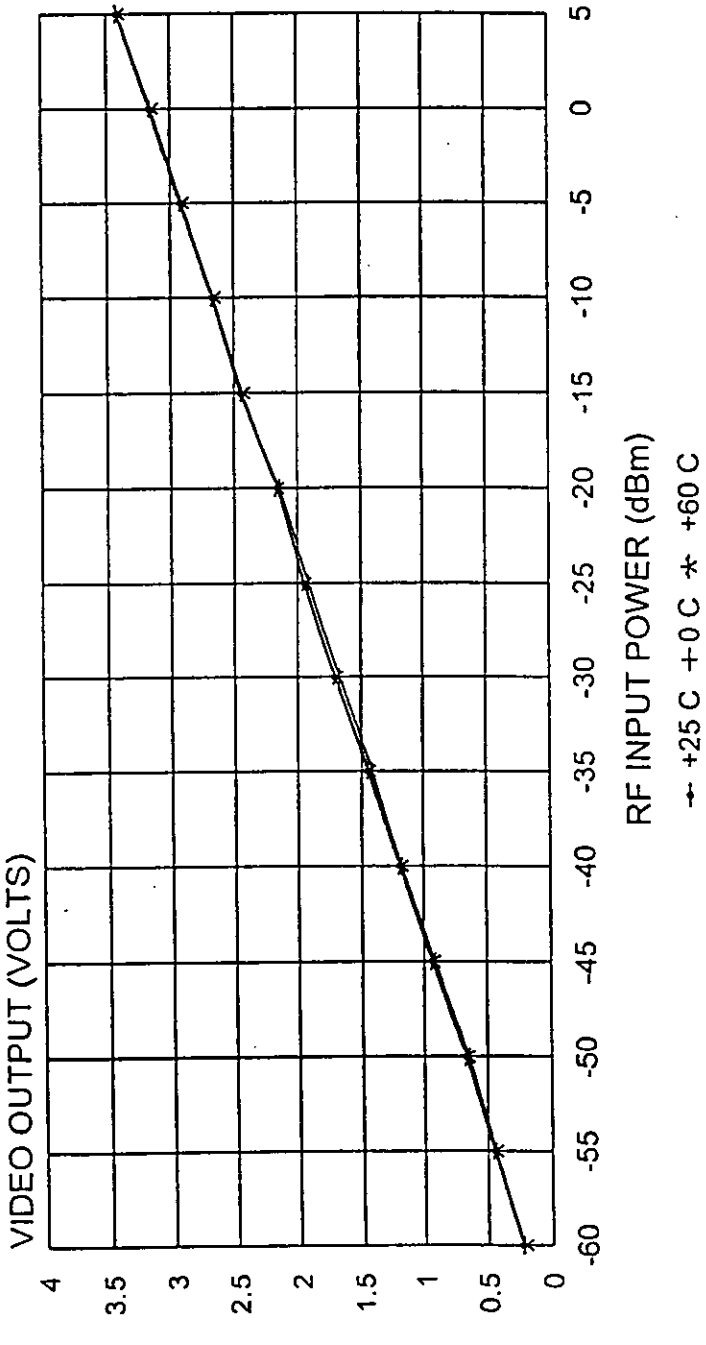
LOG TRANSFER WITH TEMPERATURE @ 12.0 GHz

AS MEASURED AT +25°C, 0° C AND +60° C

SERIAL No: DL711204

AMERICAN MICROWAVE CORPORATION

LVDM-218-70/75 (OPTION 818-65) ; S\N DL711204
LOG TRANSFER WITH TEMPERATURE



12GHz, 1/22/98

27 JANUARY 1998

LOG TRANSFER WITH FREQUENCY @ +25° C

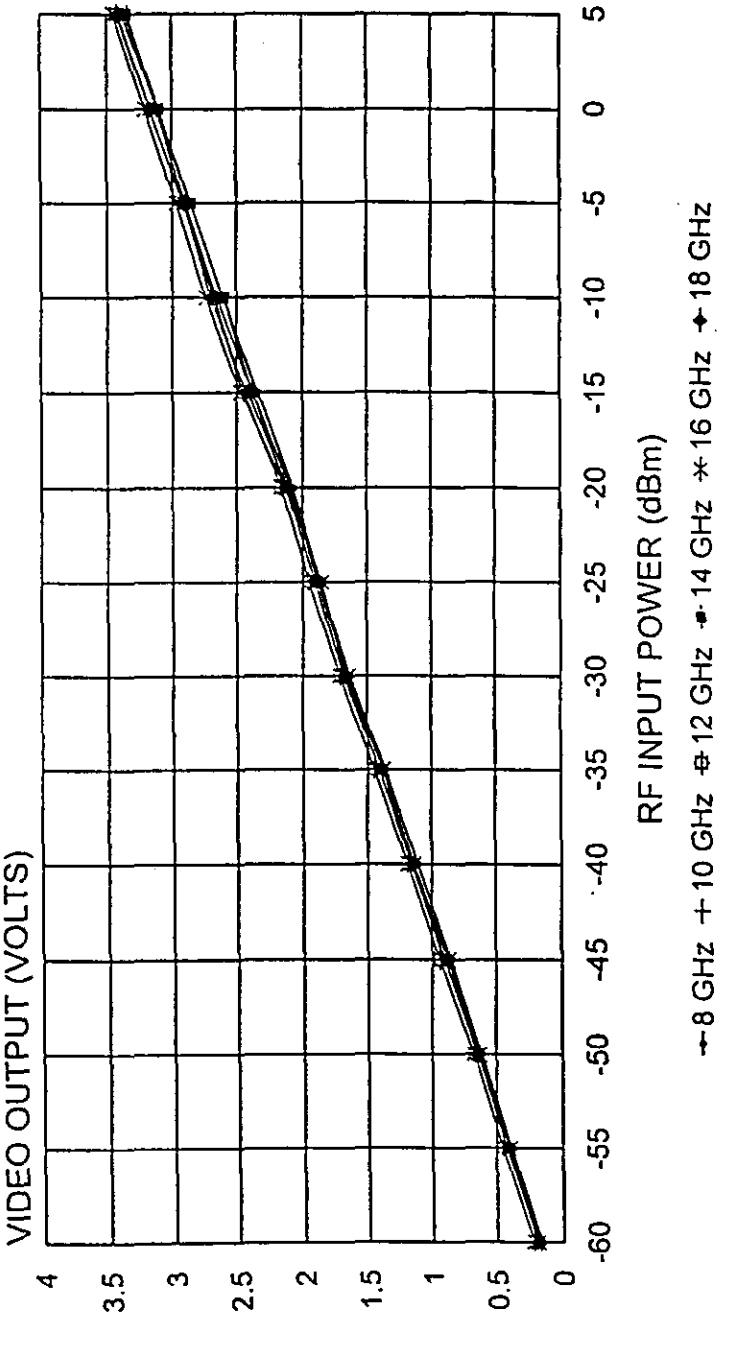
AS MEASURED AT 8, 10, 12, 14, 16, AND 18 GHz

SERIAL No: DL711204

AMERICAN MICROWAVE CORPORATION

LVDM-218-70/75 (OPTION 818-65) : S\N DL711204

LOG TRANSFER WITH FREQUENCY



+ 25 C, 1/22/98

27 JANUARY 1998

TEST DATA

FOR

50 dB

9.3 to 10.8 GHz DC-COUPLED

DETECTOR LOG VIDEO AMPLIFIER (DLVA)

WITH

-85 dBm TSS LEVEL

AMC MODEL: LVD-910-85

(SERIAL NO: DL20898)

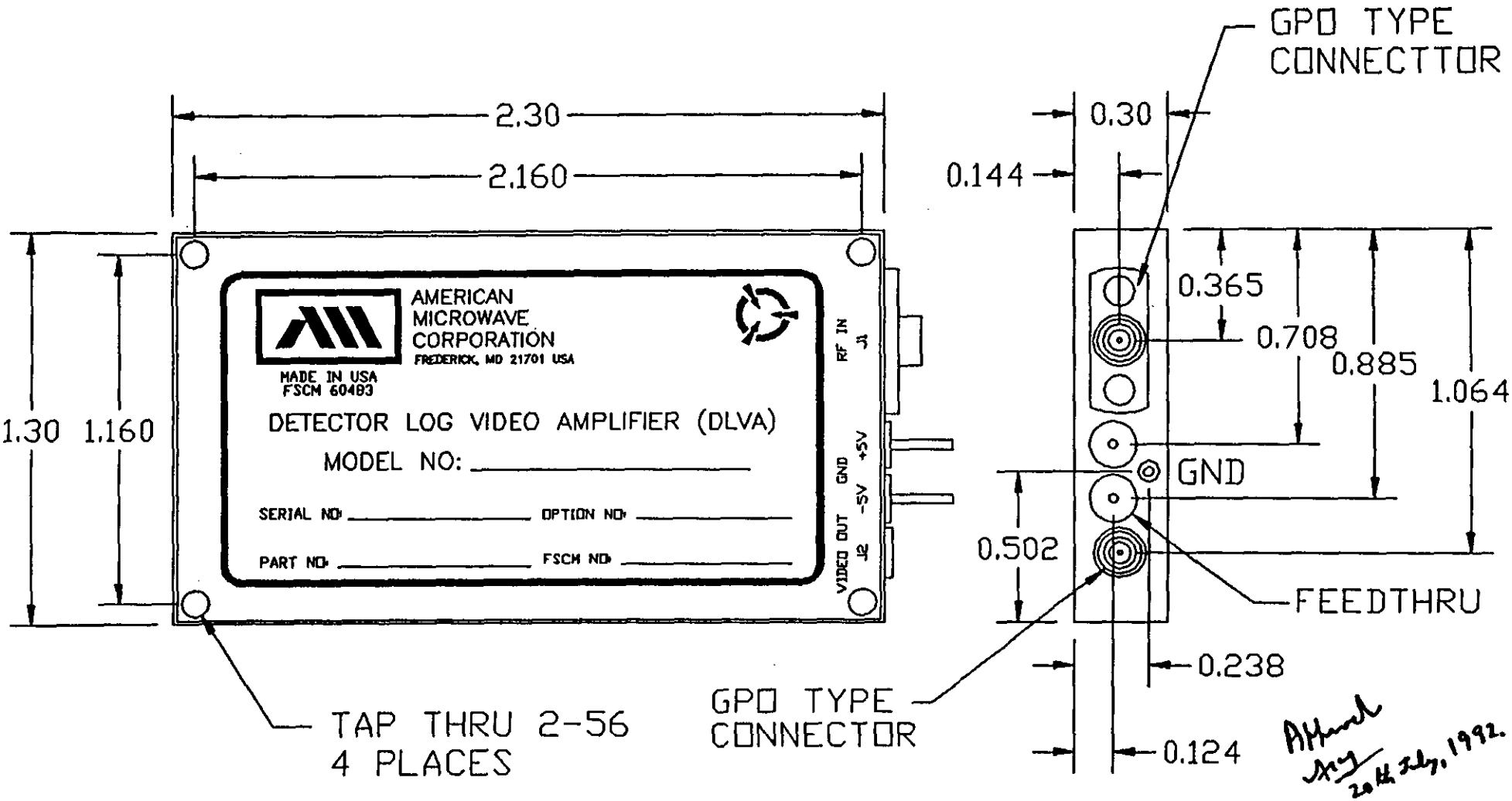
BY

AMERICAN MICROWAVE CORPORATION

11 SEPTEMBER 1992

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	07/19/92	



Approved
20th July, 1992.

