AMERICAN MICROWAVE CORPORATION

TEST DATA

ON

3 GHz TO 24 GHz

AND

15 GHz TO 24 GHz

ULTRA BROAD BAND

LOW INSERTION LOSS

REFLECTIVE

RECTANGULAR

SP6T

SOLID STATE SWITCH

AMC MODEL No:
MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL

(Serial Number: 6MS007160)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

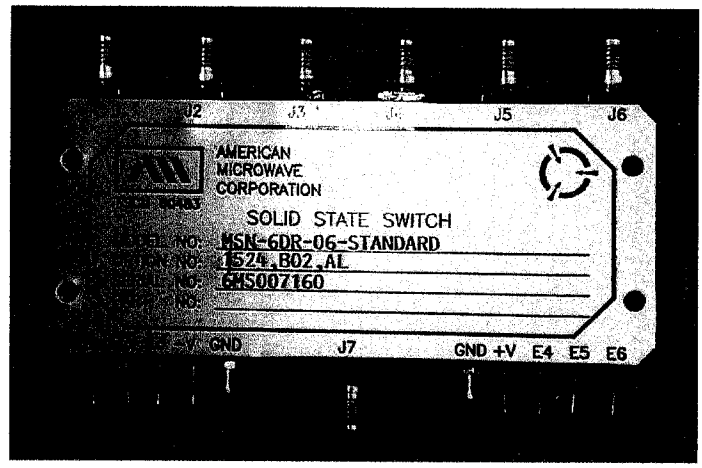
OCTOBER 25, 2000

WEB PAGE: HTTP://WWW.AMWAVE.COM E-MAIL ADDRESS: AMCPMI@AOL.COM

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

AMERICAN MICROWAVE CORPORATION

ULTRA BROAD BAND, LOW INSERTION LOSS, REFLECTIVE SP6T SOLID STATE SWITCH



KEY FEATURES

- 3 GHz TO 24 GHz
- LOW INSERTION LOSS
- HIGH SPEED
- HIGH ISOLATION
- TTL COMPATIBLE

AMC MODEL No: MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL

SPECIFICATIONS: (REFLECTIVE)

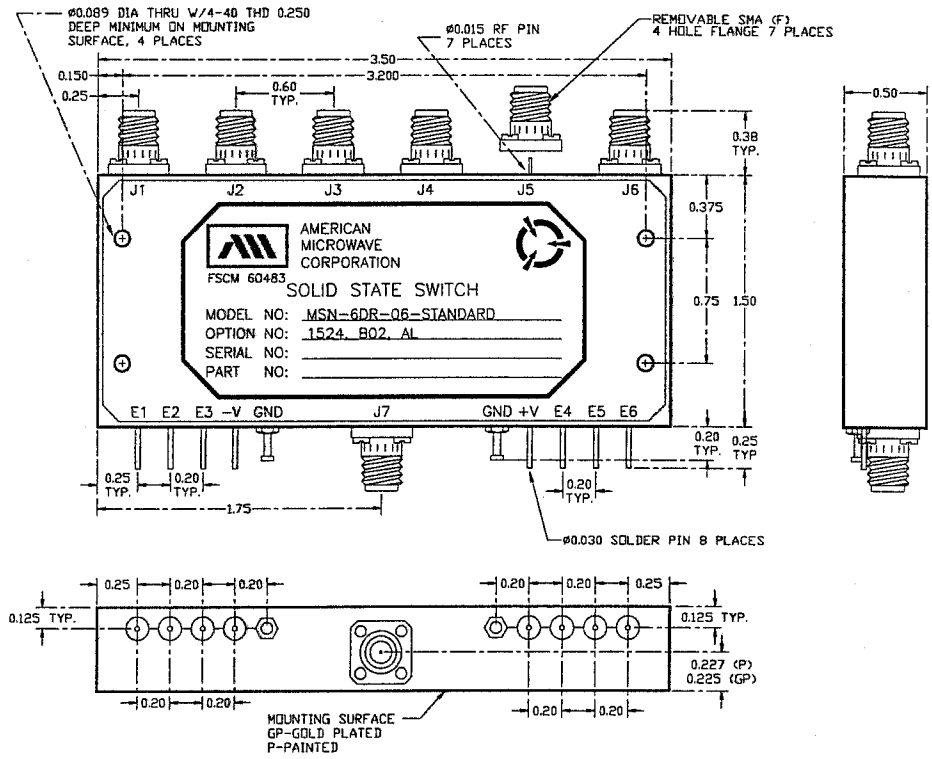
• FREQUENCY RANGE	:	3 GHz to 24 GHz (other frequencies available)
• INSERTION LOSS	:	4.5 dB MAX.
	:	1.80 dB TYP. @ 3 GHz
	:	1.95 dB TYP. @ 8 GHz
	:	2.25 dB TYP. @ 12 GHz
	:	3.25 dB TYP. @ 18 GHz
	:	4.25 dB TYP. @ 24 GHz
• ISOLATION	:	≥ 80 dB MIN.
	:	≥ 80 dB TYP. @ 3 GHz
	:	≥ 70 dB TYP. @ 8 GHz
	:	≥ 70 dB TYP. @ 12 GHz
	:	≥ 70 dB TYP. @ 18 GHz
	:	≥ 50 dB TYP. @ 24 GHz
• VSWR	:	2.2:1
• SWITCHING SPEED	:	"RISE" 15nS MAX., 10nS TYP.
	:	"FALL" 15nS MAX., 10nS TYP.
	:	"ON" 60nS MAX., 40nS TYP.
	:	"OFF" 60nS MAX., 40nS TYP.
• CONTROL	:	Independent Control TTL compatible
• VIDEO TRANSIENT	:	≤225 mV peak to peak at 300 MHz bandwidth
	:	≤95 mV peak to peak at 20 MHz bandwidth
• RF INPUT POWER	:	+20dBm (CW)(other power levels available)
• DC POWER SUPPLY	:	+5vdc @ 300mA MAX.
(Other supply voltages available)	:	-15vdc @ 75mA MAX.
	:	
• SIZE	:	3.5" (L) X 1.5" (W) X 0.5" (H)
• WEIGHT	:	≤4.0 oz. TYPICAL

OCTOBER 25, 2000

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

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**



ALL DIMENSIONS ARE IN INCHES
TOLERANCES:

X.XX	**±0.020**
X.XXX	**±0.010**

ENVIRONMENTAL RATINGS:

- **TEMPERATURE:.....-55°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**

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.

OCTOBER 25, 2000

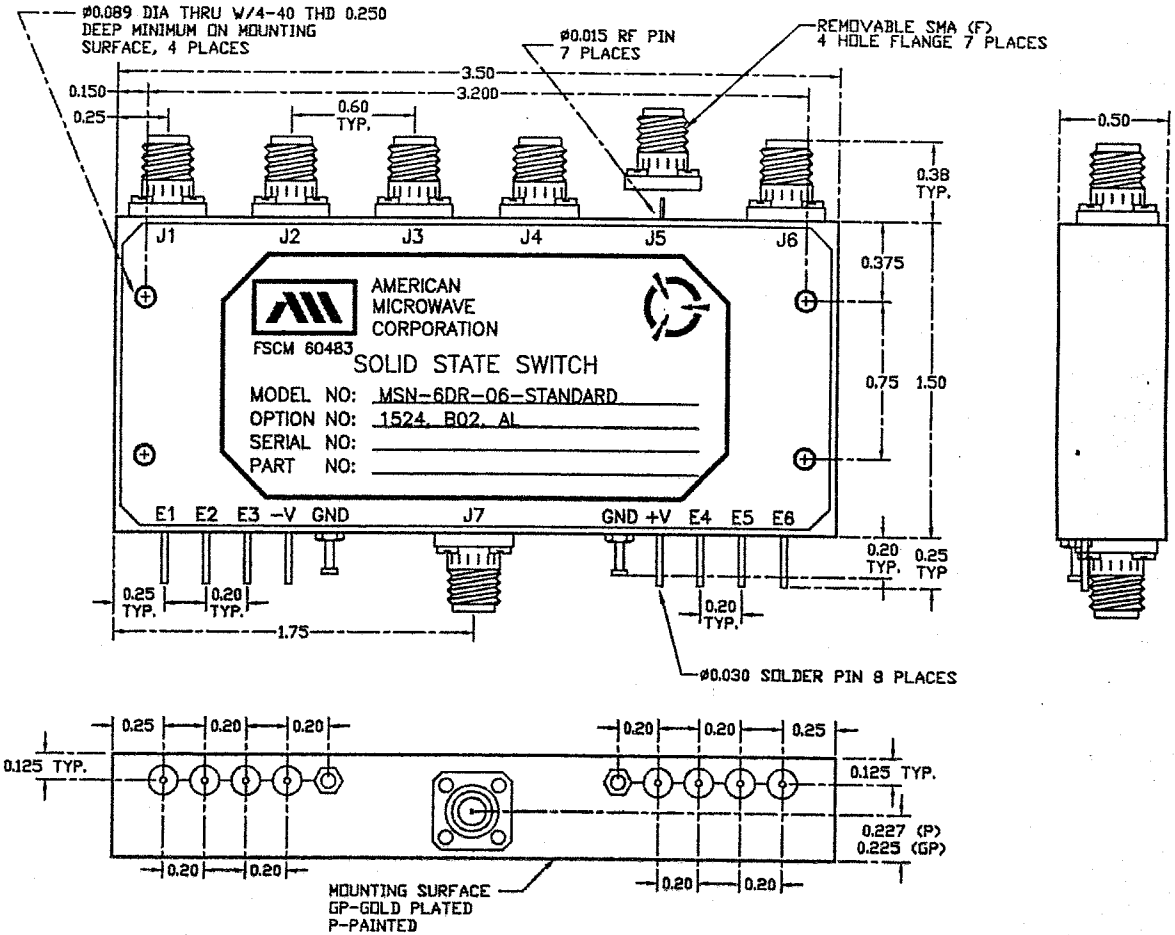
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL JOB# 006126-6	11/04/00	

DESCRIPT

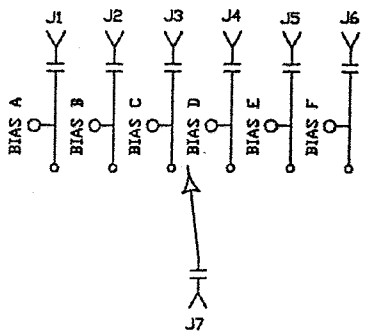
AMC MODEL MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL IS A SINGLE POLE SIX THROW, REFLECTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR 15 GHz TO 24 GHz OPERATIONS.

SPECIFICATIONS:

- FREQUENCY: ..... 15 GHz TO 24 GHz
- INSERTION LOSS: ..... REFLECTIVE: 4.5db
- ISOLATION: ..... 15 GHz TO 24 GHz: 50db
- VSWR: ..... REFLECTIVE IN/OUT: 2.0:1
- SPEED: ..... RISE: 10ns TYPICAL, 15ns MAX.
  FALL: 10ns TYPICAL, 15ns MAX.
  DELAY ON: 75ns TYPICAL, 100ns MAX.
  DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: ..... (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: ..... 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: ..... TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: ..... +5V @ 300 mA MAX.
  -15V @ 75mA MAX.(RELECTIVE)
- SIZE: ..... 3.5" (L) X 1.5" (W) X 0.5" (H)
- WEIGHT: ..... 4.5 OZ TYPICAL



BLOCK DIAGRAM



ENVIRONMENTAL RATINGS:

- TEMPERATURE: ..... -55°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WFP & RRA	11/04/00
CHECKED		11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
MSN-6DR-06-STANDARD
OPTIONS 1524, B02, AL
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-5798	

SCALE N/S SHEET 1 of 3

REVISIONS				
ZONE	REV.	DESCRIPTION	ATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

DESCRIPTI

AMC MODEL M-...-6DR/DT-06-STANDARD IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ..... REFLECTIVE: 3.5db
  ABSORPTIVE: 4.25db
- ISOLATION: ..... 0.5 GHz TO 2 GHz: 60db
  2 GHz TO 18 GHz: 70db
- VSWR: ..... REFLECTIVE IN/OUT: 2.0:1
  ABSORPTIVE IN/OUT: 2.0:1
  ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: ..... RISE: 10ns TYPICAL, 15ns MAX.
  FALL: 10ns TYPICAL, 15ns MAX.
  DELAY ON: 75ns TYPICAL, 100ns MAX.
  DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: ..... (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: ..... 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: ..... TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: ..... +5V @ 300 mA MAX.
  -5V @ 75mA MAX.(RELECTIVE)
  100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: ..... 3.5" (L) X 1.5" (W) X 0.5" (H)
- WEIGHT: ..... 4.5 OZ TYPICAL

OPTIONS:

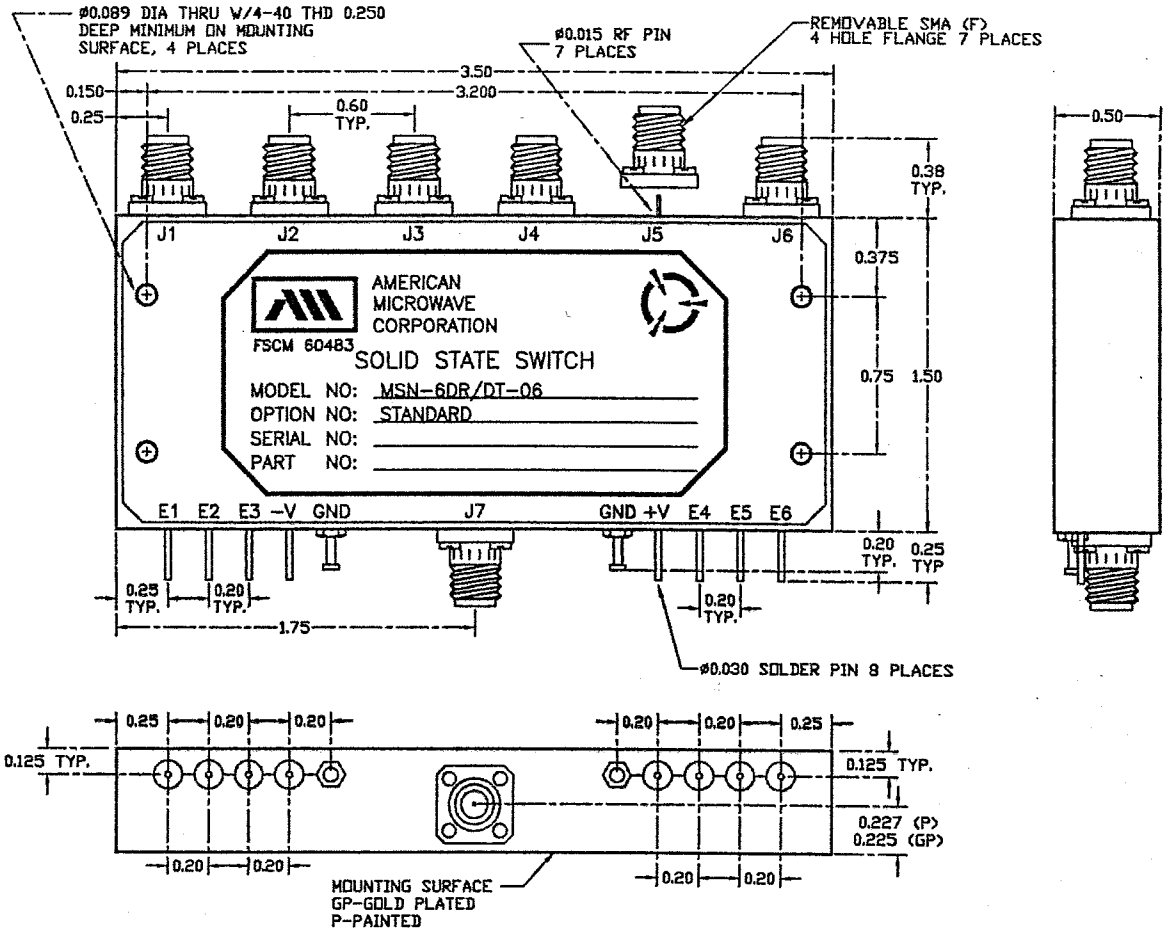
INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