DIMENSIONS ARE IN INCHES
TOLERANCE: X.XXX ±0.010
X.XX ±0.020

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
APPROVALS	DATE	TITLE	
DRAWN R.AFABLE	07/19/92	OUTLINE DRAWING LVD-910-85	
CHECKED B. Parker	7/20/92		
ISSUED		SIZE A / FSCM NO. 60483 / DWG NO. 100-2603	REV. A
		SCALE 2:1	SHEET 1 of 1

FORM: DLVA-13/0992 JOB NO: 112243

SUMMARY TEST DATA
ON
DETECTOR LOG VIDEO AMPLIFIER--DLVA

CUSTOMER: E G & G
JOB NO: 112243
MODEL NO: LVD-910-85
SERIAL NO: DL20898

TESTED BY: B. Baker
DATE: 9/10/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	TSS (min) 0 TO 60°, 9.3 TO 10.8 GHz	-85 dBm	-85dBm	SPC
2	LOG SLOPE -80 TO -35dBm	25mV/min, 100mV max	33mV/dB	
3	LOG LINEARITY ERROR (max) -80 TO -35dBm	±1.0dB	±1.0dB	
4	ABSOLUTE ACCURACY (ERROR MAX) WITH FREQUENCY, POWER, TEMPERATURE, OFFSET 9.3 TO 10.8GHz, 0 TO 60°C, -80 TO -35dBm	±2.0dB	-1.5dB	
5	ABSOLUTE ACCURACY WITH FREQUENCY AND TEMPERATURE	±1.0dB	±0.95dB	
6	CURRENT DRAW (max) ±5V, 1000 ohm load -5V, 1000 ohm loaD	 120 mA 20 mA	 79mA 28mA	
7	VSWR 9.3 to 10.8 GHz	2.0:1	1.9:1	
8	RISE TIME (MAX)	1.5 µSEC	600nS	
9	FALL TIME (MAX)	1.5 µSEC	650nS	
10	RECOVERY TIME (MAX)	30 µSEC (max)	10µS	↓

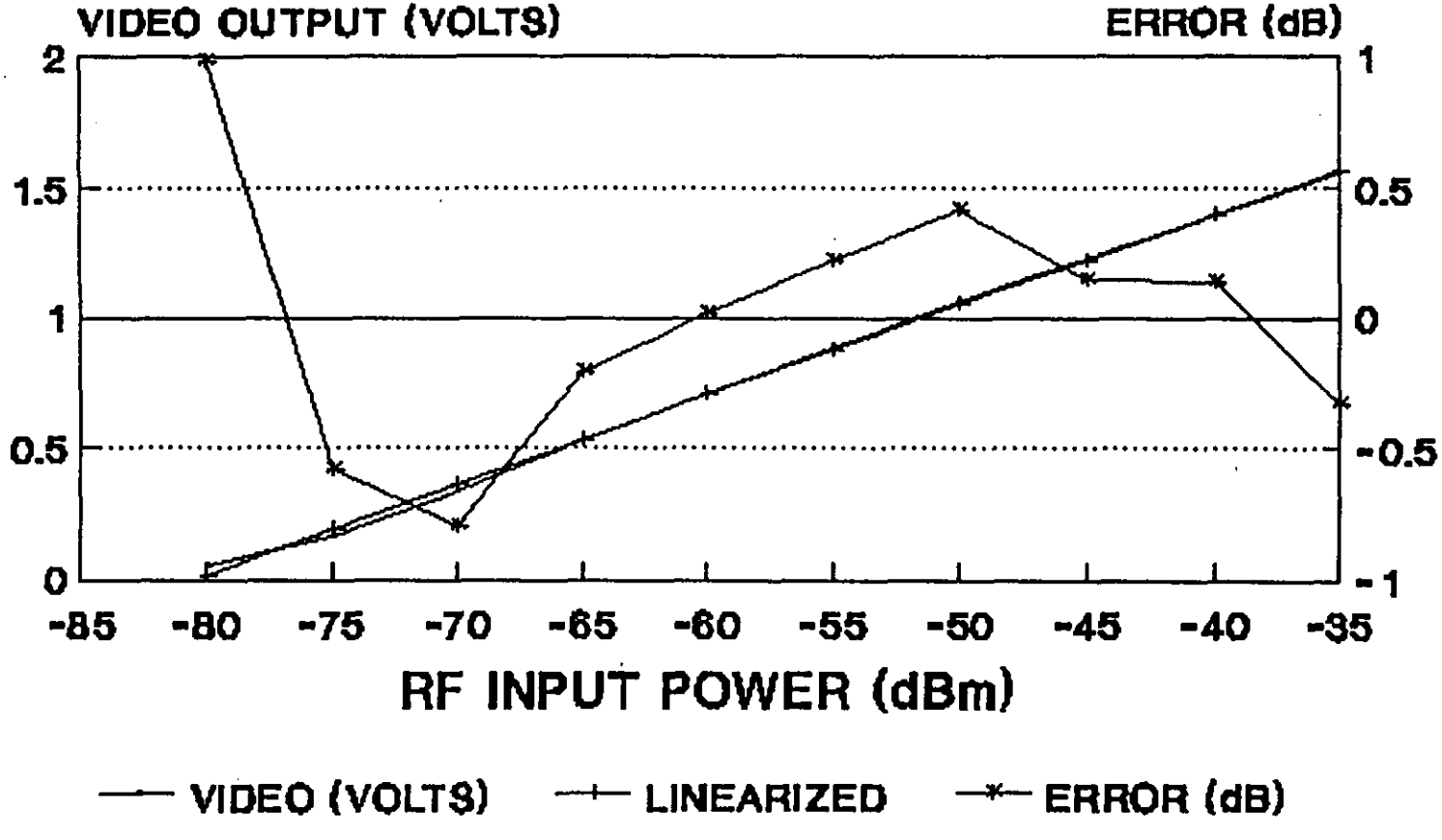
PRODUCTION MANAGER APPROVAL: Stephen Lee DATED: 9/-11-92

QA/QC APPROVAL: [signature] DATED: 9-11-92

VIDEO OUTPUT VOLTAGE VERSUS INPUT RF POWER AT 9.3 GHz, 10.8 GHz, AND TEMPERATURES OF 0°C, 30°C, AND 60°C AMC MODEL NO: LVD-910-85 SERIAL NO: DL20898

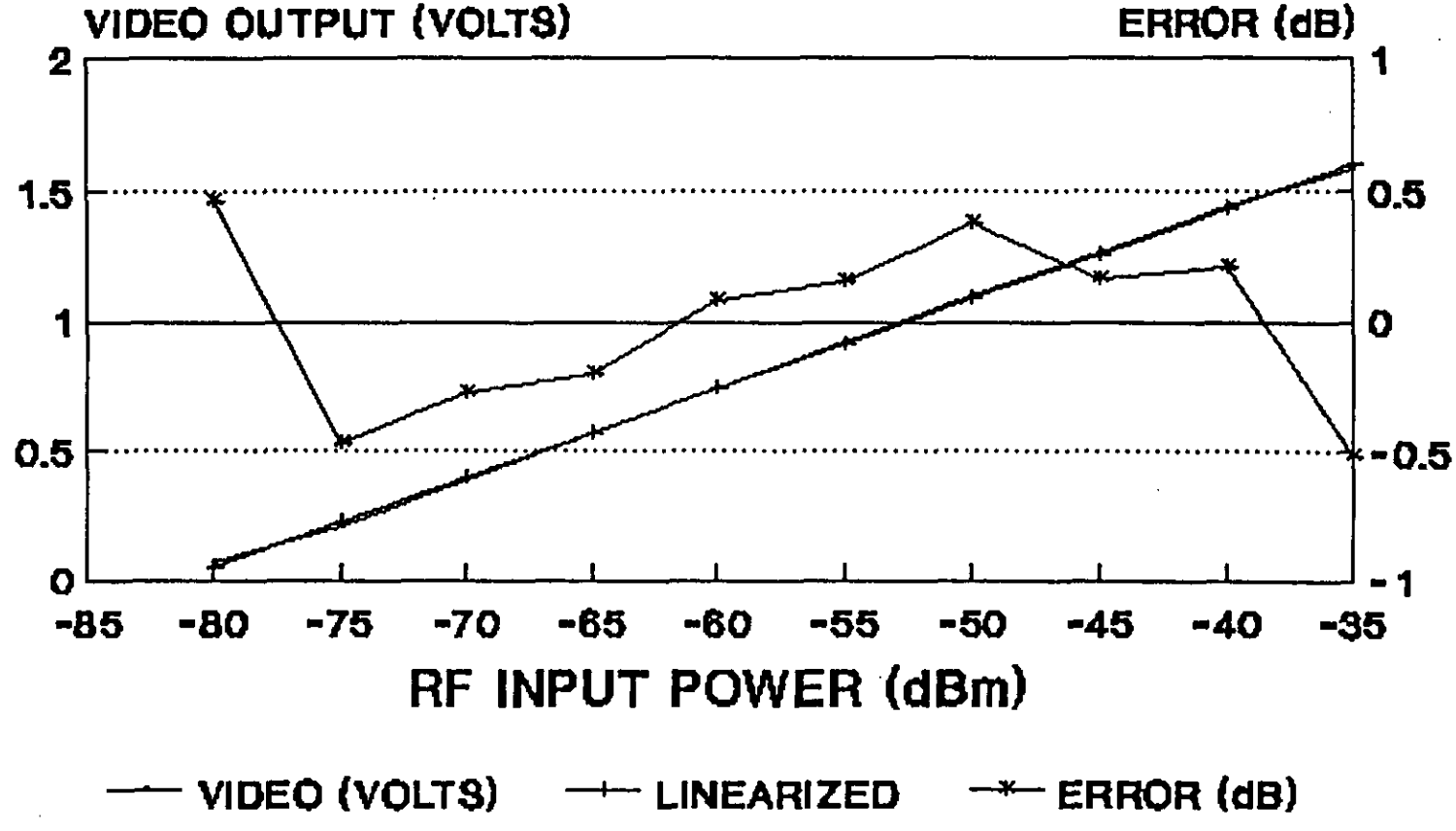
RF INPUT POWER (dBm)	VIDEO OUTPUT (VOLTS)						
	10.8 GHz, 0°C	9.3 GHz, 0°C	10.8 GHz, 30°C	9.3 GHz, 30°C	10.8 GHz, 60°C	9.3 GHz, 60°C	IDEAL REFERENCE
-35	1.553	1.582	1.557	1.589	1.555	1.569	1.587
-40	1.401	1.444	1.4	1.441	1.398	1.411	1.415
-45	1.23	1.273	1.228	1.267	1.227	1.239	1.244
-50	1.069	1.106	1.065	1.102	1.063	1.068	1.072
-55	0.888	0.926	0.886	0.922	0.889	0.895	0.9
-60	0.708	0.752	0.707	0.747	0.71	0.719	0.729
-65	0.526	0.571	0.527	0.565	0.53	0.54	0.557
-70	0.361	0.402	0.355	0.39	0.352	0.358	0.385
-75	0.18	0.226	0.17	0.211	0.162	0.166	0.214
-80	0.049	0.073	0.05	0.07	0.055	0.057	0.042