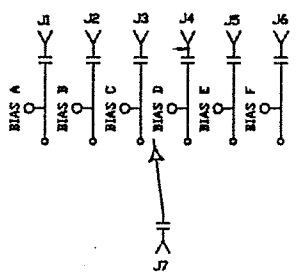
ENVIRONMENTAL RATINGS:

- TEMPERATURE: ..... -55°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



BLOCK DIAGRAM



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

NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONFIDENTIAL AND PROPRIETARY

PART NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
APPROVALS	DATE	TITLE	PRODUCT FEATURE MSN-6DR/DT-06-STANDARD REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SOLID STATE SWITCH
DRAWN WYP & RRA	11/04/00		
CHECKED DA	11/6/00		
ISSUED	11/6/00	SIZE A / FSCM NO. 60483 / DWG NO. 100-4296-1 / REV.	
		SCALE N/S	SHEET 1 of 3

PAGE 5 (T41-S-RA-1000)

REVISIONS				
ZONE	REV.	DESCRIPTION	ATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

DESCRIPTI

AMC MODEL 6DR/DT-06-DEC-MP IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. -5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.5" (H)
WEIGHT:	4.5 OZ TYPICAL

OPTIONS:

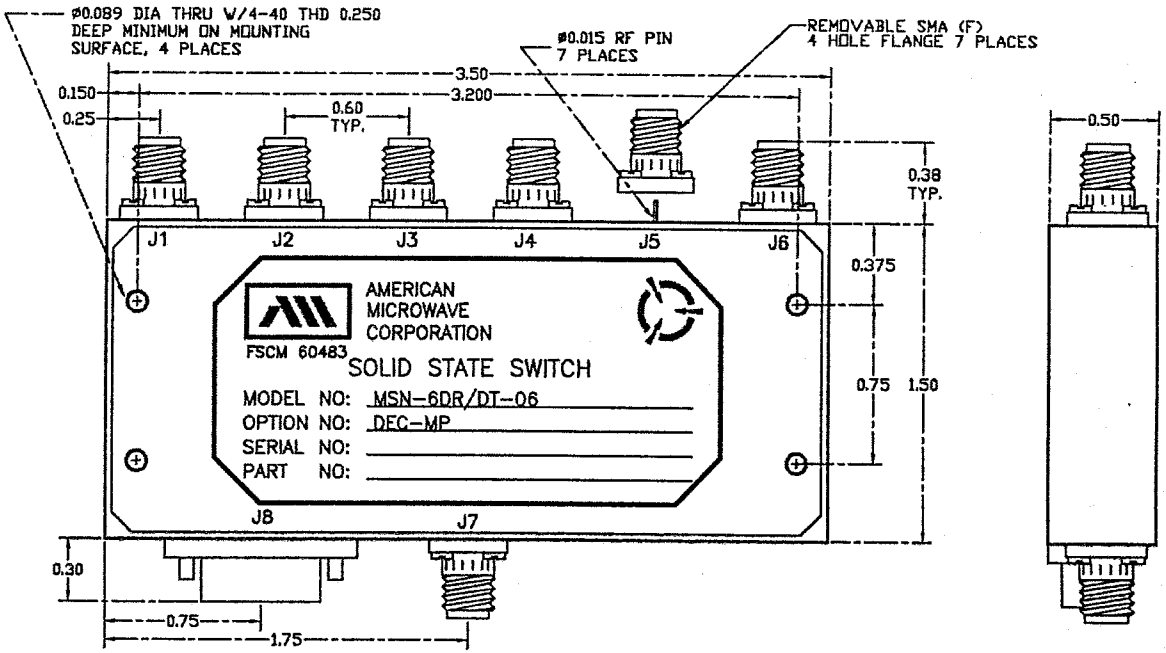
INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

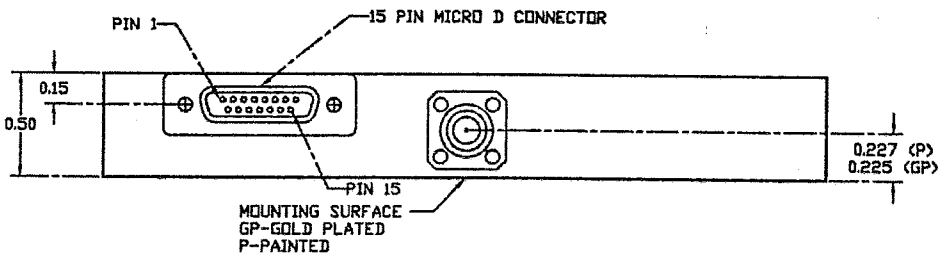
DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

ENVIRONMENTAL RATINGS:

TEMPERATURE:	-55°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

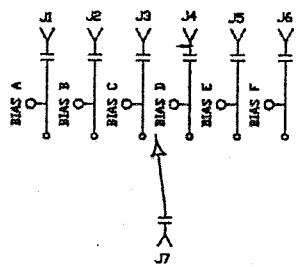
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION





PIN OUT TABLE 3 BIT DECODER	
PIN NO.	FUNCTION
1	E1
2	E2
3	E3
4	N/C
5	N/C
6	N/C
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	GND
13	+V
14	-V
15	GND

BLOCK DIAGRAM



NOTE:

DR=WITH DRIVER, REFLECTIVE

DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

ALL DIMENSIONS ARE IN INCHES

TOLERANCES:

X.XX ±0.020

X.XXX ±0.010

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WJP & RRA	11/04/00
CHECKED		11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
MSN-6DR/DT-06-DEC-MP
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4296-2	
SCALE N/S		SHEET 1 of 3	

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

DESCRIPT

AMC MODEL MSN-6DR/DT-06-DEC-SP IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. -5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.5" (H)
WEIGHT:	4.5 OZ TYPICAL

OPTIONS:

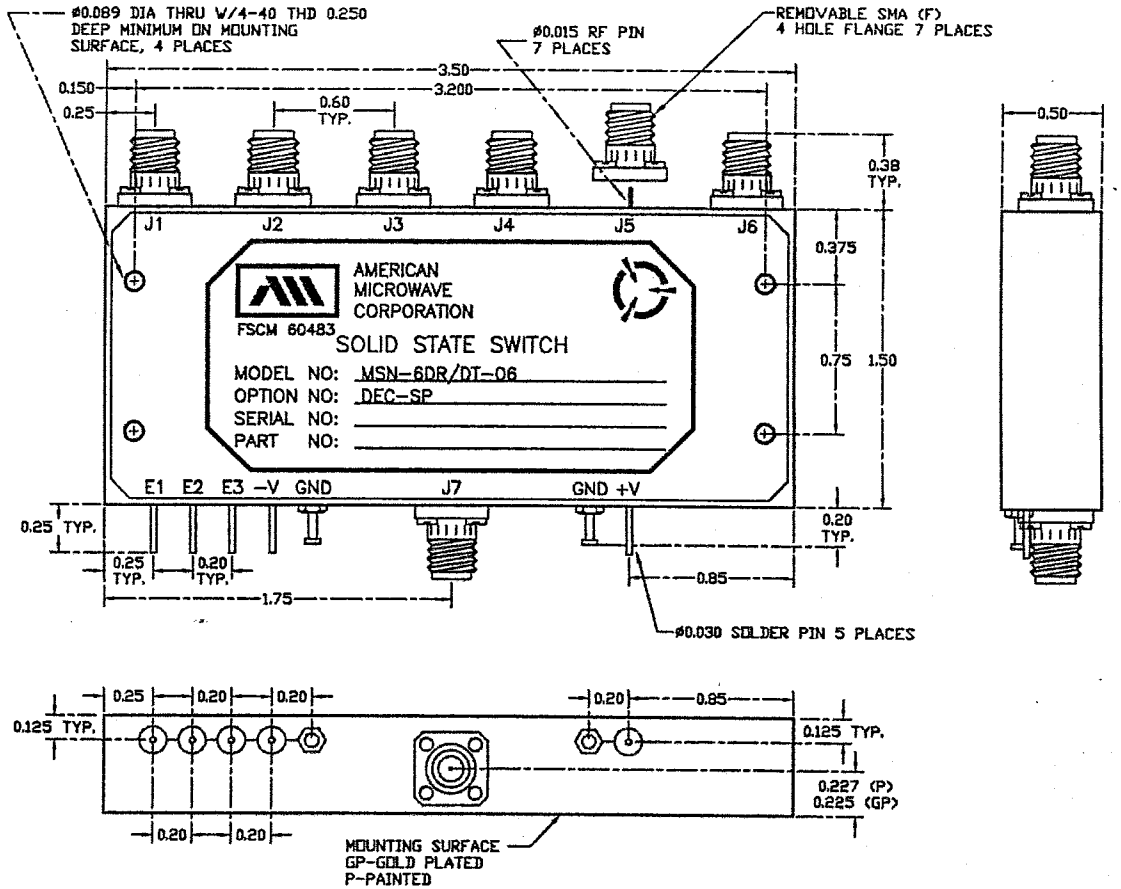
INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

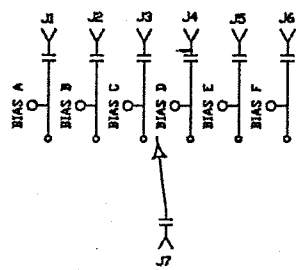
ENVIRONMENTAL RATINGS:

TEMPERATURE:	-55°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



BLOCK DIAGRAM



NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

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

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WSP & RRA	11/04/00
CHECKED		11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
MSN-6DR/DT-06-DEC-SP
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4296-3	

SCALE N/S SHEET 1 of 3

DESCRIP

AMC MODEL ...SN-6DR/DT-06-MP-IND IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. -5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.5" (H)
WEIGHT:	4.5 OZ TYPICAL

OPTIONS:

INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

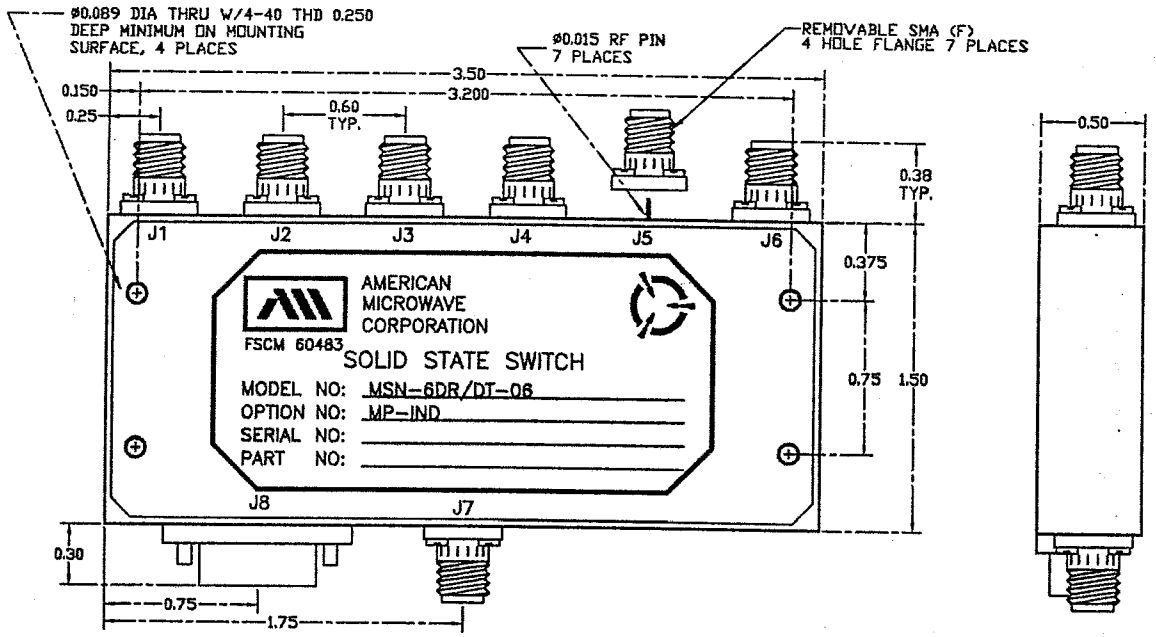
DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

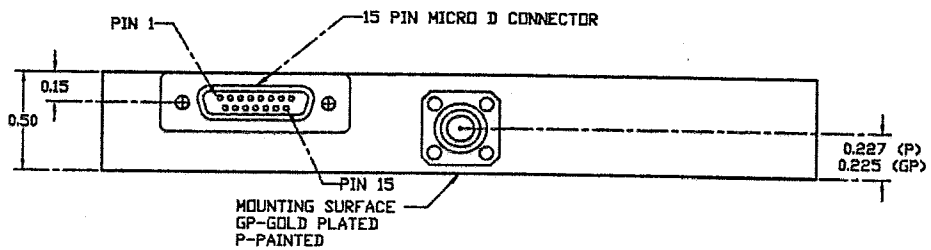
ENVIRONMENTAL RATINGS:

TEMPERATURE:	-55°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

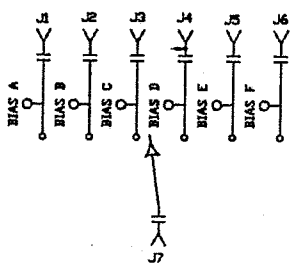
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/04/00	





PIN OUT TABLE MP-IND	
PIN NO.	FUNCTION
1	E1
2	E2
3	E3
4	E4
5	E5
6	E6
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	GND
13	+V
14	-V
15	GND

BLOCK DIAGRAM



NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

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

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WPP & RRA	11/04/00
CHECKED	PA	11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
MSN-6DR/DT-06-MP-IND
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4296-4	