S/N DL20898
LOG TRANSFER & ERROR
10.8 GHz @ +30C



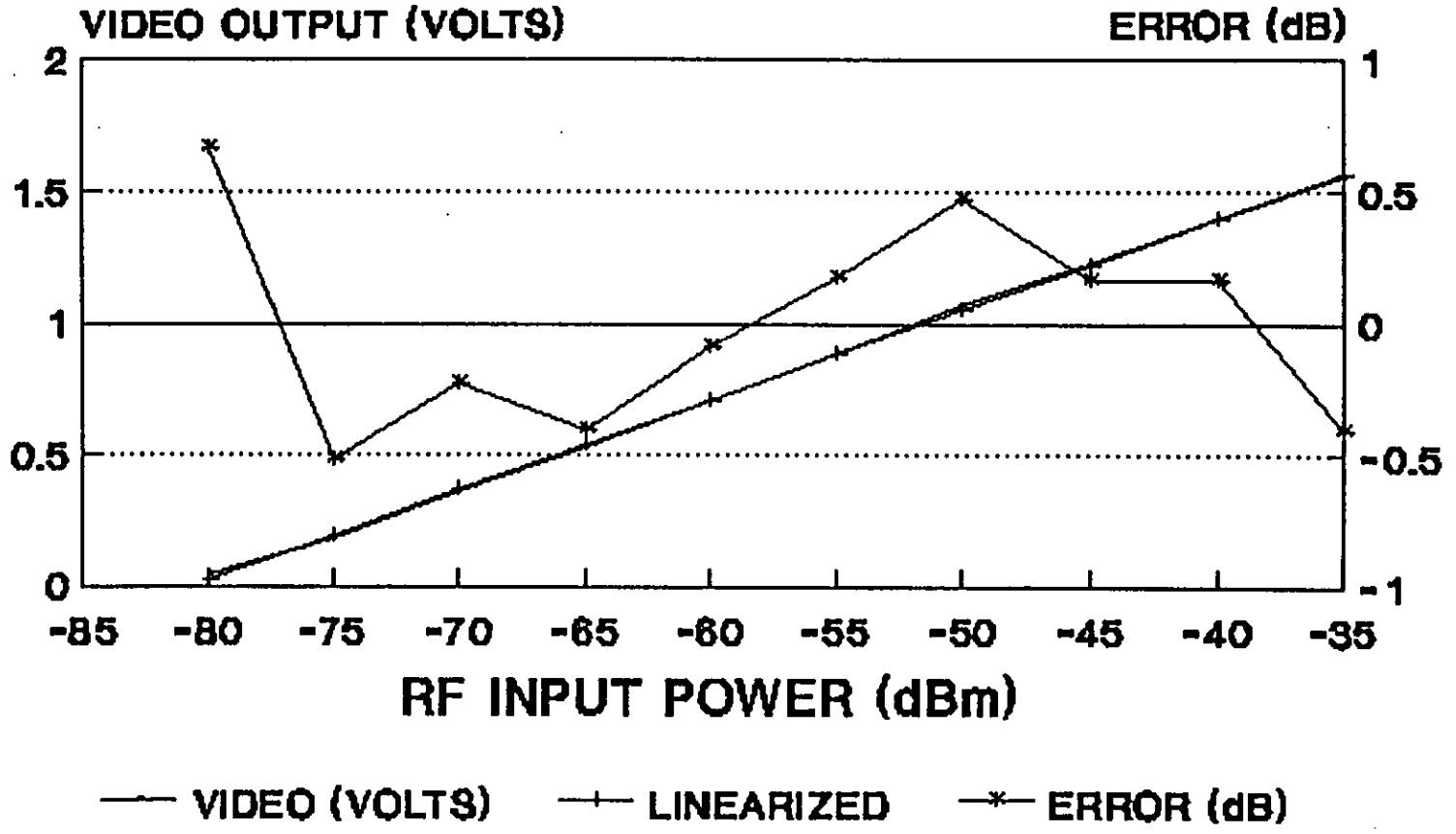
9/9/92

S/N DL20898
LOG TRANSFER & ERROR
9.3GHz @ +30C



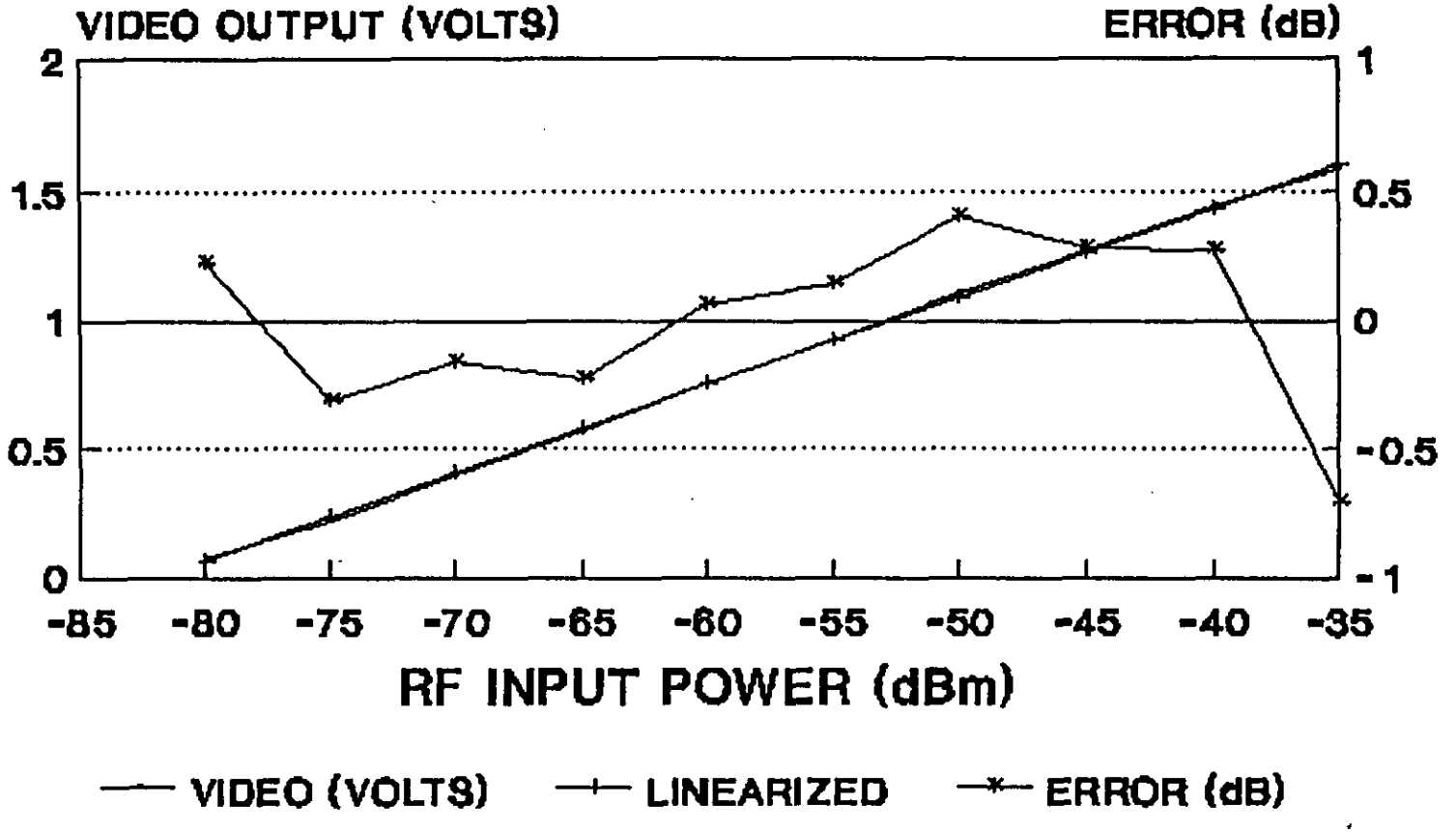
9/9/92

S/N DL20898
LOG TRANSFER & ERROR
10.8GHz @ 0C



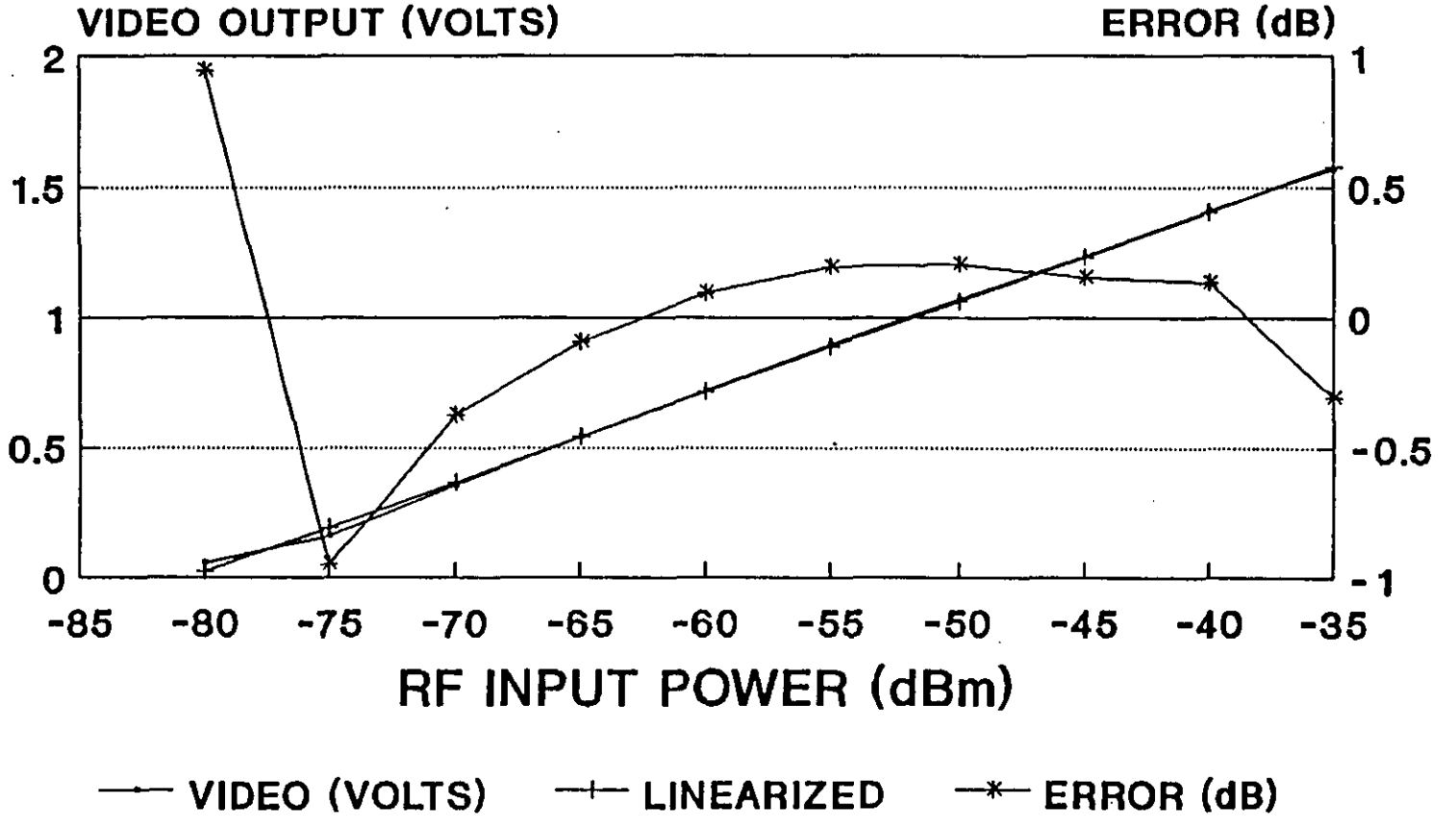
9/9/92

S/N DL20898
LOG TRANSFER & ERROR
9.3GHz @ 0C



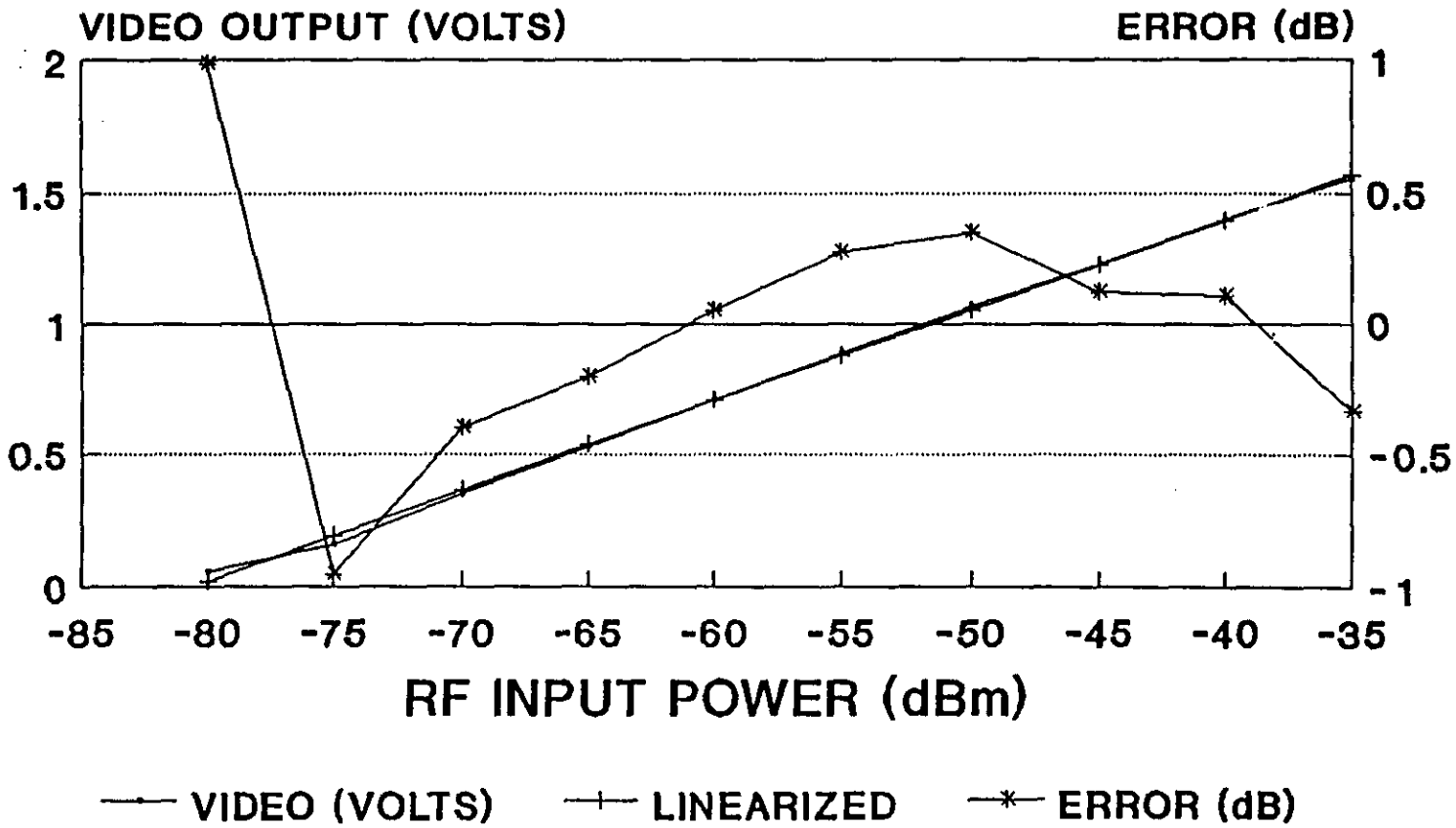
9/9/92

S/N DL20898
LOG TRANSFER & ERROR
9.3GHz @ +60C



9/9/92

S/N DL20898
LOG TRANSFER & ERROR
10.8 GHz @ +60C



9/9/92

AMERICAN MICROWAVE CORPORATION

TEST DATA

FOR

20 dB

6 to 18 GHz DC-COUPLED

LINEAR DETECTOR VIDEO AMPLIFIER (LDVA)