SCALE N/S SHEET 1 of 3

DESCRIPTIO

AMC MODEL N -6DR/DT-06-STANDARD IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ..... REFLECTIVE: 3.5db
  ABSORPTIVE: 4.25db
- ISOLATION: ..... 0.5 GHz TO 2 GHz: 60db
  2 GHz TO 18 GHz: 70db
- VSWR: ..... REFLECTIVE IN/OUT: 2.0:1
  ABSORPTIVE IN/OUT: 2.0:1
  ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: ..... RISE: 10ns TYPICAL, 15ns MAX.
  FALL: 10ns TYPICAL, 15ns MAX.
  DELAY ON: 75ns TYPICAL, 100ns MAX.
  DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: ..... (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: ..... 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: ..... TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: ..... +5V @ 300 mA MAX.
  -5V @ 75mA MAX.(RELECTIVE)
  100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: ..... 3.5" (L) X 1.5" (W) X 0.4" (H)
- WEIGHT: ..... 4.5 OZ TYPICAL

OPTIONS:

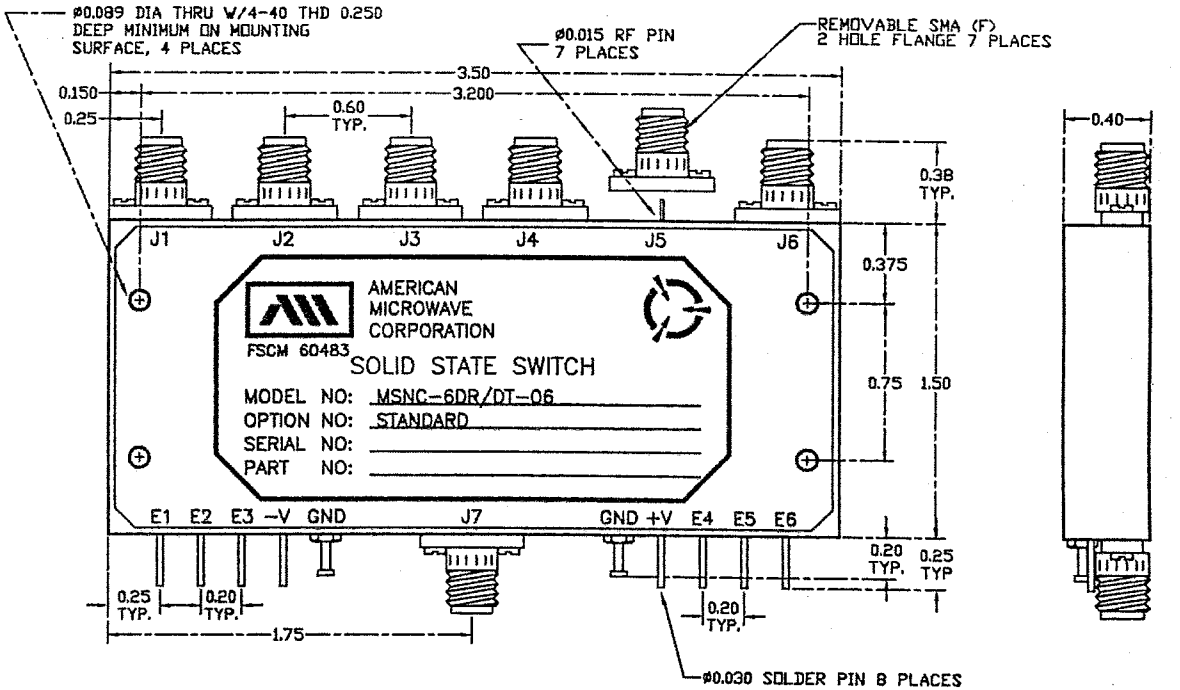
INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

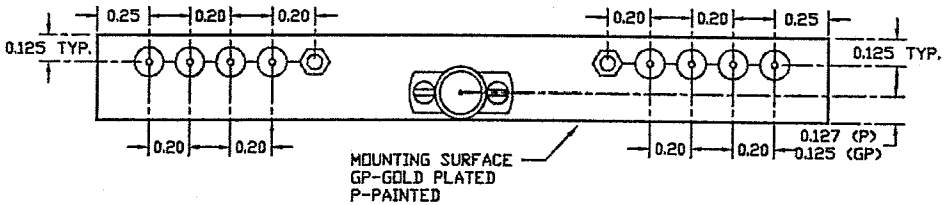
DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

ENVIRONMENTAL RATINGS:

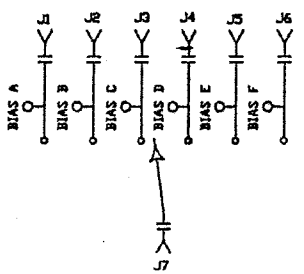
- TEMPERATURE: ..... -55°C TO +85°C (OPERATING)
  -65°C TO +125°C (STORAGE)
- HUMIDITY: ..... MIL-STD-202F, METHOD 103B COND. B
- SHOCK: ..... MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: ..... MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: ..... MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: ..... MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION





BLOCK DIAGRAM



NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

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

CONFIDENTIAL AND PROPRIETARY

PART NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND		
APPROVALS	DATE	TITLE: PRODUCT FEATURE MSNC-6DR/DT-06-STANDARD REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SOLID STATE SWITCH		
DRAWN WSP & RRA	11/04/00			
CHECKED	11/6/00			
ISSUED	11/6/00	SIZE A	FSCM NO. 60483	DWG NO. 100-4299-1 REV.
		SCALE N/S		SHEET 1 of 3

DESCRIPTION

AMC MODEL [redacted]-6DR/DT-06-DEC-MP IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. -5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.4" (H)
WEIGHT:	4.5 OZ TYPICAL

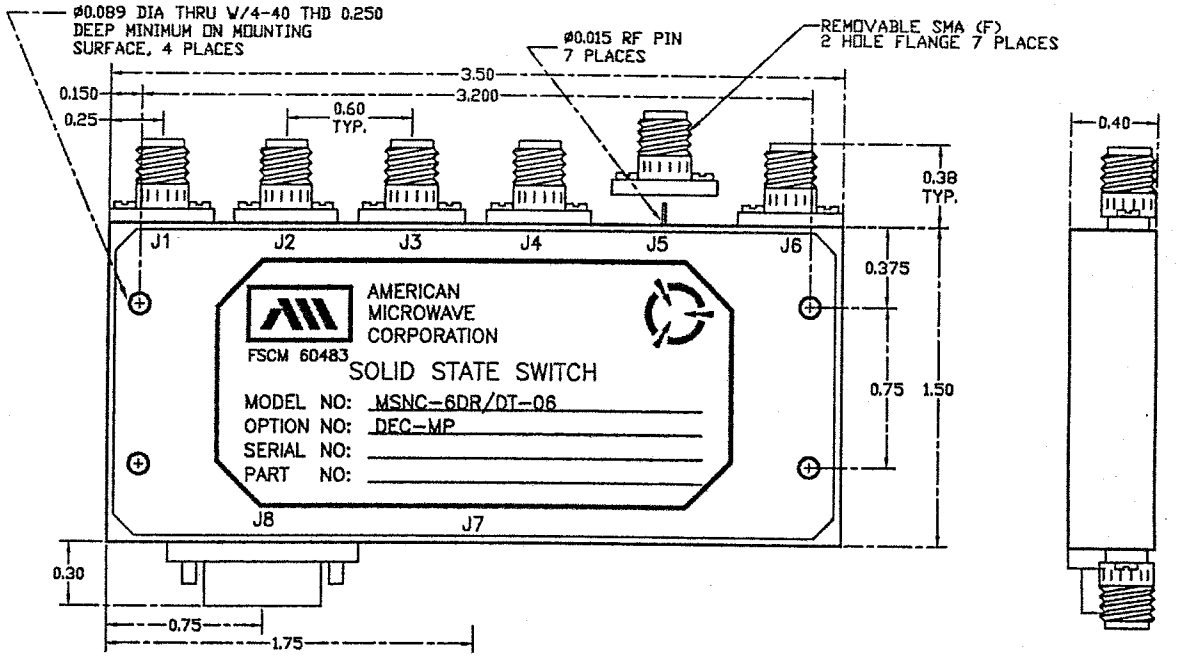
OPTIONS:

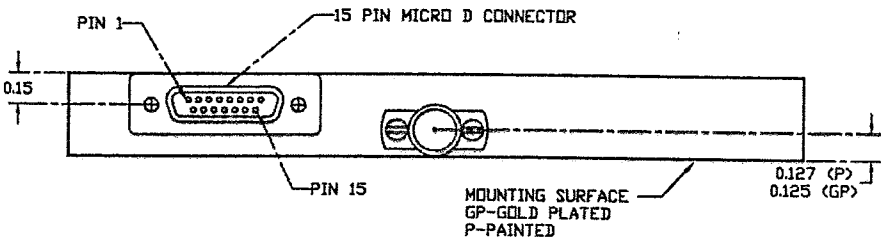
	INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

ENVIRONMENTAL RATINGS:

TEMPERATURE:	-55°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

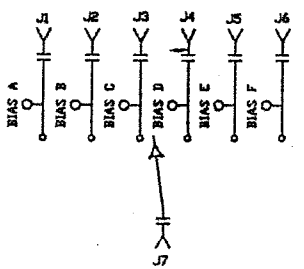
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION





PIN OUT TABLE 3 BIT DECODER	
PIN NO.	FUNCTION
1	E1
2	E2
3	E3
4	N/C
5	N/C
6	N/C
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	GND
13	+V
14	-V
15	GND

BLOCK DIAGRAM



NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

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

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WYP & RRA	11/06/00
CHECKED		11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE
PRODUCT FEATURE
MSNC-6DR/DT-06-DEC-MP
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4299-2	

SCALE N/S SHEET 1 of 3

PAGE 10 (T41-S-RA-1000)

DESCRIPTION:

AMC MODEL NO. MSNC-6DR/DT-06-DEC-SP IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/04/00	

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. −5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.4" (H)
WEIGHT:	4.5 OZ TYPICAL

OPTIONS:

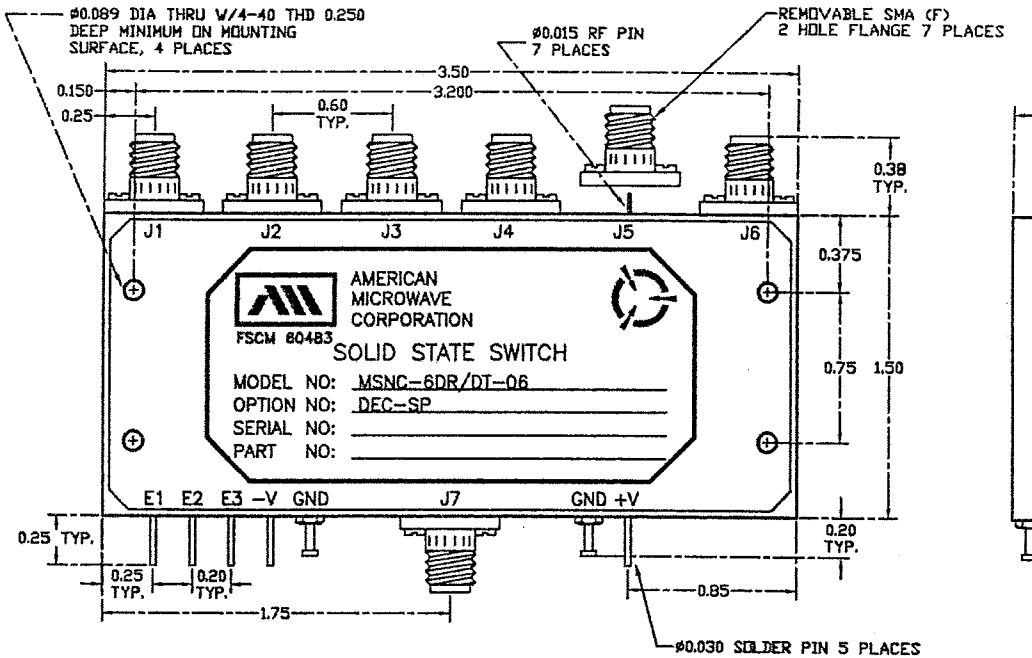
INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	−12V POWER SUPPLIES
B02	−15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER − SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT− SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS − SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

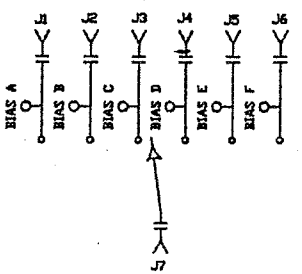
ENVIRONMENTAL RATINGS:

TEMPERATURE:	−55°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



BLOCK DIAGRAM



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

NOTE:
DR=WITH DRIVER, REFLECTIVE
DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONFIDENTIAL AND PROPRIETARY

PART NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND		
APPROVALS	DATE	TITLE: PRODUCT FEATURE MSNC-6DR/DT-06-DEC-SP REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SOLID STATE SWITCH		
DRAWN WSP & RRA	11/04/00	SIZE A	FSCM NO. 60483	DWG NO. 100-4299-3 REV.
CHECKED	11/6/00	SCALE N/S		SHEET 1 of 3
ISSUED	11/6/00			

PAGE 11 (T41-S-RA-1000)

DESCRIPTION

AMC MODEL MSNC-6DR/DT-06-MP-IND IS A SINGLE POLE SIX THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	11/08/00	

SPECIFICATIONS:

FREQUENCY:	0.5 GHz TO 18 GHz
INSERTION LOSS:	REFLECTIVE: 3.5db ABSORPTIVE: 4.25db
ISOLATION:	0.5 GHz TO 2 GHz: 60db 2 GHz TO 18 GHz: 70db
VSWR:	REFLECTIVE IN/OUT: 2.0:1 ABSORPTIVE IN/OUT: 2.0:1 ABSORPTIVE OUT/OFF: 2.0:1
SPEED:	RISE: 10ns TYPICAL, 15ns MAX. FALL: 10ns TYPICAL, 15ns MAX. DELAY ON: 75ns TYPICAL, 100ns MAX. DELAY OFF: 75ns TYPICAL, 100ns MAX.
POWER INPUT:	(CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
SURVIVAL POWER:	1 WATT CW, 10 WATTS PEAK 1 usec
CONTROL:	TTL LOGIC "0"=ON "1"=OFF
POWER SUPPLY:	+5V @ 300 mA MAX. -5V @ 75mA MAX.(RELECTIVE) 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
SIZE:	3.5" (L) X 1.5" (W) X 0.4" (H)
WEIGHT:	4.5 OZ TYPICAL

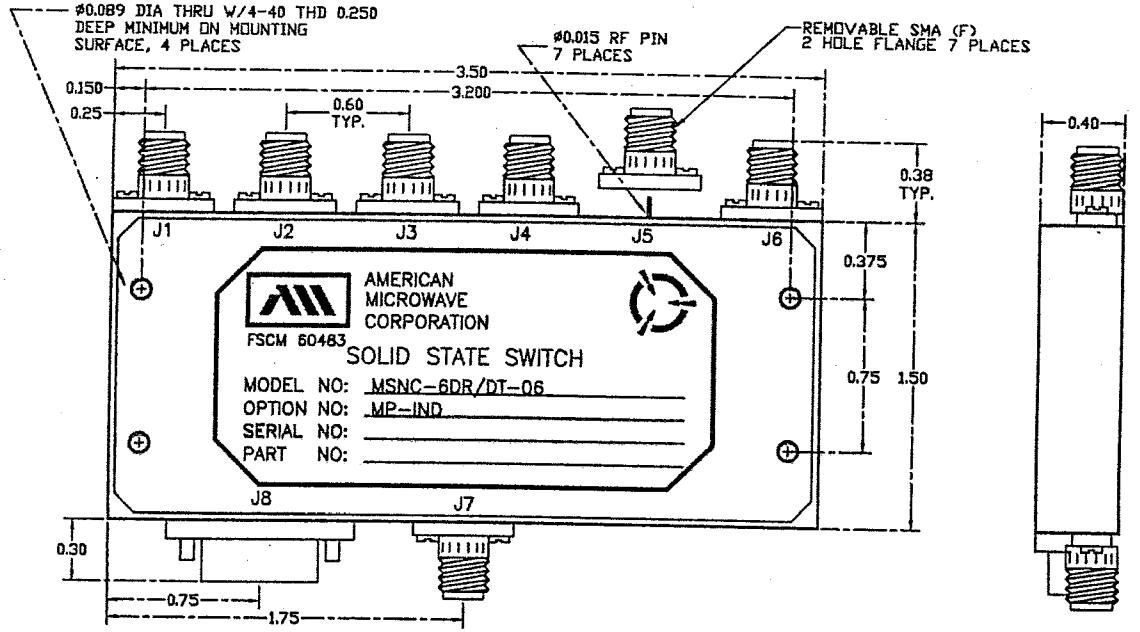
OPTIONS:

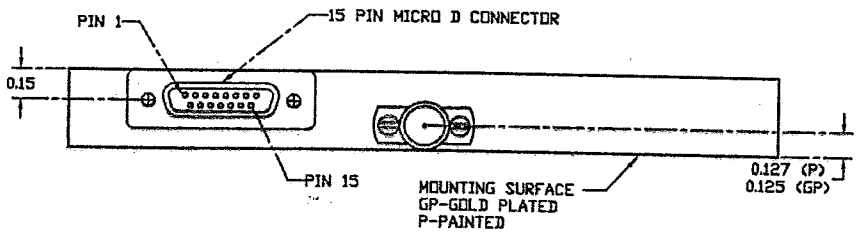
	INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
DEC-MP	3 BIT DECODER WITH MULTIPIN
DEC-SP	3 BIT DECODER WITH SOLDER PIN
MP-IND	INDEPENDENT CONTROL WITH MULTIPIN
10M18	10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18	100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118	1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
218	2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
412	4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
618	6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
1218	12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
100M20	100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
220	2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
1020	10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
B01	-12V POWER SUPPLIES
B02	-15V POWER SUPPLIES
B03	REVERSE LOGIC "1"=ON "0"=OFF
B04	DRIVERLESS, CURRENT CONTROLLED
B05	HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
B06	HIGH POWER – SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
B07	CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
B08	LOW VIDEO TRANSIENTS – SPECIFY VIDEO BANDWIDTH
B09	LOW INSERTION LOSS VERSION
B10	HIGHER ISOLATION VERSION
B11	0.4"THICK VERSION WITH REMOVABLE 2 HOLE FLANGE SMA (F)

ENVIRONMENTAL RATINGS:

TEMPERATURE:	-55°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

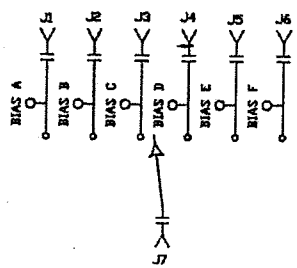
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION





PIN OUT TABLE MP-IND	
PIN NO.	FUNCTION
1	E1
2	E2
3	E3
4	E4
5	E5
6	E6
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	GND
13	+V
14	-V
15	GND

BLOCK DIAGRAM



NOTE:

DR=WITH DRIVER, REFLECTIVE

DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

ALL DIMENSIONS ARE IN INCHES

TOLERANCES:

X.XX ±0.020

X.XXX ±0.010

CONFIDENTIAL AND PROPRIETARY

PART NO.		
APPROVALS		DATE
DRAWN	WSP & RRA	11/08/00
CHECKED		11/6/00
ISSUED		11/6/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
MSNC-6DR/DT-06-MP-IND
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4299-4	

SCALE N/S SHEET 1 of 3

AMERICAN MICROWAVE CORPORATION

TEST DATA

FROM

3 GHz TO 24 GHz

ULTRA BROAD BAND

LOW INSERTION LOSS

REFLECTIVE

RECTANGULAR

SOLID STATE SWITCH

AMC MODEL No:
MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL

(Serial Number: 6MS007160)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

OCTOBER 25, 2000

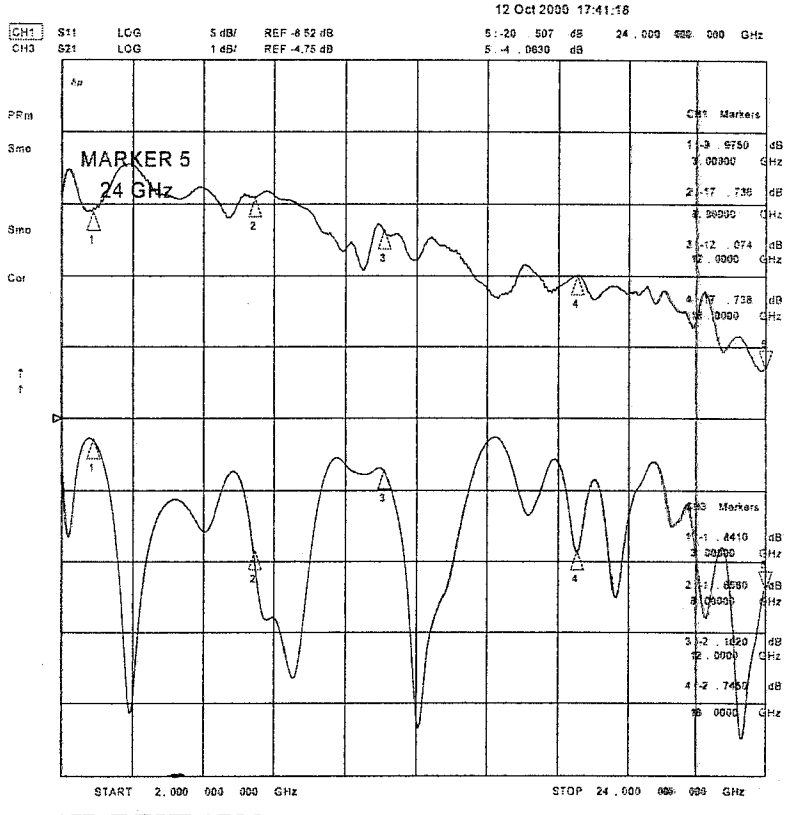
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J1



***J7: INPUT ARM**

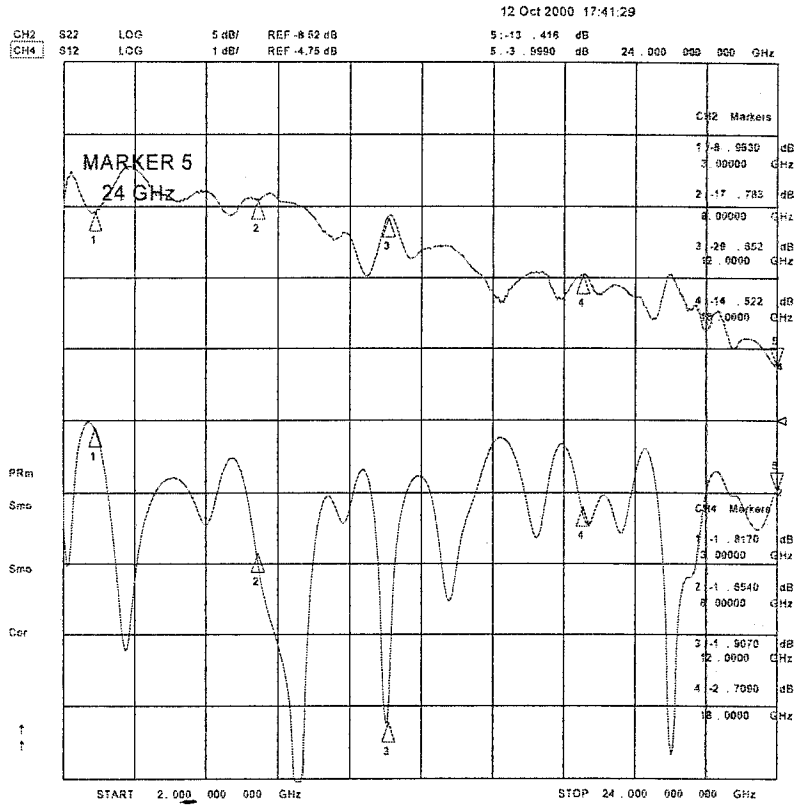
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.64 dB	9.97 dB
8 GHz	1.65 dB	17.73 dB
12 GHz	2.10 dB	12.07 dB
18 GHz	2.74 dB	17.73 dB
24 GHz	4.06 dB	20.50 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J1-J7



***J1: INPUT ARM**

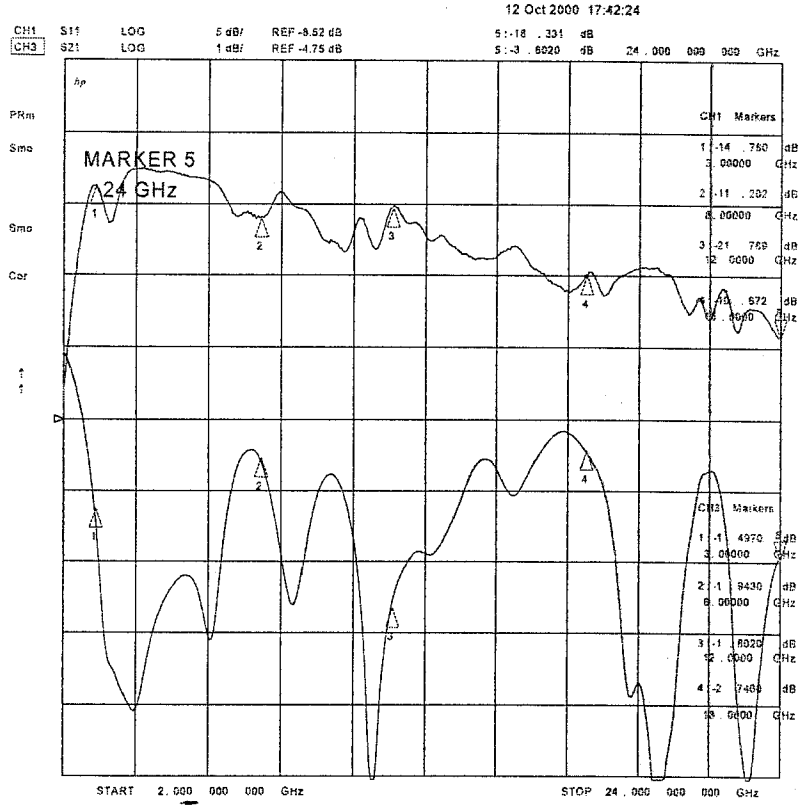
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.81 dB	8.96 dB
8 GHz	1.65 dB	17.78 dB
12 GHz	1.90 dB	29.65 dB
18 GHz	2.70 dB	14.52 dB
24 GHz	3.99 dB	13.41 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J2



***J7: INPUT ARM**

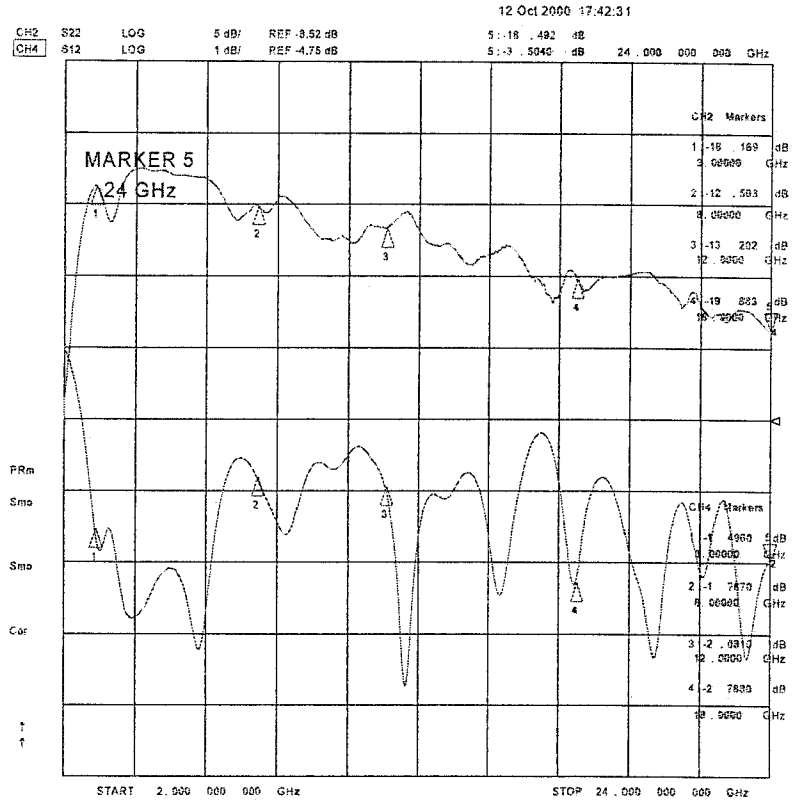
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.49 dB	14.78 dB
8 GHz	1.94 dB	11.20 dB
12 GHz	1.80 dB	21.78 dB
18 GHz	2.74 dB	10.67 dB
24 GHz	3.60 dB	18.33 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J2-J7



***J2: INPUT ARM**

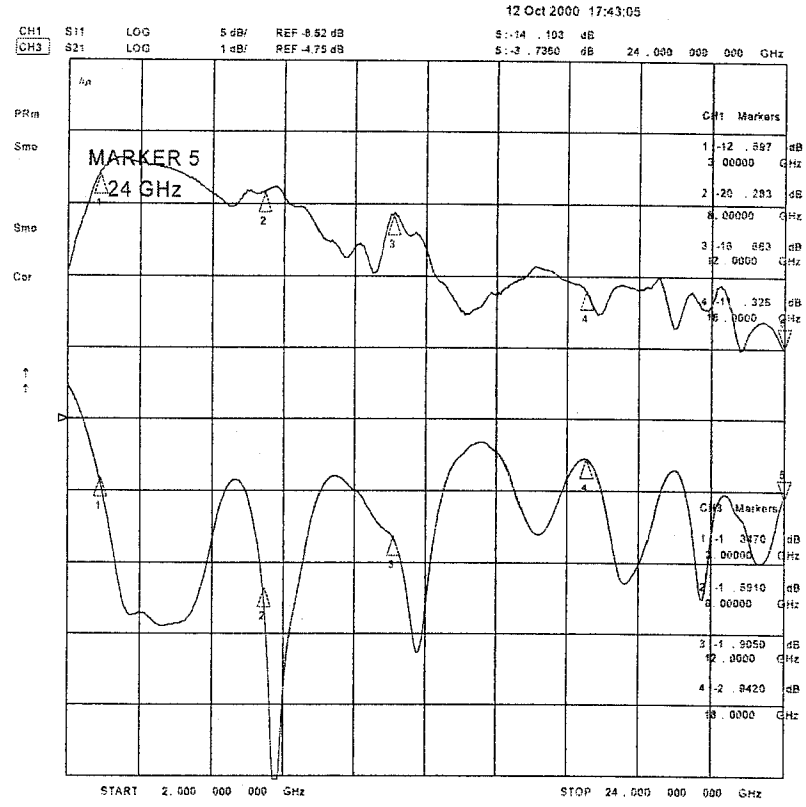
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.49 dB	16.16 dB
8 GHz	1.76 dB	12.56 dB
12 GHz	2.08 dB	13.20 dB
18 GHz	2.78 dB	19.88 dB
24 GHz	3.50 dB	18.49 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J3