AMC MODEL NO: DVA-50

(SERIAL NO'S: DL20896 & DL20897)

BY

AMERICAN MICROWAVE CORPORATION

25 SEPTEMBER 1992

7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

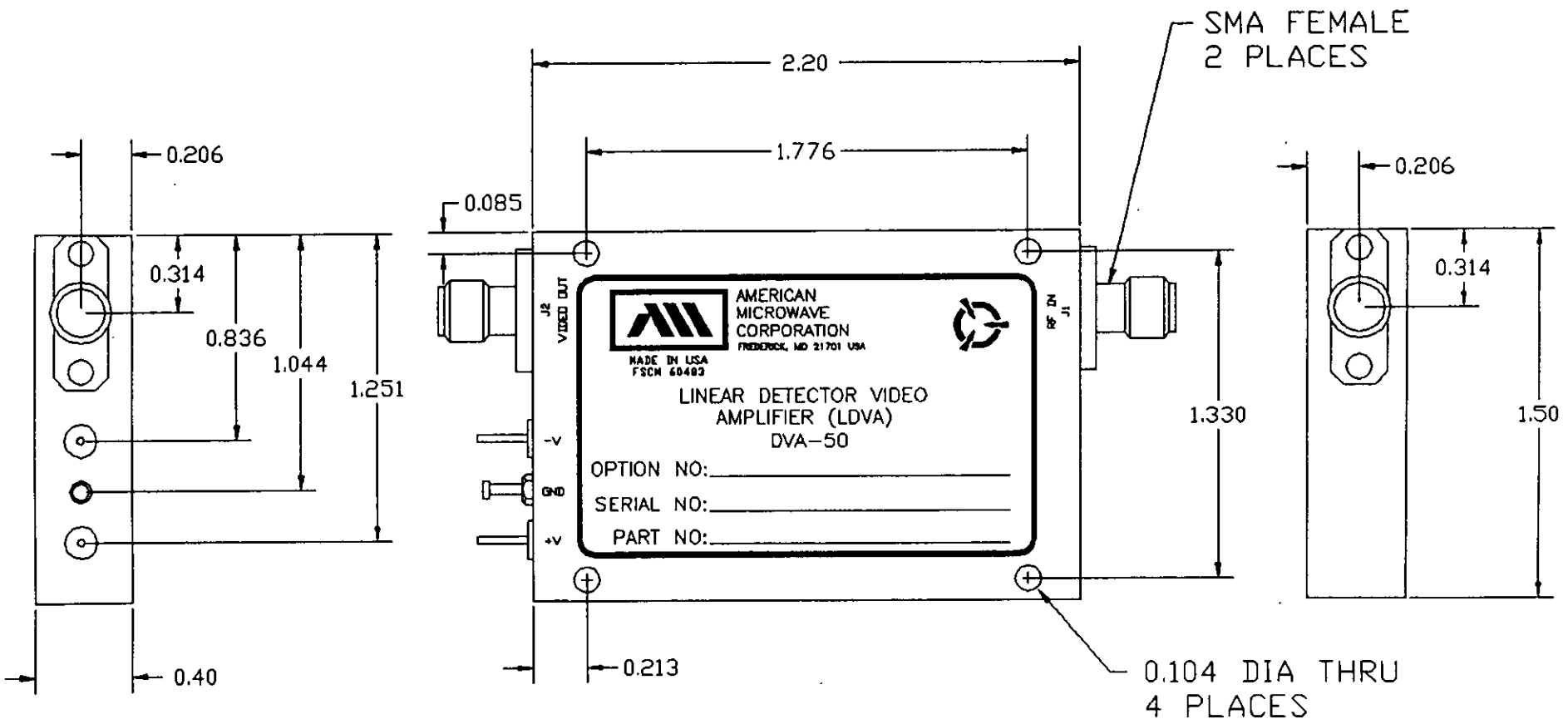
TEST DATA

ON

AMC MODEL NO: DVA-50

SERIAL NO: DL20896

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	09/24/92	



DIMENSIONS: INCHES

TOLERANCES: X.XX ±0.020
TOLERANCES: X.XXX ±0.010

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND
APPROVALS	DATE	
DRAWN R.AFABLE	09/24/92	TITLE: LINEAR DETECTOR VIDEO AMPLIFIER (LDVA) AMC MODEL NO: DVA-50
CHECKED		
ISSUED		SIZE A · FSCM NO. 60483 · DWG NO. 100-2719 · REV. A
		SCALE 1.5:1 · SHEET 1 of 1

FORM: LDVA-01/0992 AMC JOB NO: 207/96

SUMMARY TEST DATA
ON
LINEAR DETECTOR VIDEO AMPLIFIER--LDVA

CUSTOMER: NORDEN SYSTEMS TESTED BY: B. Baker

MODEL NO: DVA-50

SERIAL NO: DL 20896 DATE: 9/24/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	VSWR (6 - 18 GHz)	2.0:1	2.0:1	
2	RISE TIME	70 nS (max)	65 nS	
3	FREQUENCY FLATNESS 6 - 18 GHz (REFERRED TO RF INPUT)	±1.5 dB (max)	±1.05dB	
4	TRANSFER LAW LINEARITY 6 - 12 GHz, -5 TO +15 dBm	±0.35 dB (max)	±0.55dB	
5	VIDEO OUTPUT STABILITY 0°C TO +65°C (REFERRED TO RF INPUT)	±0.5 dB (max)	±0.5dB	
6	BASELINE STABILITY	±3 mV (max)	±0.5mV	
7	POSITIVE CURRENT DRAW @ +15V (NO INPUT SIGNAL)	50 mA	15mA	
8	NEGATIVE CURRENT DRAW @ -15V (NO INPUT SIGNAL)	50 mA	15mA	