***J7: INPUT ARM**

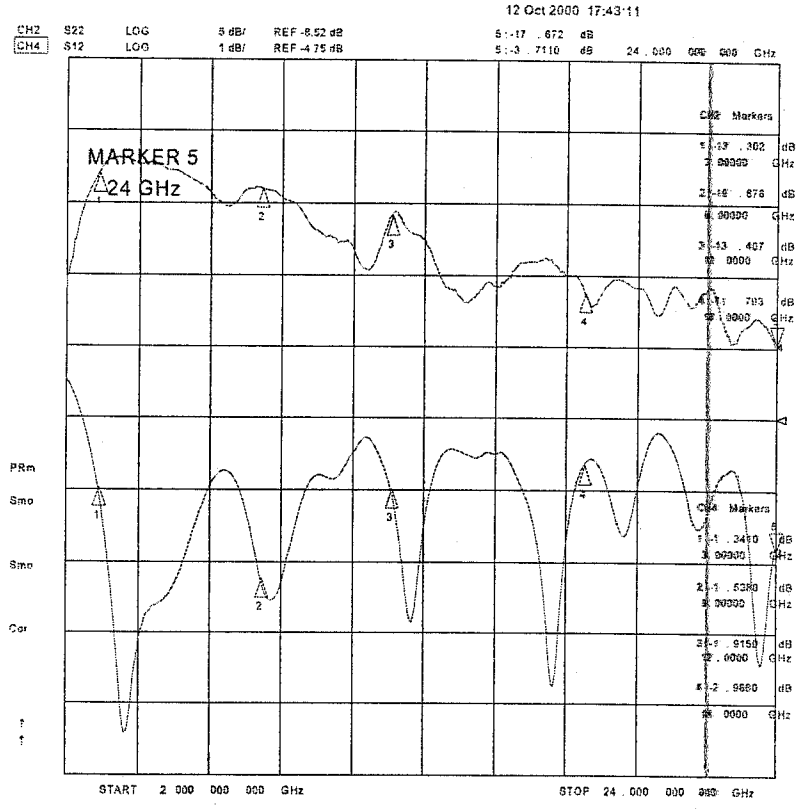
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.34 dB	12.59 dB
8 GHz	1.59 dB	20.28 dB
12 GHz	1.90 dB	16.66 dB
18 GHz	2.94 dB	11.32 dB
24 GHz	3.73 dB	14.10 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J3-J7



***J3: INPUT ARM**

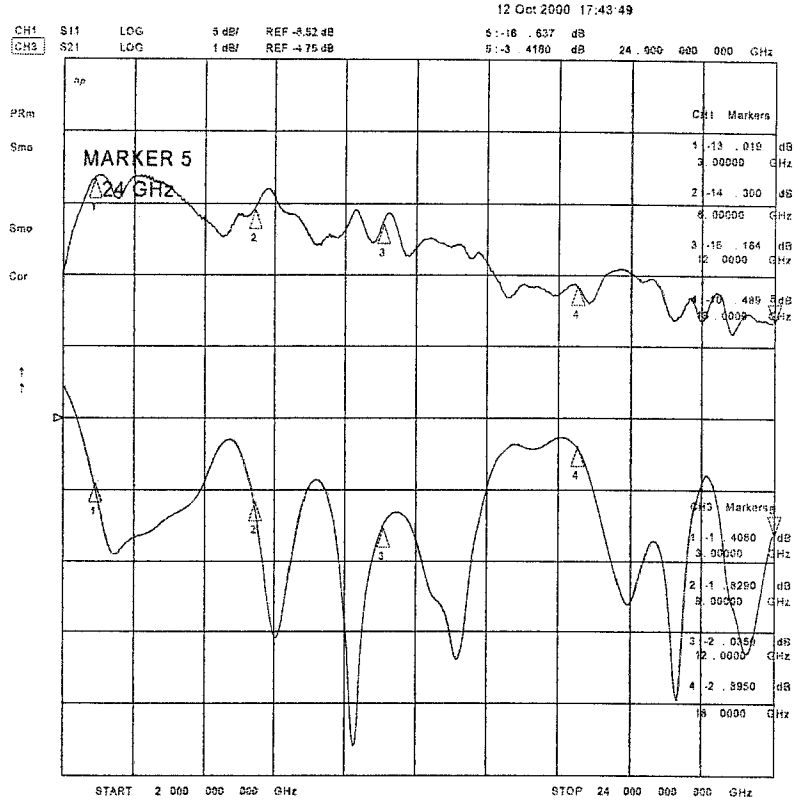
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.34 dB	13.30 dB
8 GHz	1.53 dB	19.67 dB
12 GHz	1.91 dB	13.40 dB
18 GHz	2.98 dB	11.79 dB
24 GHz	3.71 dB	17.67 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J4



***J7: INPUT ARM**

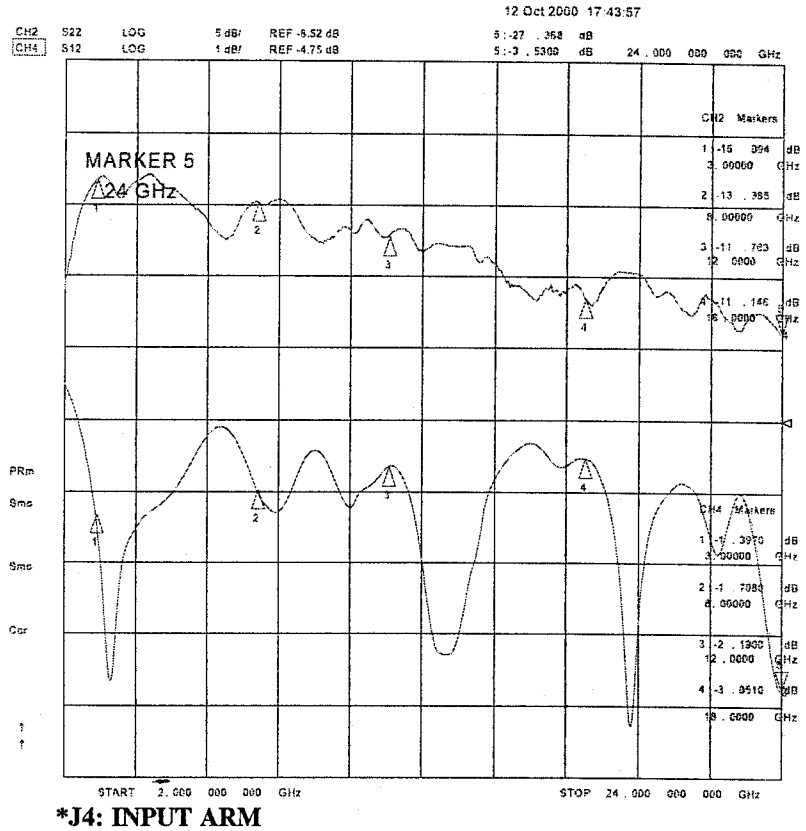
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.40 dB	13.01 dB
8 GHz	1.82 dB	14.30 dB
12 GHz	2.03 dB	16.18 dB
18 GHz	2.89 dB	10.48 dB
24 GHz	3.41 dB	16.63 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J4-J7



***J4: INPUT ARM**

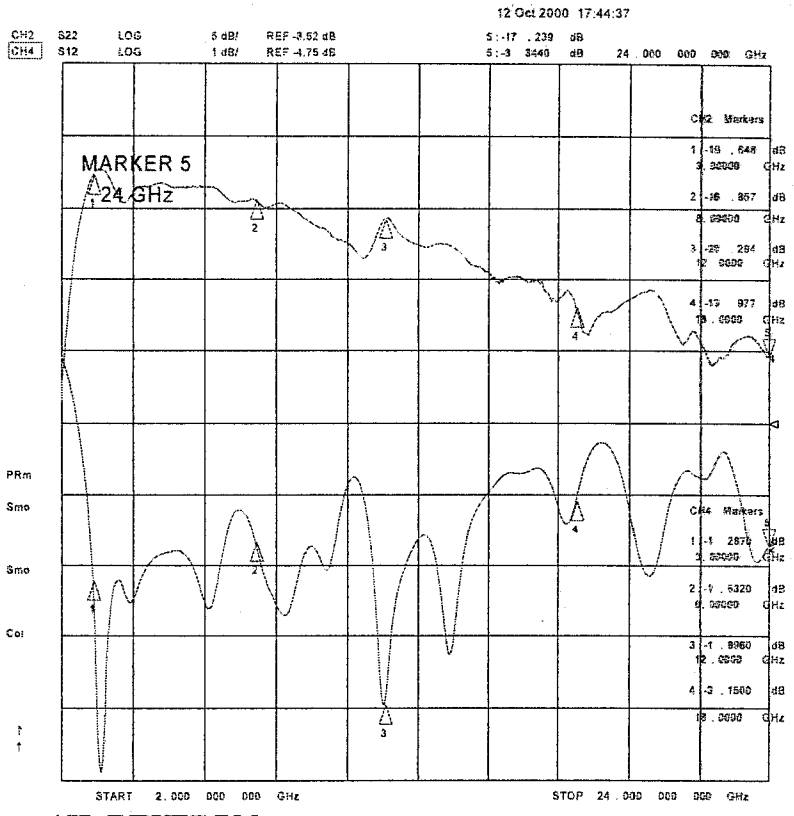
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.39 dB	15.09 dB
8 GHz	1.70 dB	13.38 dB
12 GHz	2.19 dB	11.76 dB
18 GHz	3.05 dB	11.14 dB
24 GHz	3.53 dB	27.36 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J5



***J7: INPUT ARM**

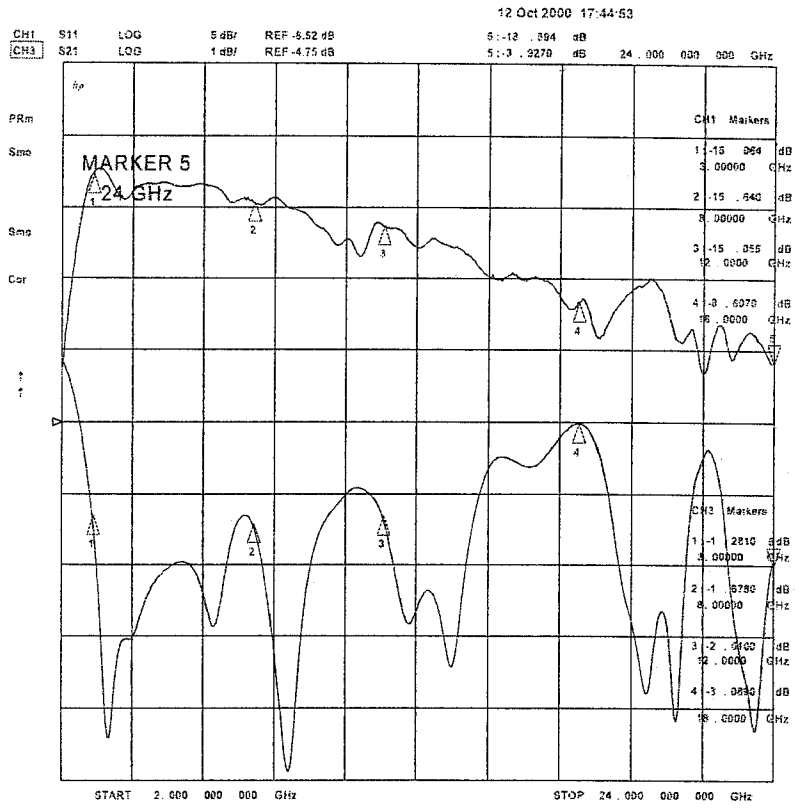
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.28 dB	19.64 dB
8 GHz	1.63 dB	16.85 dB
12 GHz	1.89 dB	28.29 dB
18 GHz	3.15 dB	13.97 dB
24 GHz	3.64 dB	17.23 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J5-J7



***J5: INPUT ARM**

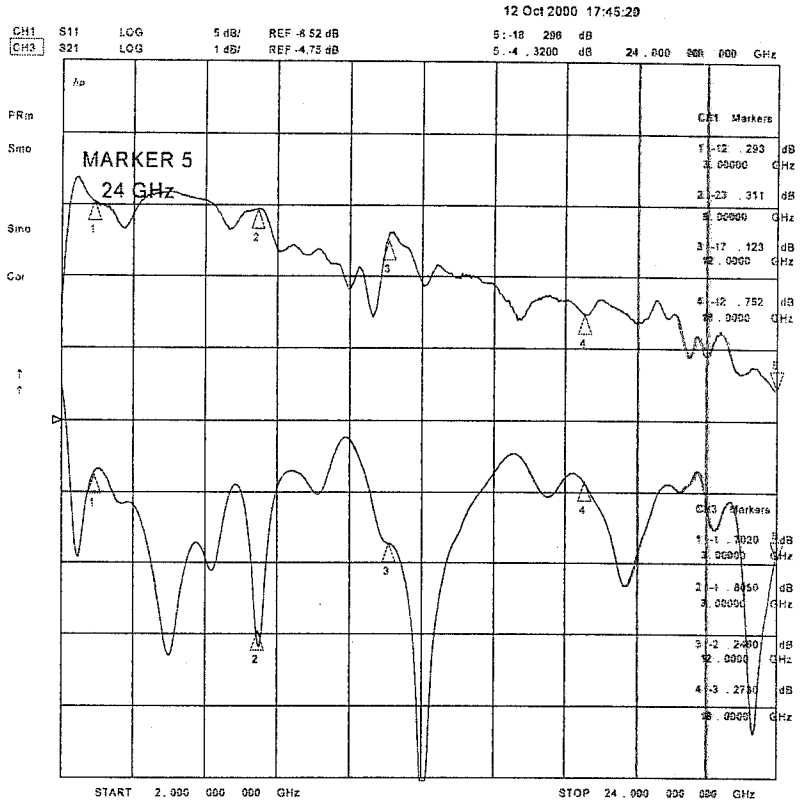
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.28 dB	15.06 dB
8 GHz	1.67 dB	15.64 dB
12 GHz	2.01 dB	15.05 dB
18 GHz	3.08 dB	8.60 dB
24 GHz	3.92 dB	18.59 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J6



***J7: INPUT ARM**

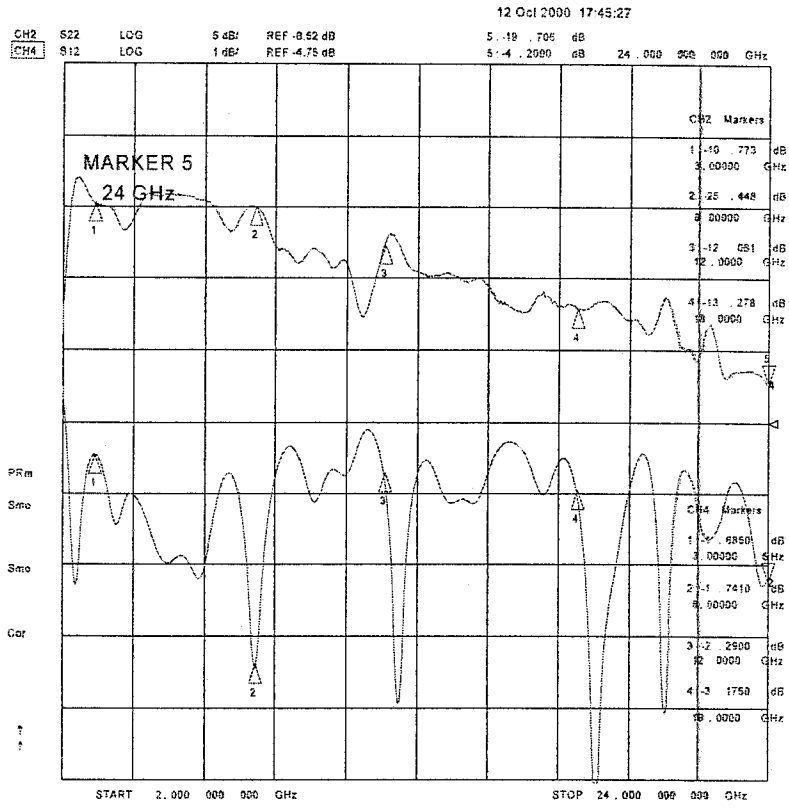
FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.70 dB	12.29 dB
8 GHz	1.80 dB	23.31 dB
12 GHz	2.24 dB	17.12 dB
18 GHz	3.27 dB	12.75 dB
24 GHz	4.32 dB	18.29 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J6-J7



***J6: INPUT ARM**

FREQUENCY	INSERTION LOSS	RETURN LOSS
3 GHz	1.68 dB	10.77 dB
8 GHz	1.74 dB	25.44 dB
12 GHz	2.29 dB	12.06 dB
18 GHz	3.17 dB	13.27 dB
24 GHz	4.20 dB	19.70 dB

AMERICAN MICROWAVE CORPORATION

TEST DATA

FROM

15 GHz TO 24 GHz

ULTRA BROAD BAND

LOW INSERTION LOSS

REFLECTIVE

RECTANGULAR

SOLID STATE SWITCH

AMC MODEL No:
MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL

(Serial Number: 6MS007160)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

OCTOBER 25, 2000

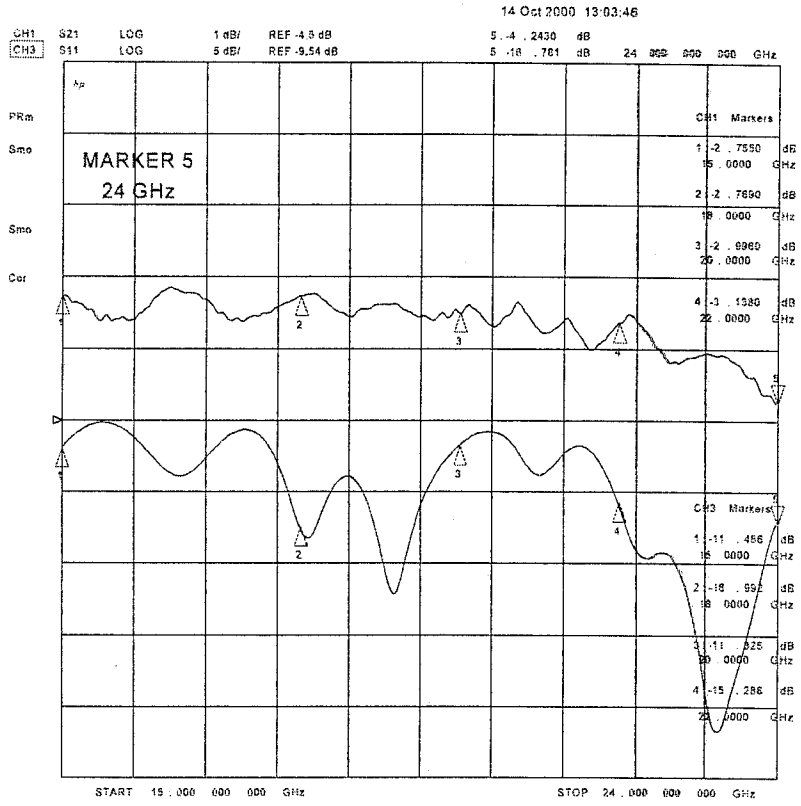
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J1



***J7: INPUT ARM**

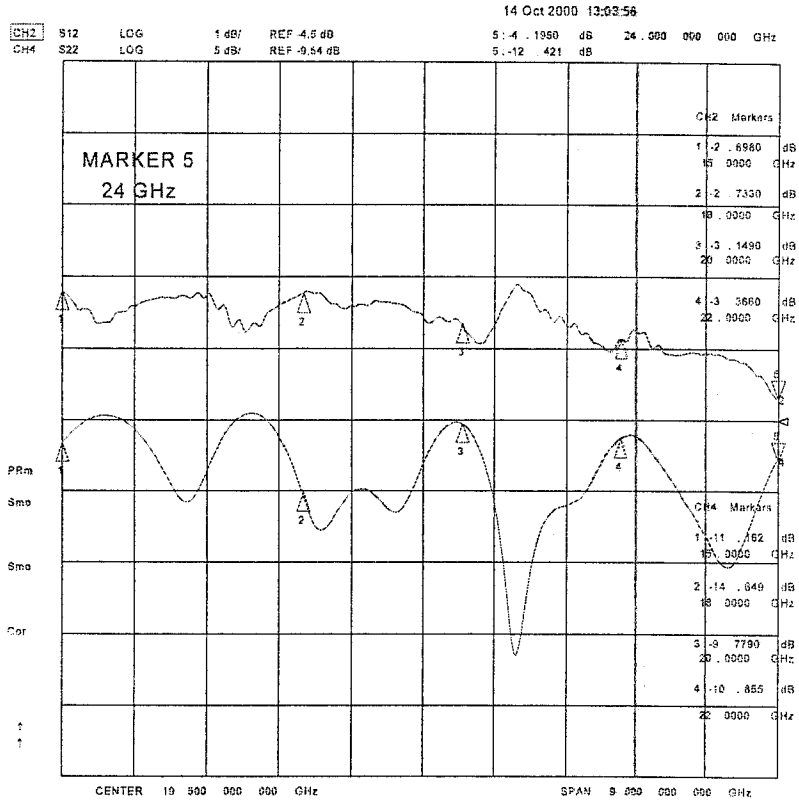
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.75 dB	11.48 dB
18 GHz	2.76 dB	16.99 dB
20 GHz	2.99 dB	11.32 dB
22 GHz	3.13 dB	15.28 dB
24 GHz	4.24 dB	16.78 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J1-J7



***J1: INPUT ARM**

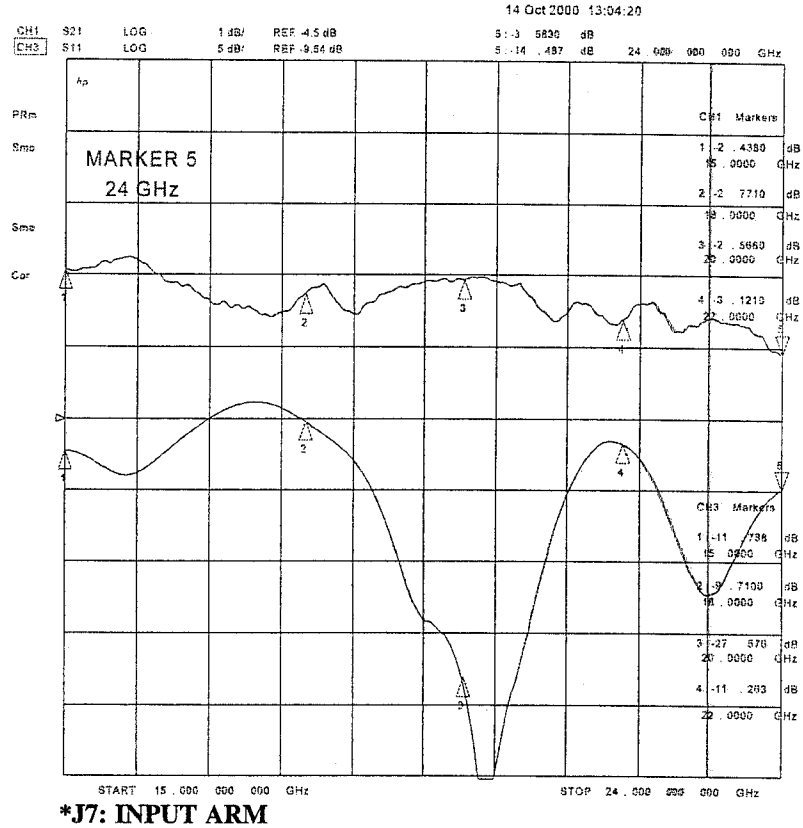
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.69 dB	11.16 dB
18 GHz	2.73 dB	14.64 dB
20 GHz	3.14 dB	9.77 dB
22 GHz	3.36 dB	10.85 dB
24 GHz	4.19 dB	12.42 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J2



***J7: INPUT ARM**

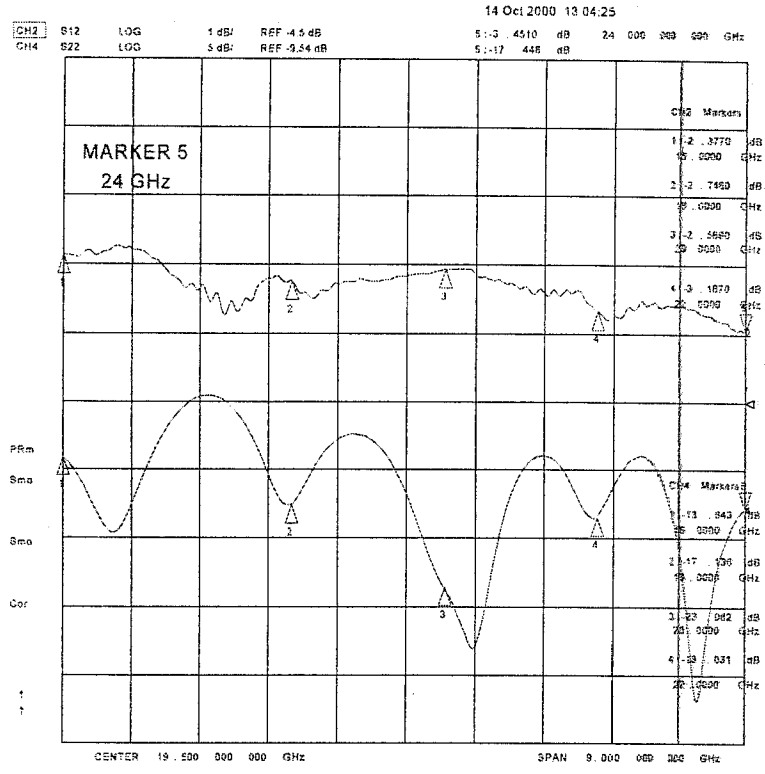
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.43 dB	11.78 dB
18 GHz	2.77 dB	9.71 dB
20 GHz	2.56 dB	27.57 dB
22 GHz	3.12 dB	11.26 dB
24 GHz	3.58 dB	14.48 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J2-J7



***J2: INPUT ARM**

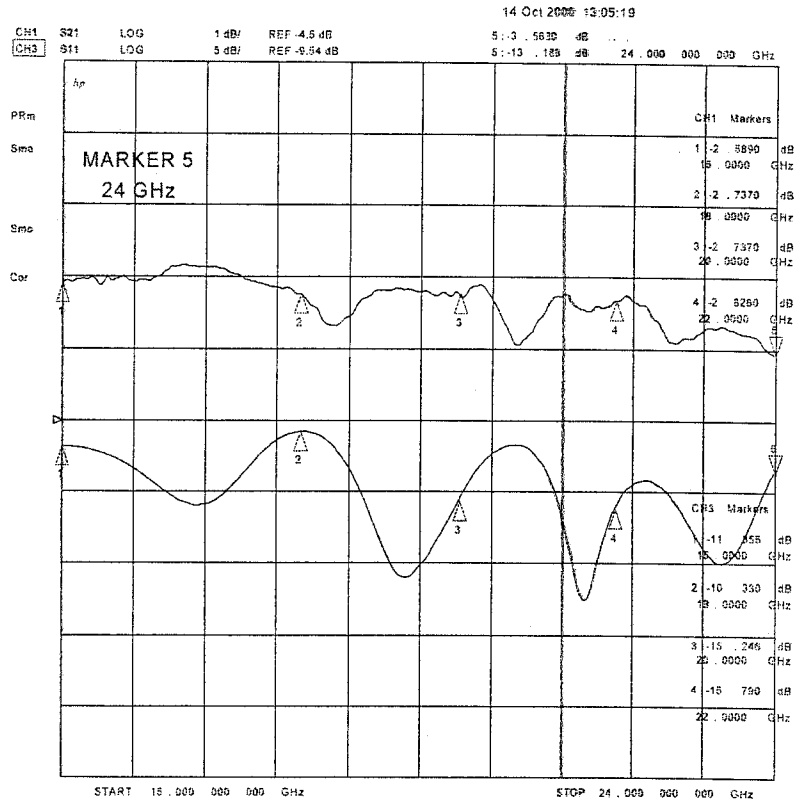
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.37 dB	13.64 dB
18 GHz	2.74 dB	17.13 dB
20 GHz	2.56 dB	23.08 dB
22 GHz	3.16 dB	18.03 dB
24 GHz	3.45 dB	17.44 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J3