PRODUCTION MANAGER APPROVAL: DATED: 9/25/92

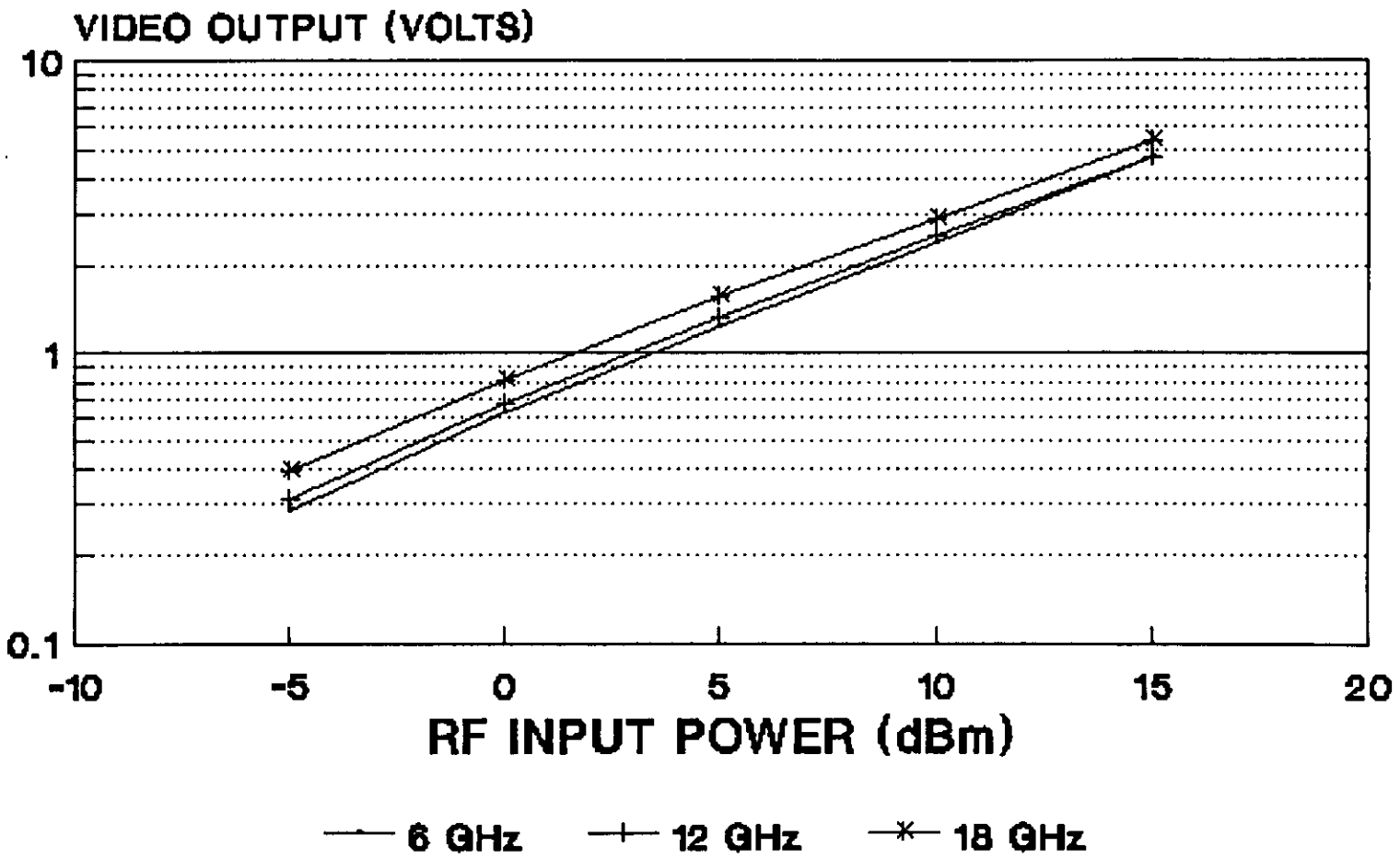
QA/QC APPROVAL: DATED: 9-25-92

SUMMARY TEST DATA
ON
LINEAR DETECTOR VIDEO AMPLIFIER--LDVA

MODEL NO: DVA-50
SERIAL NO: DL20896

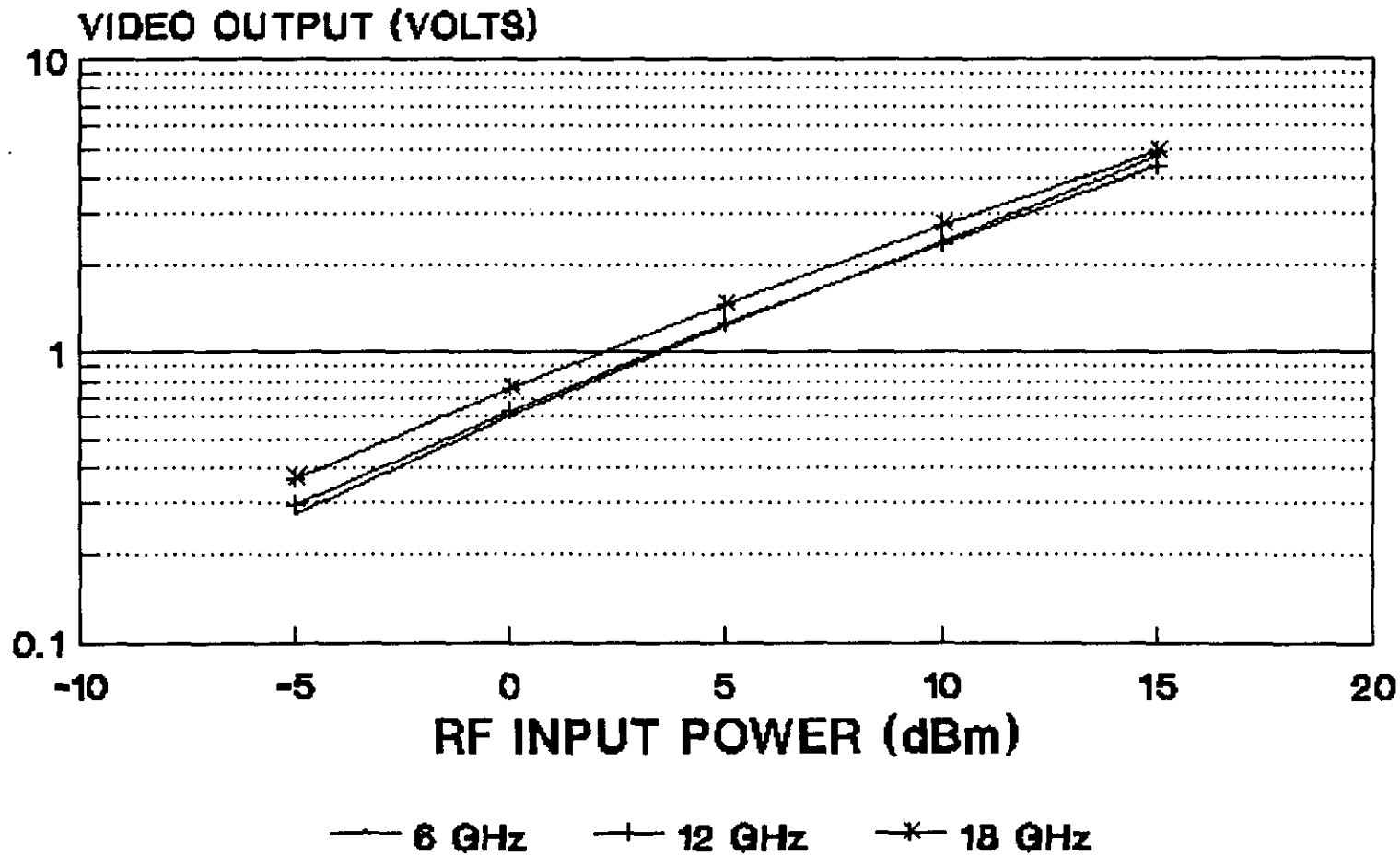
RF INPUT POWER (dBm)	VIDEO OUTPUT (VOLTS)								
	6 GHz, 30°C	12 GHz, 30°C	18 GHz, 30°C	6 GHz, 0°C	12 GHz, 0°C	18 GHz, 0°C	6 GHz, 60°C	12 GHz, 60°C	18 GHz, 60°C
+15	4.66	4.67	5.307	5.071	4.8	5.446	4.665	4.35	4.913
+10	2.433	2.531	2.925	2.51	2.573	2.943	2.415	2.38	2.756
+5	1.248	1.328	1.561	1.241	1.32	1.545	1.227	1.249	1.475
0	0.618	0.665	0.804	0.578	0.643	0.773	0.603	0.626	0.752
−5	0.286	0.316	0.390	0.246	0.287	0.353	0.278	0.298	0.362