***J7: INPUT ARM**

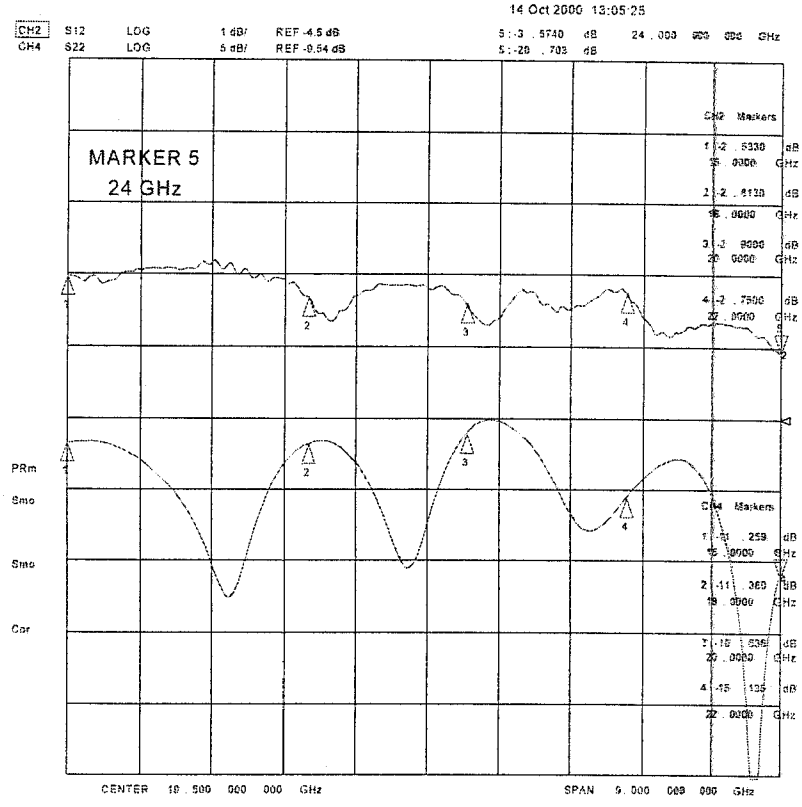
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.58 dB	11.35 dB
18 GHz	2.73 dB	10.33 dB
20 GHz	2.73 dB	15.24 dB
22 GHz	2.82 dB	15.79 dB
24 GHz	3.56 dB	13.18 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J3-J7



***J3: INPUT ARM**

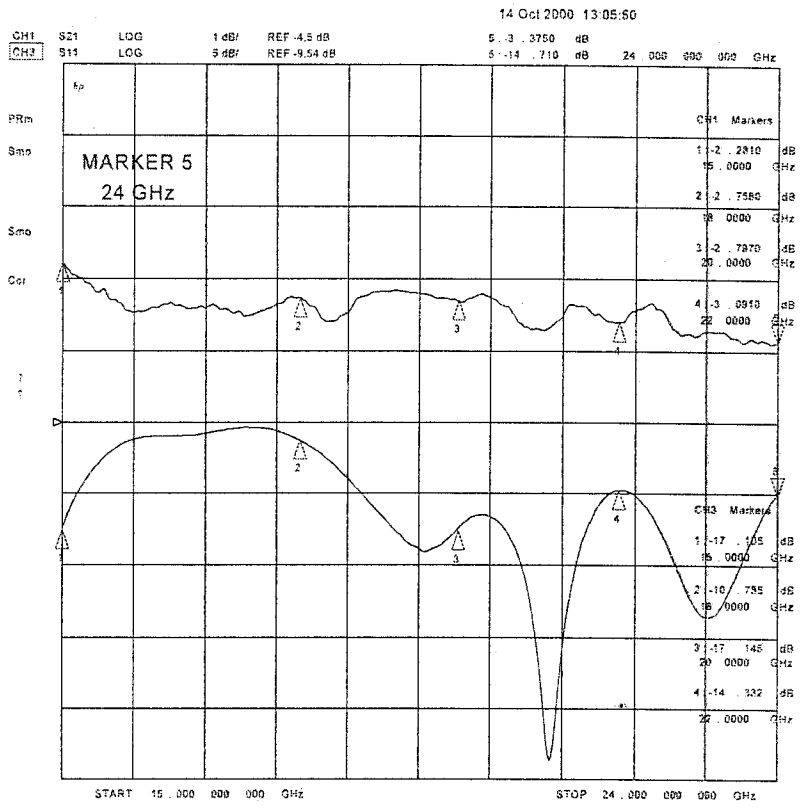
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.53 dB	11.25 dB
18 GHz	2.81 dB	11.38 dB
20 GHz	2.90 dB	10.63 dB
22 GHz	2.75 dB	15.13 dB
24 GHz	3.57 dB	20.70 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J4



***J7: INPUT ARM**

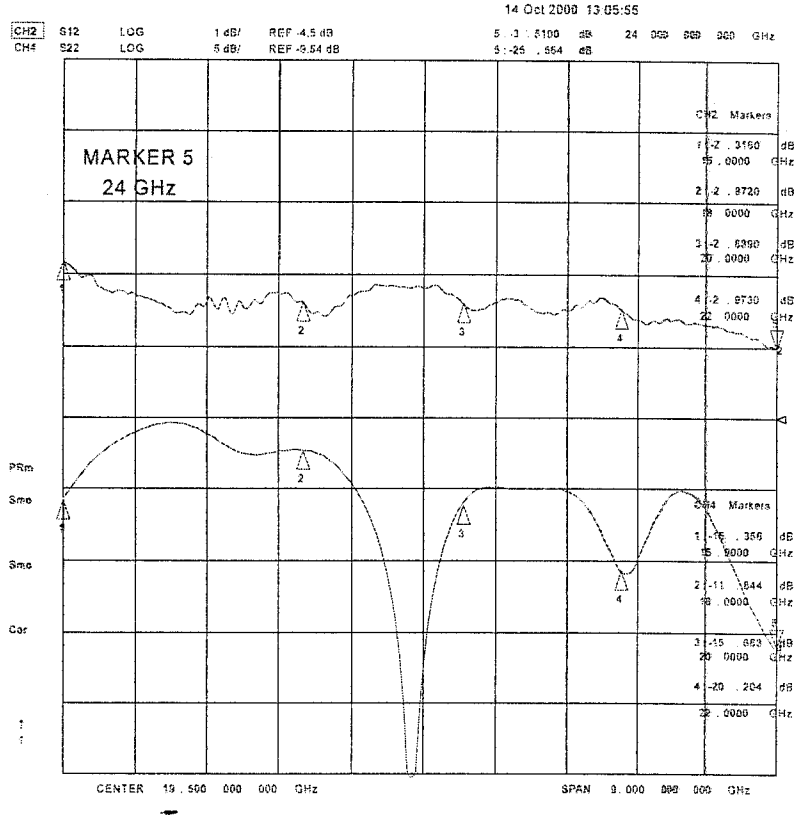
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.28 dB	17.10 dB
18 GHz	2.75 dB	10.78 dB
20 GHz	2.79 dB	17.14 dB
22 GHz	3.09 dB	14.33 dB
24 GHz	3.37 dB	14.71 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J4-J7



***J4: INPUT ARM**

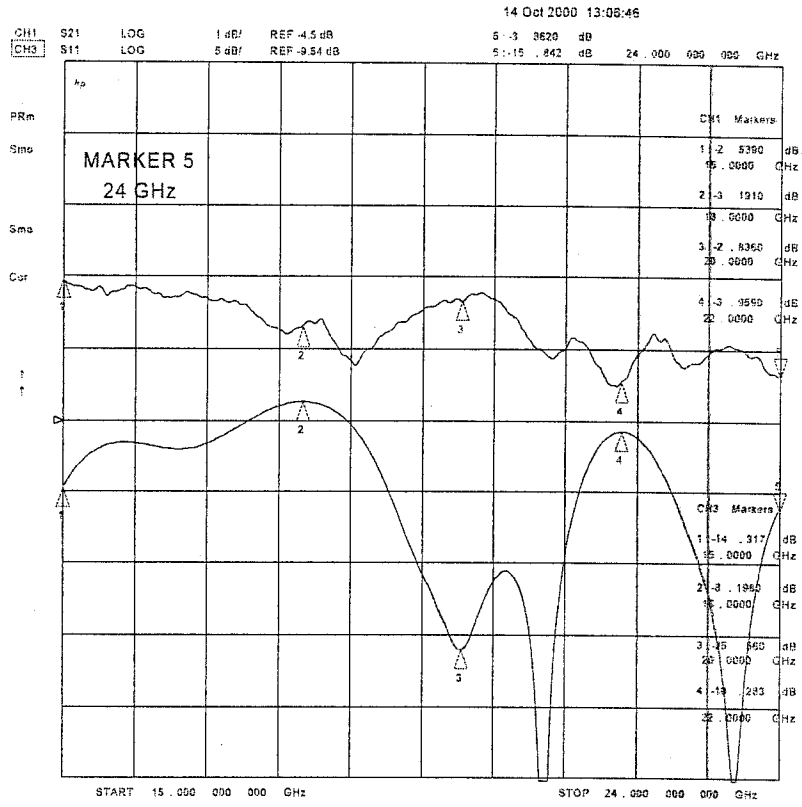
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.31 dB	15.35 dB
18 GHz	2.87 dB	11.84 dB
20 GHz	2.66 dB	15.68 dB
22 GHz	2.97 dB	20.20 dB
24 GHz	3.51 dB	25.56 dB

SUMMARY TEST DATA

MODEL NUMBER : **MSN-6DR-06-STANDARD**
OPTION NUMBER : **1524, B02, AL**
SERIAL NUMBER : **6MS007160**
ENGINEER : **RENE AFABLE**
VOLTAGE & CURRENT DRAW : **+5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J5



***J7: INPUT ARM**

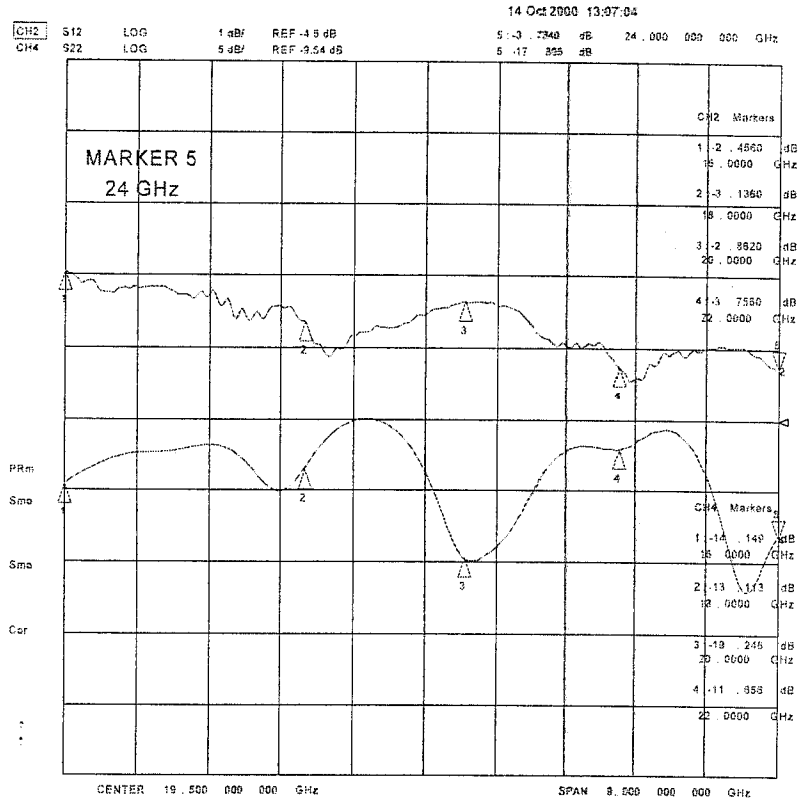
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.53 dB	14.31 dB
18 GHz	3.19 dB	8.19 dB
20 GHz	2.83 dB	25.66 dB
22 GHz	3.95 dB	10.28 dB
24 GHz	3.66 dB	15.84 dB

SUMMARY TEST DATA

MODEL NUMBER : **MSN-6DR-06-STANDARD**
OPTION NUMBER : **1524, B02, AL**
SERIAL NUMBER : **6MS007160**
ENGINEER : **RENE AFABLE**
VOLTAGE & CURRENT DRAW : **+5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J5-J7



***J5: INPUT ARM**

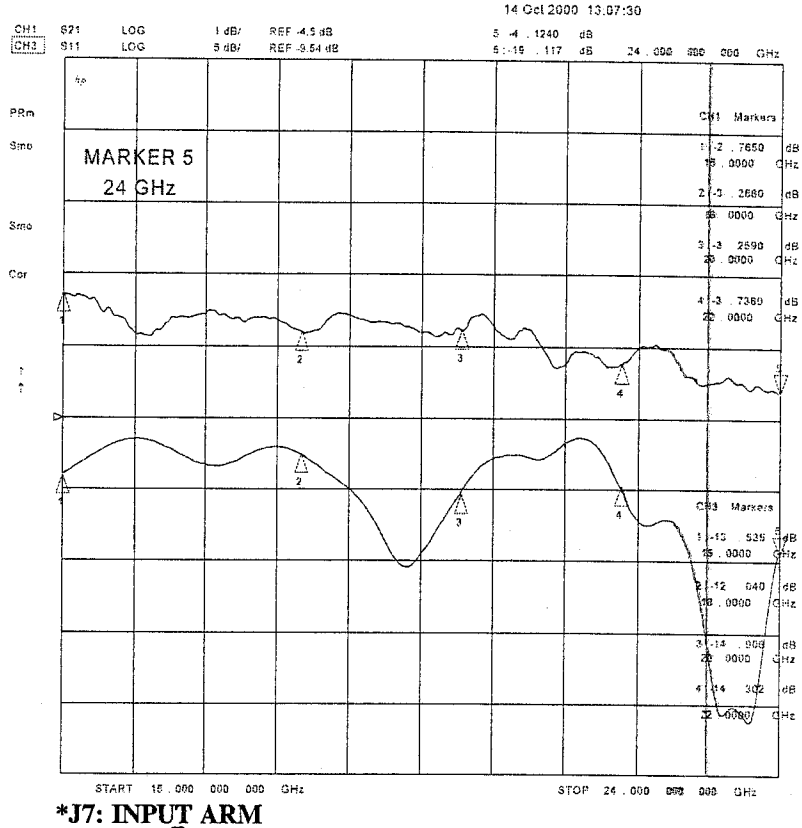
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.45 dB	14.14 dB
18 GHz	3.13 dB	13.11 dB
20 GHz	2.86 dB	19.24 dB
22 GHz	3.75 dB	11.65 dB
24 GHz	3.78 dB	17.89 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J7-J6