DL20896
VIDEO OUTPUT 30 C



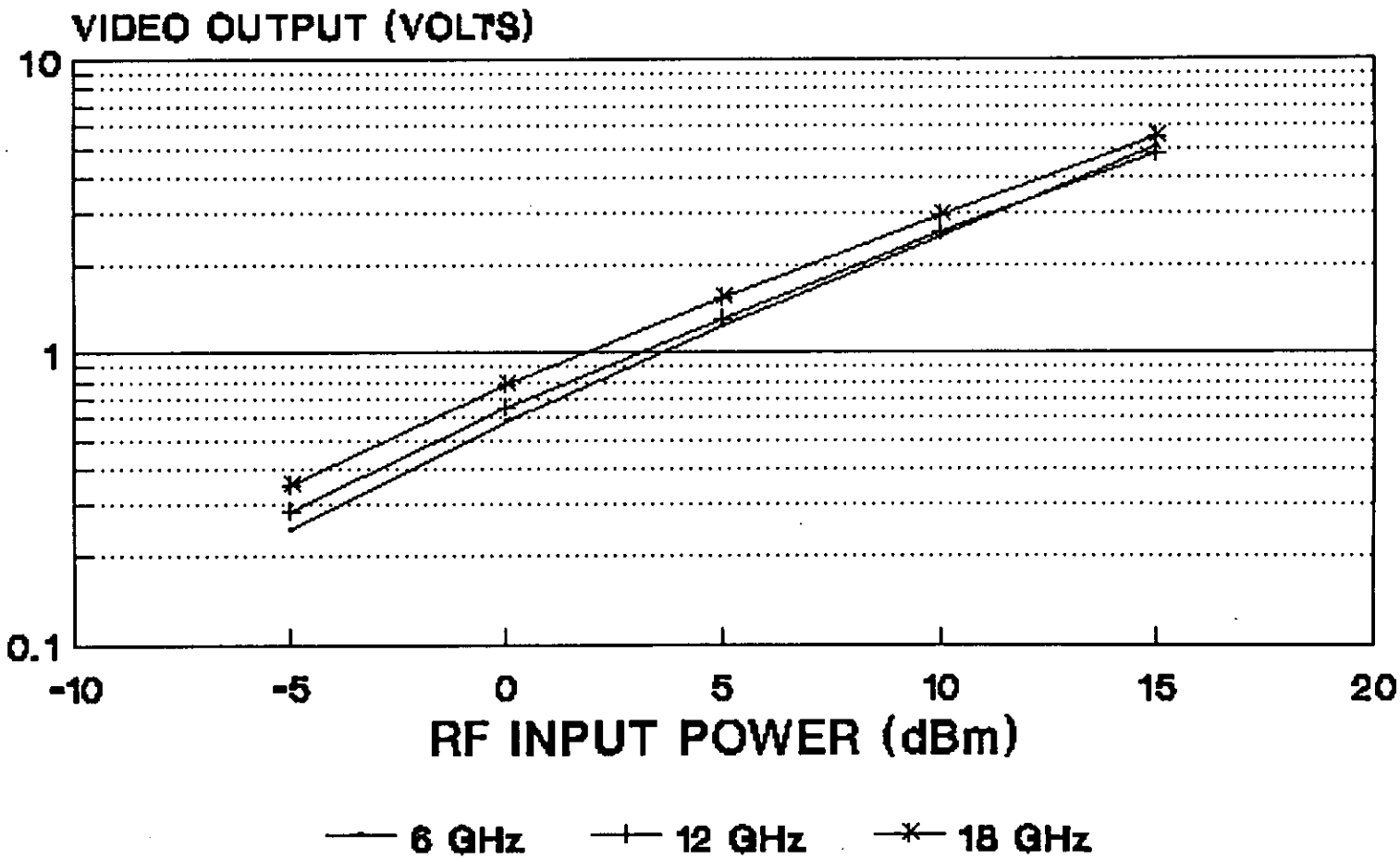
9/22/92

DL20896
VIDEO OUTPUT 65 C



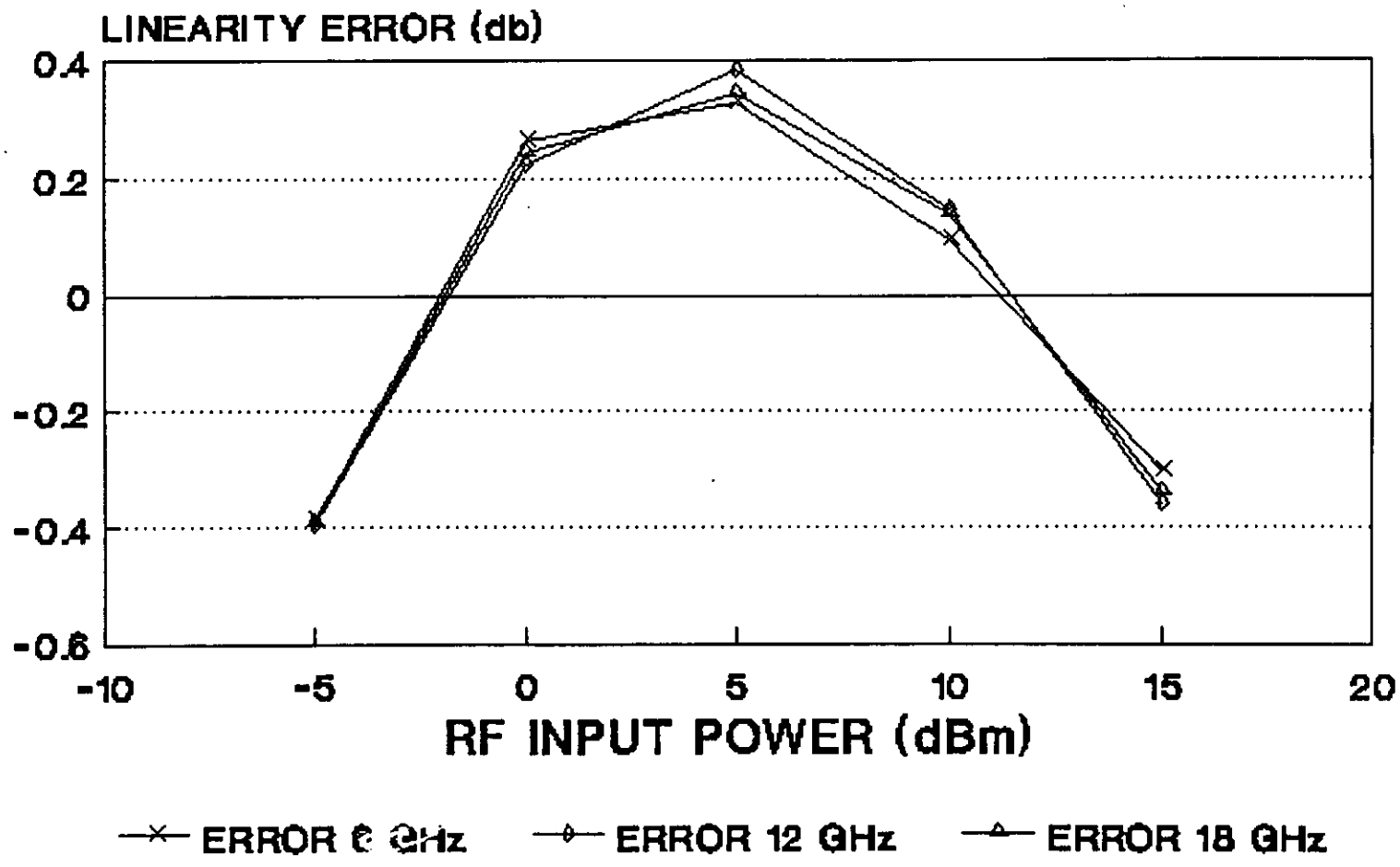
9/22/92

DL20896
VIDEO OUTPUT 0 C



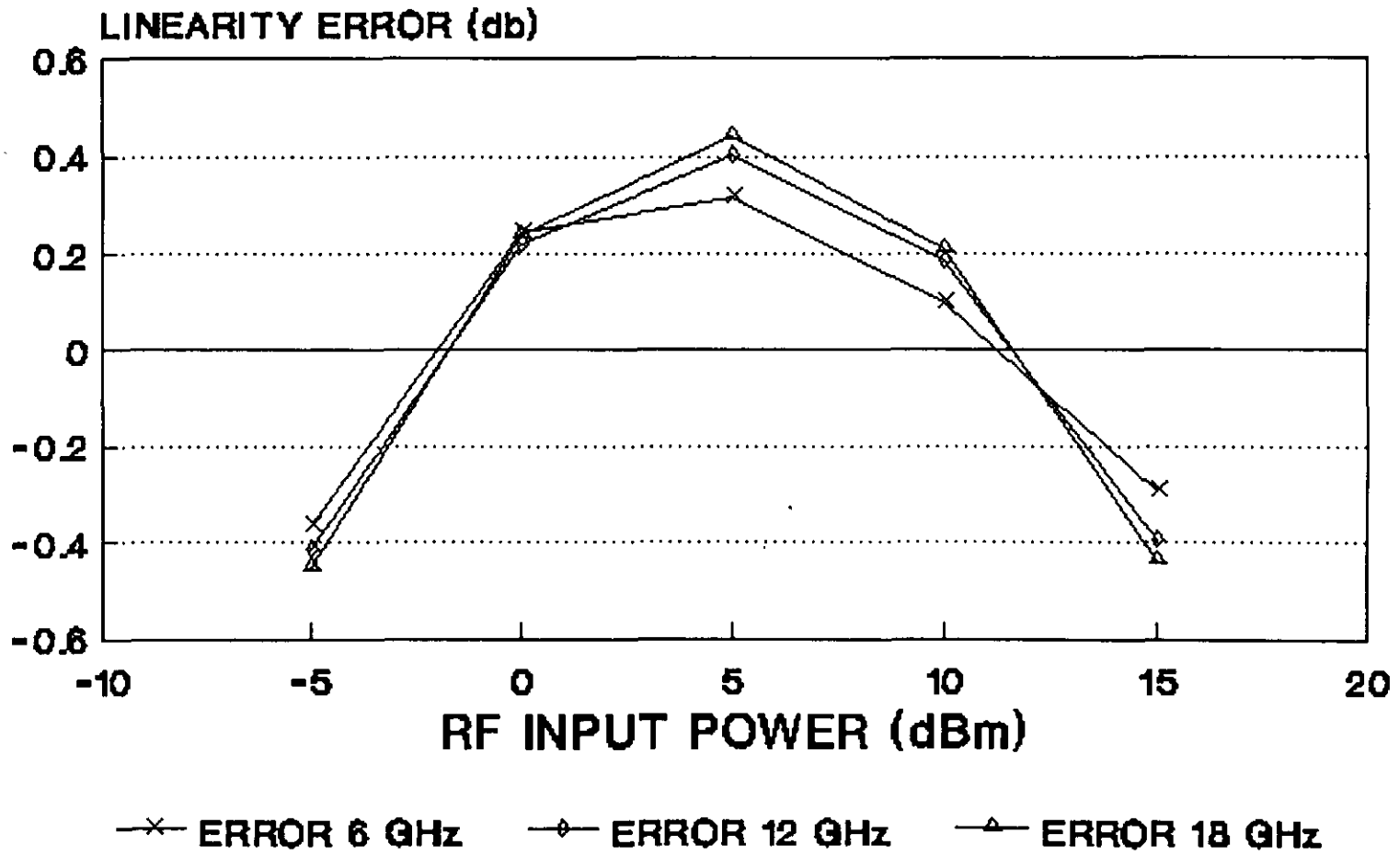
9/22/92

DL20896
LINEARITY ERROR +30 C



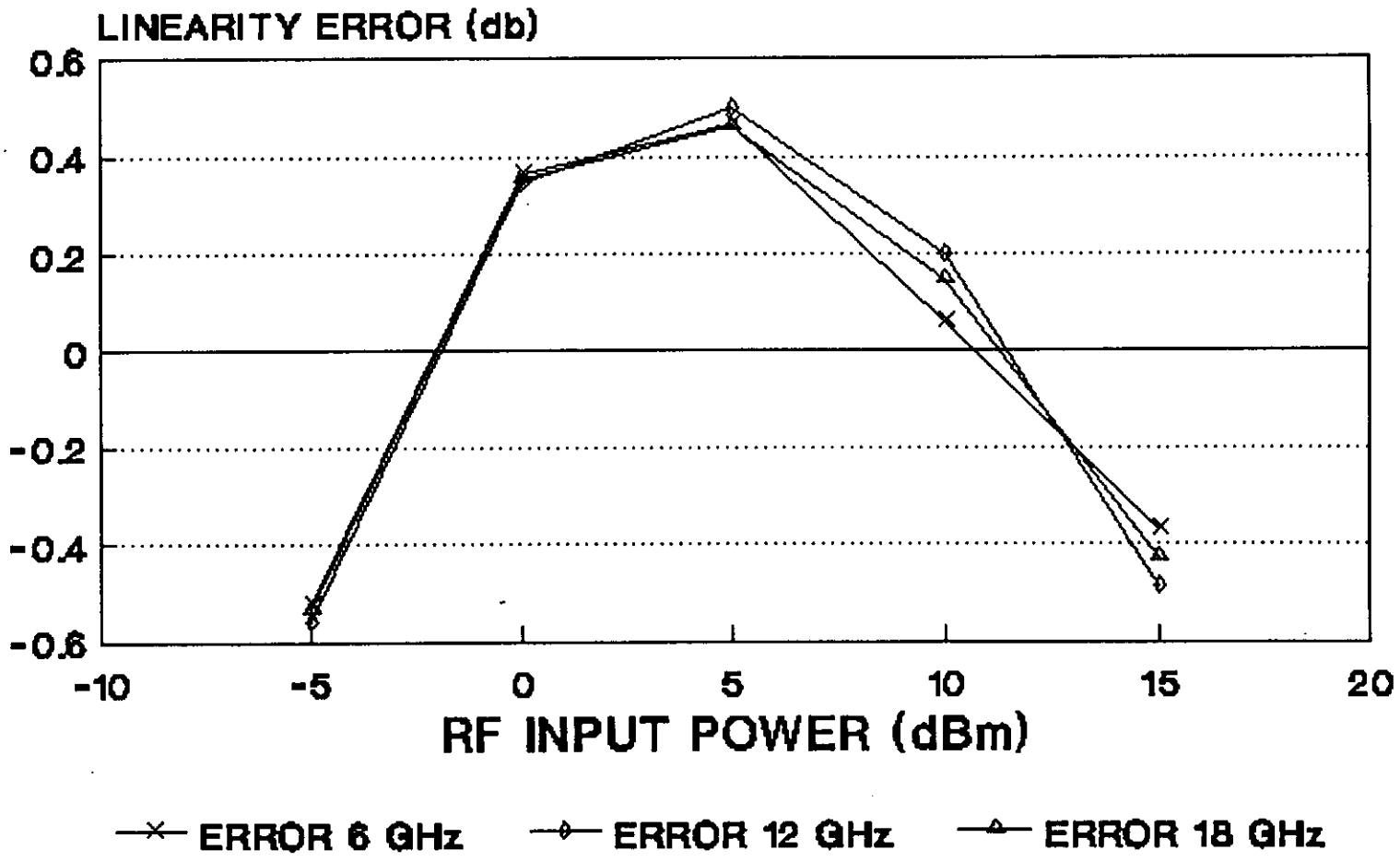
9/22/92

DL20896
LINEARITY ERROR 65 C



9/22/92

DL20896
LINEARITY ERROR 0 C



9/22/92

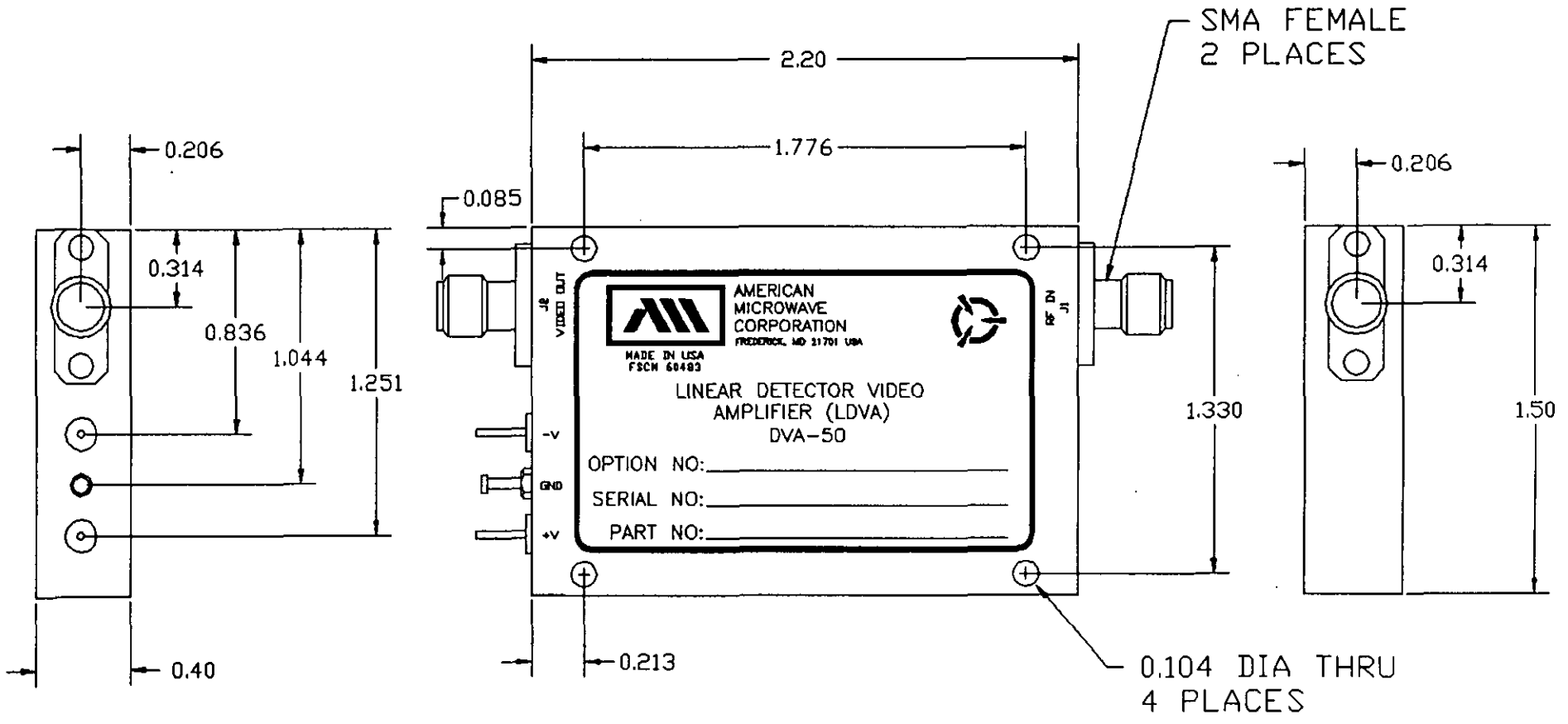
TEST DATA

ON

AMC MODEL NO: DVA-50

SERIAL NO: DL20897

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	09/24/92	



DIMENSIONS: INCHES

TOLERANCES: X.XX ±0.020
TOLERANCES: X.XXX ±0.010

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND		
APPROVALS	DATE	TITLE: LINEAR DETECTOR VIDEO AMPLIFIER (LDVA) AMC MODEL NO: DVA-50		
DRAWN: R.AFABLE	09/24/92			
CHECKED:				
ISSUED		SIZE: A	FSCM NO.: 60483	DWG NO.: 100-2719 REV.: A
		SCALE: 1.5:1		SHEET: 1 of 1

FORM: LDVA-01/0992 AMC JOB NO: 207/96

SUMMARY TEST DATA
ON
LINEAR DETECTOR VIDEO AMPLIFIER--LDVA

CUSTOMER: NORDEN SYSTEMS TESTED BY: B. Baker

MODEL NO: DVA-50

SERIAL NO: DL20897 DATE: 9/24/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	VSWR (6 - 18 GHz)	2.0:1	2.0:1	
2	RISE TIME	70 nS (max)	60nS	
3	FREQUENCY FLATNESS 6 - 18 GHz (REFERRED TO RF INPUT)	±1.5 dB (max)	±1.2dB	
4	TRANSFER LAW LINEARITY 6 - 12 GHz, -5 TO +15 dBm	±0.35 dB (max)	±0.6dB	
5	VIDEO OUTPUT STABILITY 0°C TO +65°C (REFERRED TO RF INPUT)	±0.5 dB (max)	±0.64dB	
6	BASELINE STABILITY	±3 mV (max)	±1.4mV	
7	POSITIVE CURRENT DRAW @ +15V (NO INPUT SIGNAL)	50 mA	16MA	
8	NEGATIVE CURRENT DRAW @ -15V (NO INPUT SIGNAL)	50 mA	16mA	

PRODUCTION MANAGER APPROVAL: _____ DATED: 9-25-92

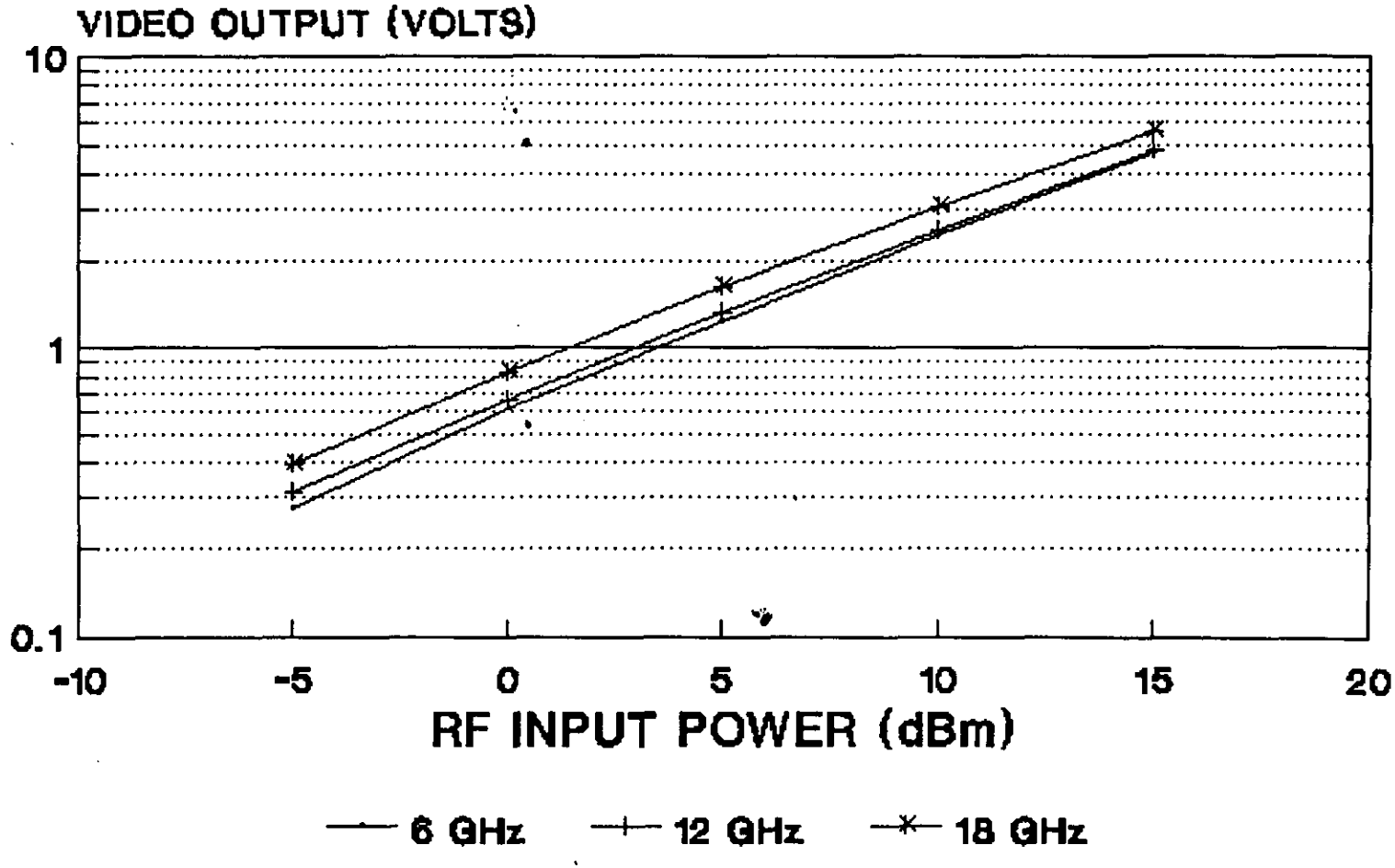
QA/QC APPROVAL: _____ DATED: 9-25-92

SUMMARY TEST DATA
ON
LINEAR DETECTOR VIDEO AMPLIFIER--LDVA

MODEL NO: DVA-50
SERIAL NO: DL20897

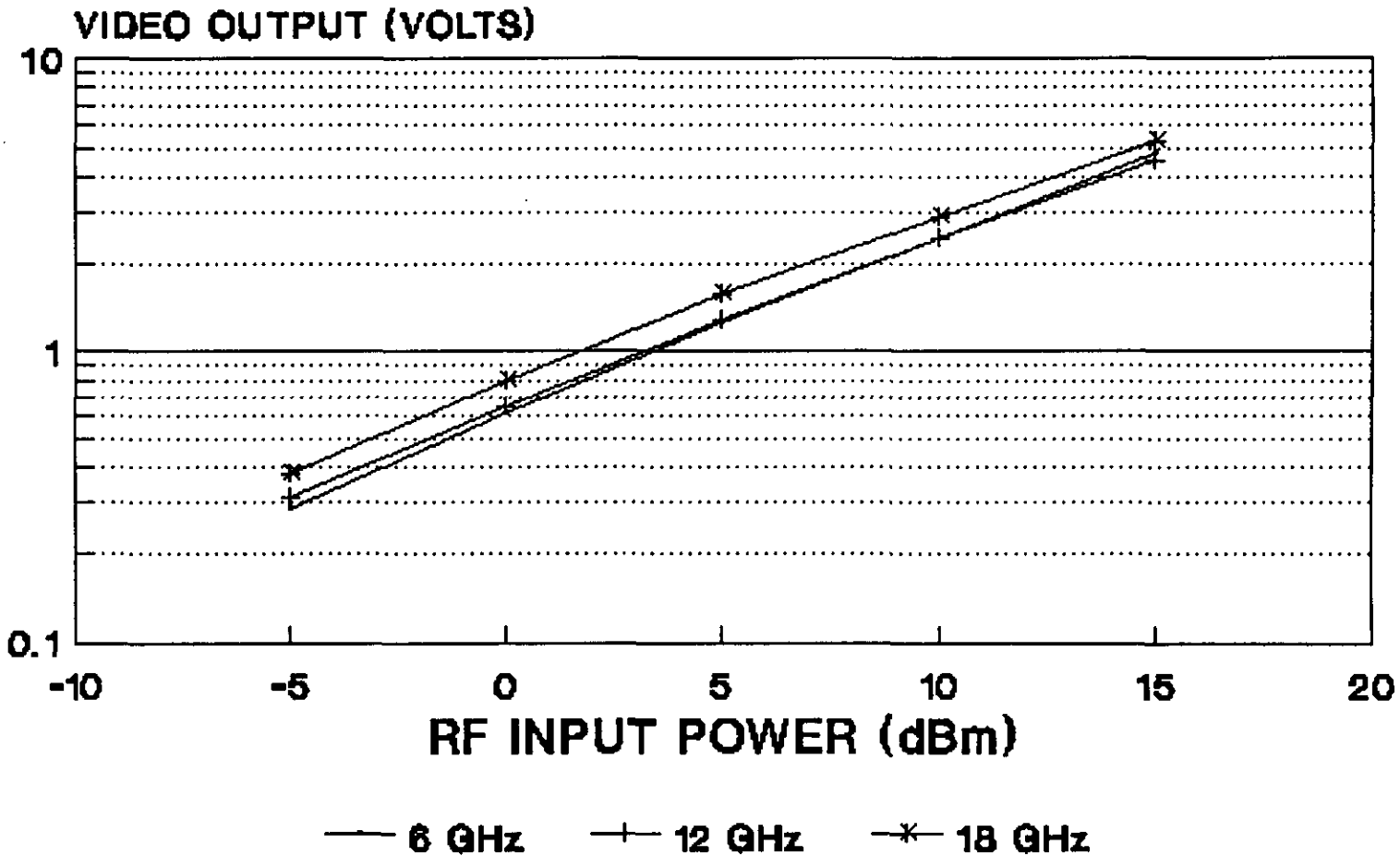
RF INPUT POWER (dBm)	VIDEO OUTPUT (VOLTS)								
	6 GHz, 30°C	12 GHz, 30°C	18 GHz, 30°C	6 GHz, 0°C	12 GHz, 0°C	18 GHz, 0°C	6 GHz, 60°C	12 GHz, 60°C	18 GHz, 60°C
+15	4.7	4.76	5.578	5.084	4.785	5.653	4.809	4.507	5.222
+10	2.442	2.551	3.048	2.5	2.533	3.05	2.463	2.441	2.926
+5	1.245	1.329	1.619	1.216	1.288	1.585	1.250	1.285	1.562
0	0.609	0.661	0.822	0.554	0.609	0.771	0.613	0.649	0.795
−5	0.277	0.313	0.392	0.220	0.258	0.338	0.284	0.312	0.380

DL20897
VIDEO OUTPUT 30 C



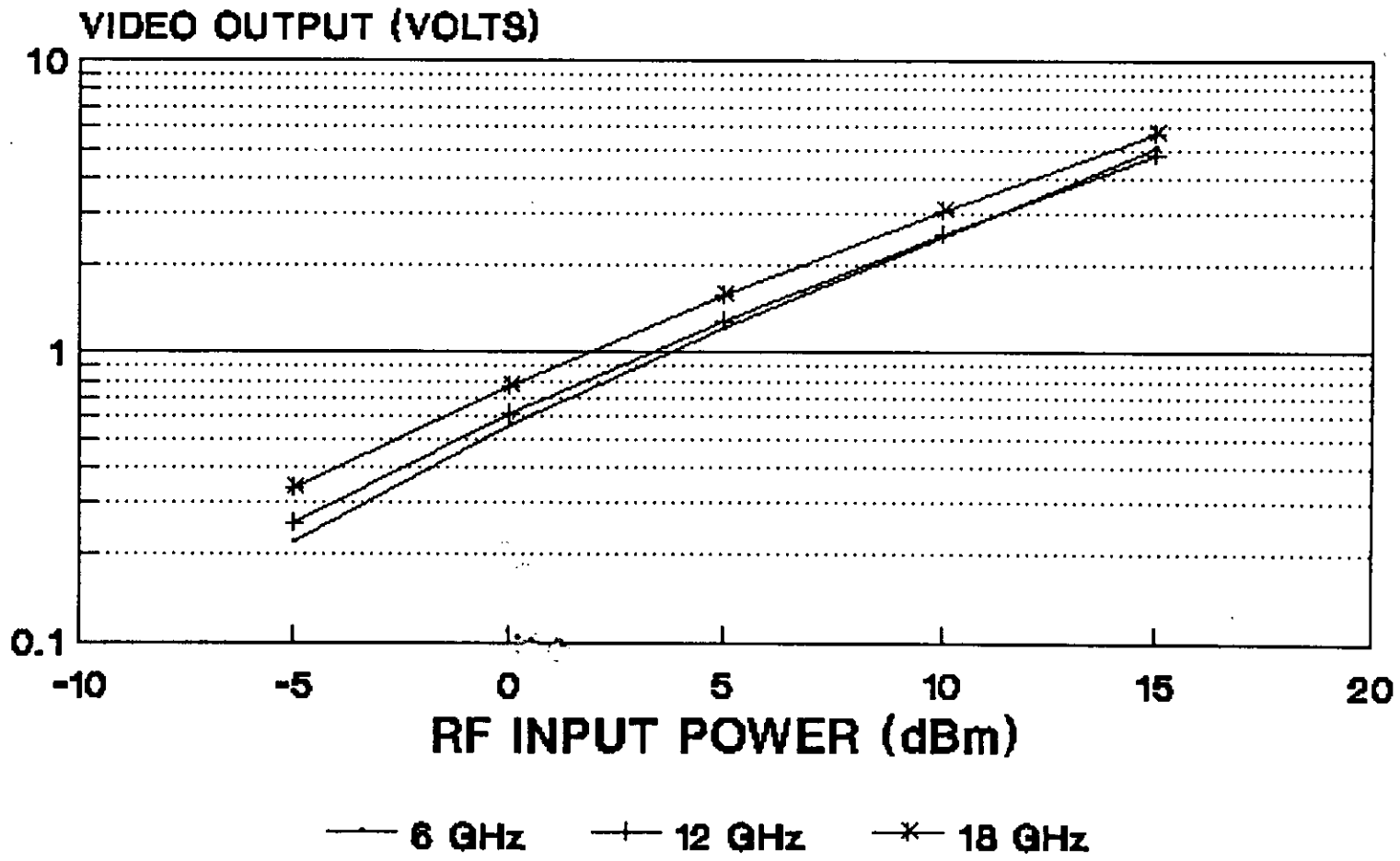
9/22/92

DL20897
VIDEO OUTPUT 65 C

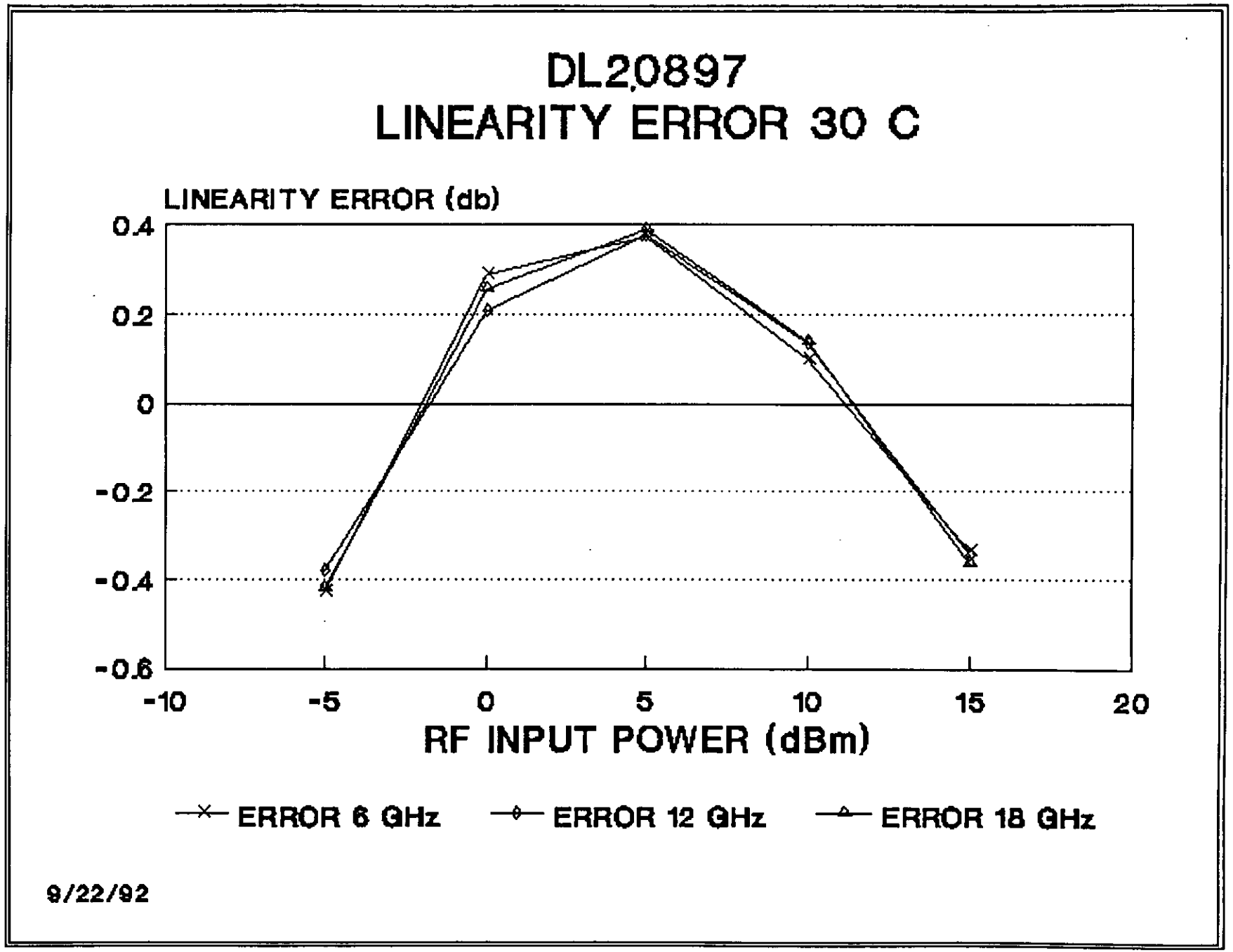


9/22/92

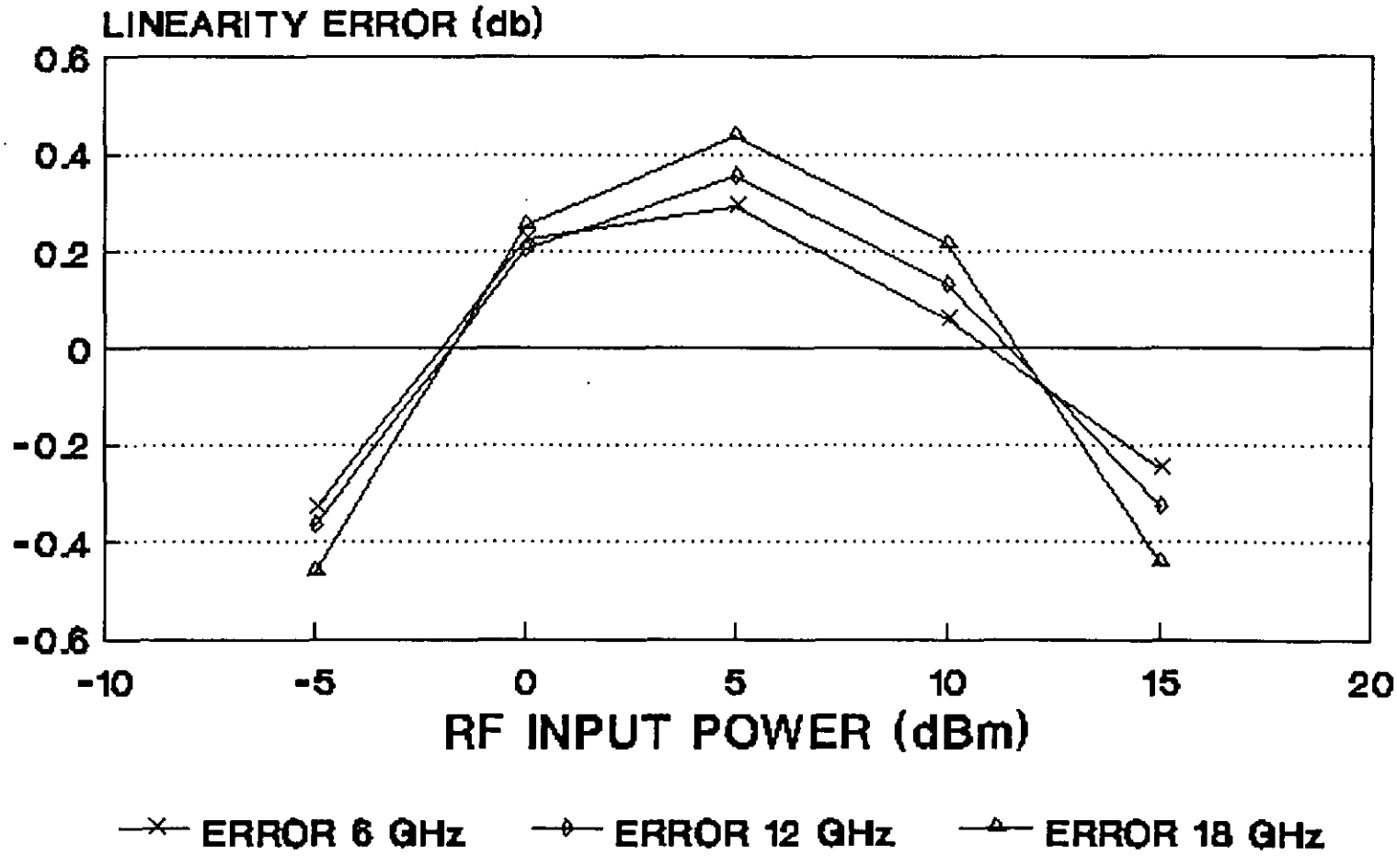
DL20897
VIDEO OUTPUT 0 C



9/22/92

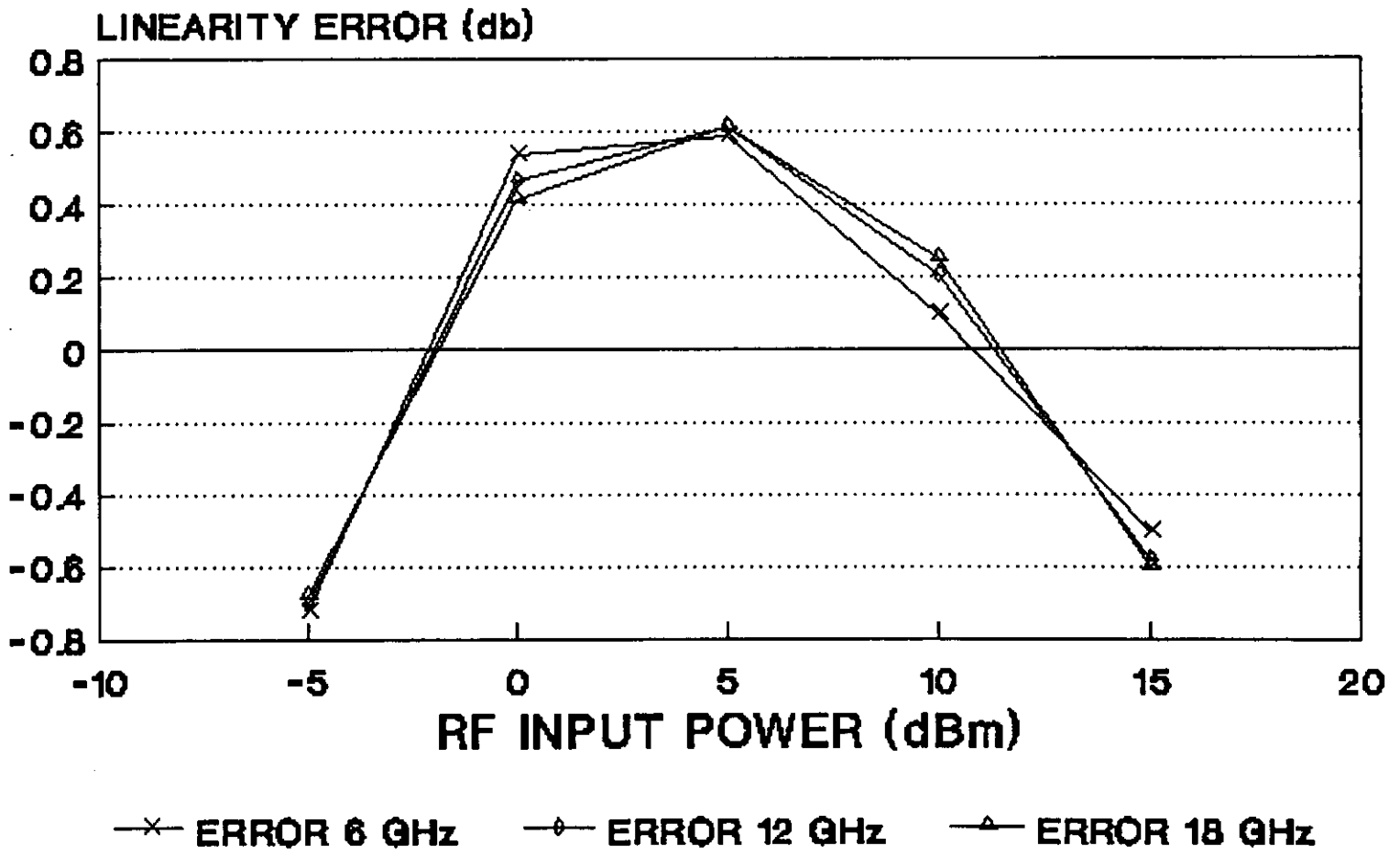

DL20897
LINEARITY ERROR 30 C
LINEARITY ERROR (db)
0.4
0.2
0
-0.2
-0.4
-0.6
-10
-5
0
5
10
15
20
RF INPUT POWER (dBm)
ERROR 6 GHz
ERROR 12 GHz
ERROR 18 GHz
9/22/92

DL20897
LINEARITY ERROR 65 C



9/22/92

DL20897
LINEARITY ERROR 0 C



9/22/92