***J7: INPUT ARM**

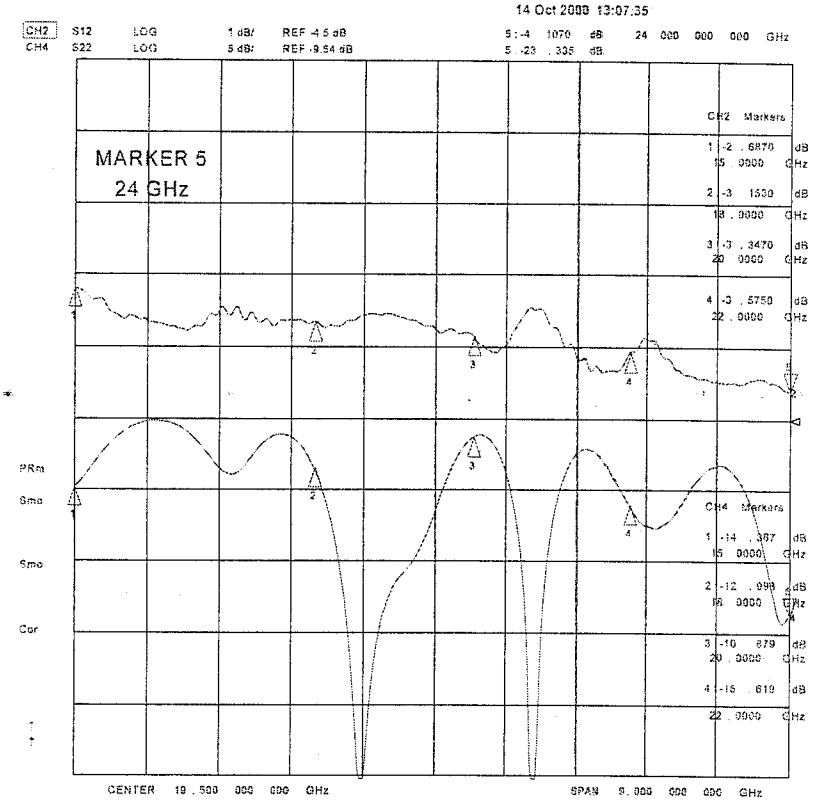
FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.76 dB	13.53 dB
18 GHz	3.28 dB	12.04 dB
20 GHz	3.25 dB	14.90 dB
22 GHz	3.73 dB	14.30 dB
24 GHz	4.12 dB	19.11 dB

SUMMARY TEST DATA

MODEL NUMBER : **MSN-6DR-06-STANDARD**
OPTION NUMBER : **1524, B02, AL**
SERIAL NUMBER : **6MS007160**
ENGINEER : **RENE AFABLE**
VOLTAGE & CURRENT DRAW : **+5vdc @ 180mA; -15vdc @ 40mA**

INSERTION LOSS & RETURN LOSS*

J6-J7



***J6: INPUT ARM**

FREQUENCY	INSERTION LOSS	RETURN LOSS
15 GHz	2.68 dB	14.36 dB
18 GHz	3.15 dB	12.99 dB
20 GHz	3.34 dB	10.87 dB
22 GHz	3.57 dB	15.61 dB
24 GHz	4.10 dB	23.33 dB

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

SWITCHING SPEED

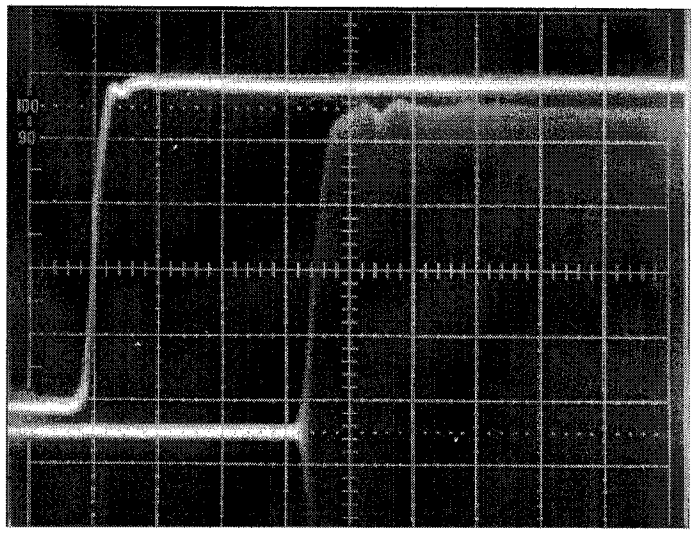
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF
"On/Off" Time: 50% TTL to 90% RF or 10% RF

TYPICAL OF ALL ARMS

"DELAY ON": 45 nS
"RISE TIME": 9 nS

HORIZONTAL SCALE:
10 nS PER DIVISION

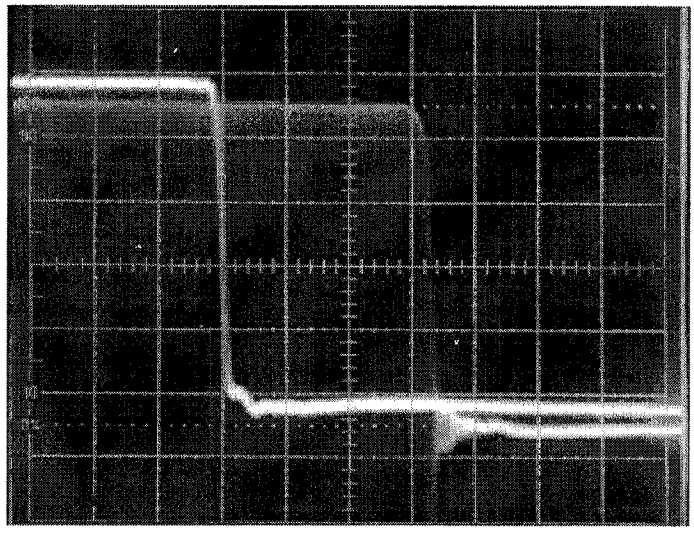
VERTICAL SCALE:
10 mV PER DIVISION



"DELAY OFF": 32 nS
"FALL TIME": 5 nS

HORIZONTAL SCALE:
10 nS PER DIVISION

VERTICAL SCALE:
10 mV PER DIVISION



OCTOBER 25, 2000

SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

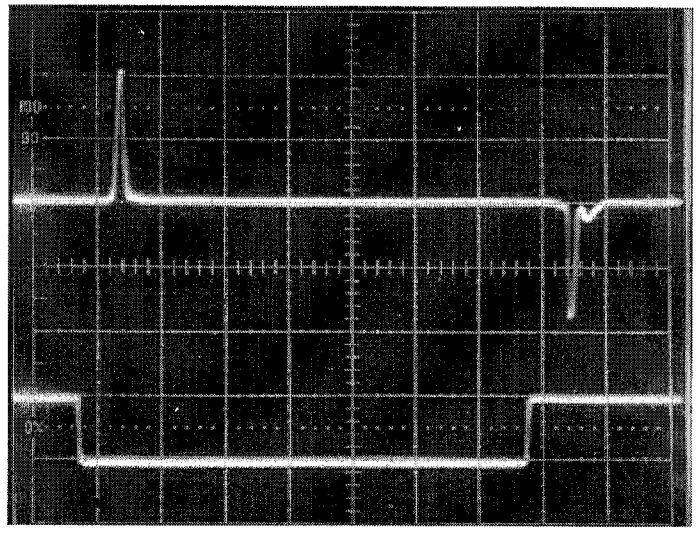
VIDEO TRANSIENTS

TYPICAL OF ALL ARMS

≤225 mV P-P
MEASURED IN A
300 MHZ BANDWIDTH

VERTICAL SCALE:
50 mV PER DIVISION

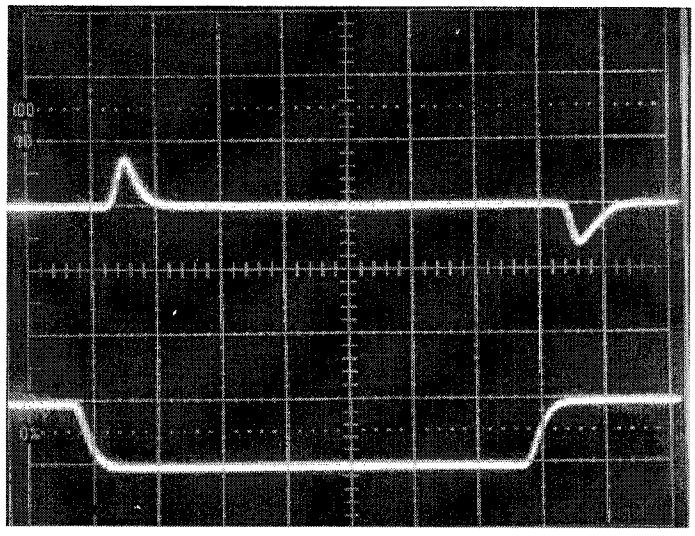
HORIZONTAL SCALE:
50 nS PER DIVISION



≤95 mV P-P
MEASURED IN A
20 MHZ BANDWIDTH

VERTICAL SCALE:
50 mV PER DIVISION

HORIZONTAL SCALE:
50 nS PER DIVISION



OCTOBER 25, 2000

AMERICAN MICROWAVE CORPORATION

ISOLATION

DATA AND PLOTS

FROM

3 GHz TO 24 GHz

AS

MEASURED

ON A VECTOR NETWORK ANALYZER

ON A

SP6T

SOLID STATE SWITCH

AMC MODEL No:
MSN-6DR-06-STANDARD OPTIONS 1524, B02, AL

(Serial Number: 6MS007160)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

OCTOBER 25, 2000

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

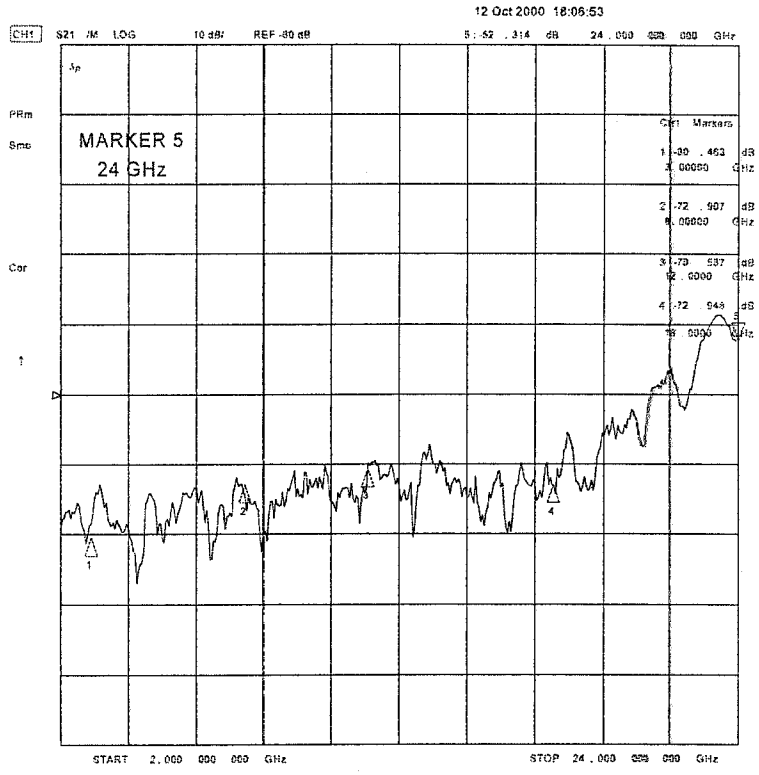
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J1



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	80.46 dB
8 GHz	72.90 dB
12 GHz	70.58 dB
18 GHz	72.94 dB
24 GHz	52.31 dB

OCTOBER 25, 2000

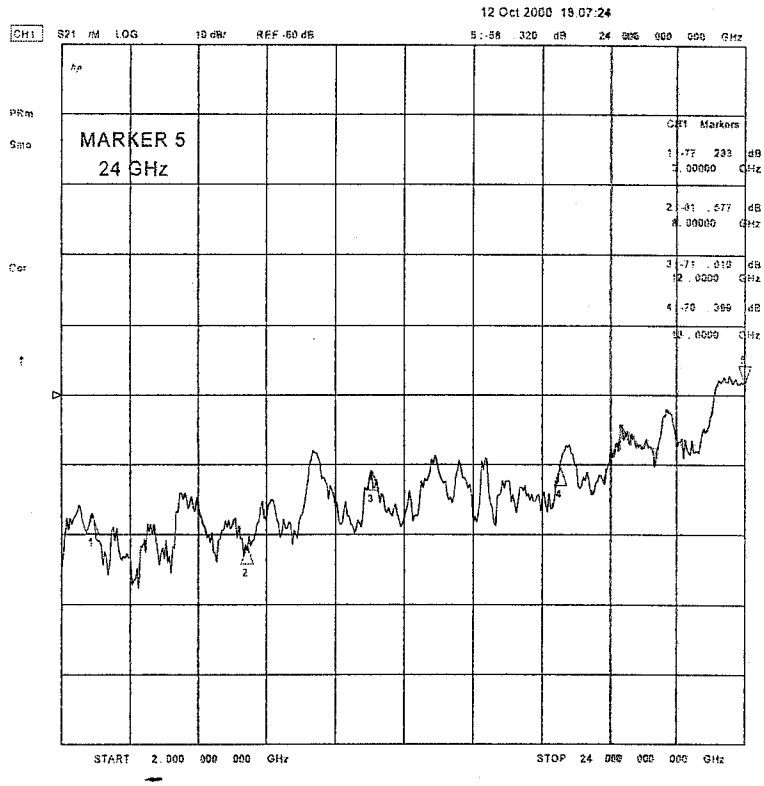
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J2



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	77.23 dB
8 GHz	81.57 dB
12 GHz	71.01 dB
18 GHz	70.39 dB
24 GHz	58.32 dB

OCTOBER 25, 2000

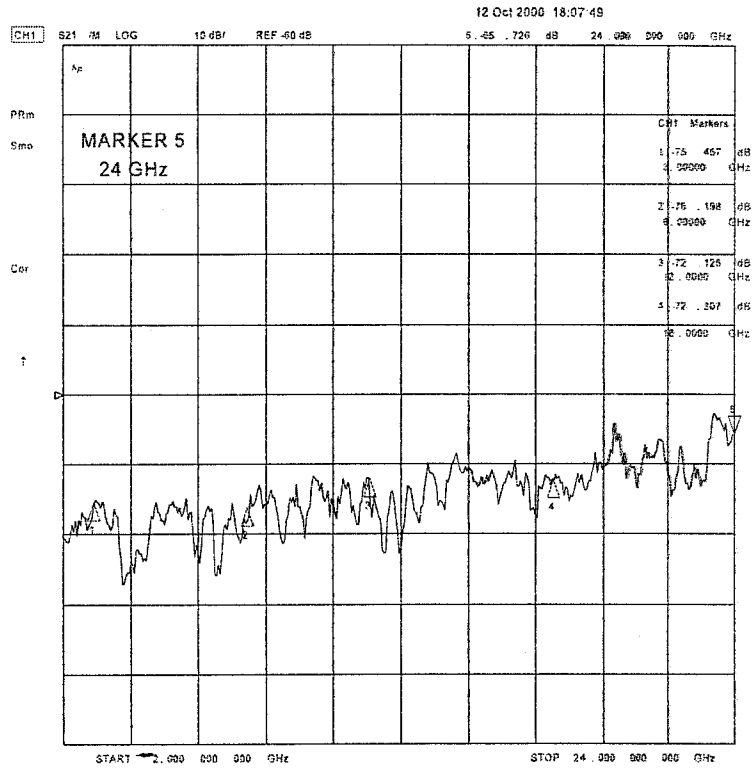
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J3



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	75.45 dB
8 GHz	76.19 dB
12 GHz	72.12 dB
18 GHz	72.30 dB
24 GHz	65.72 dB

OCTOBER 25, 2000

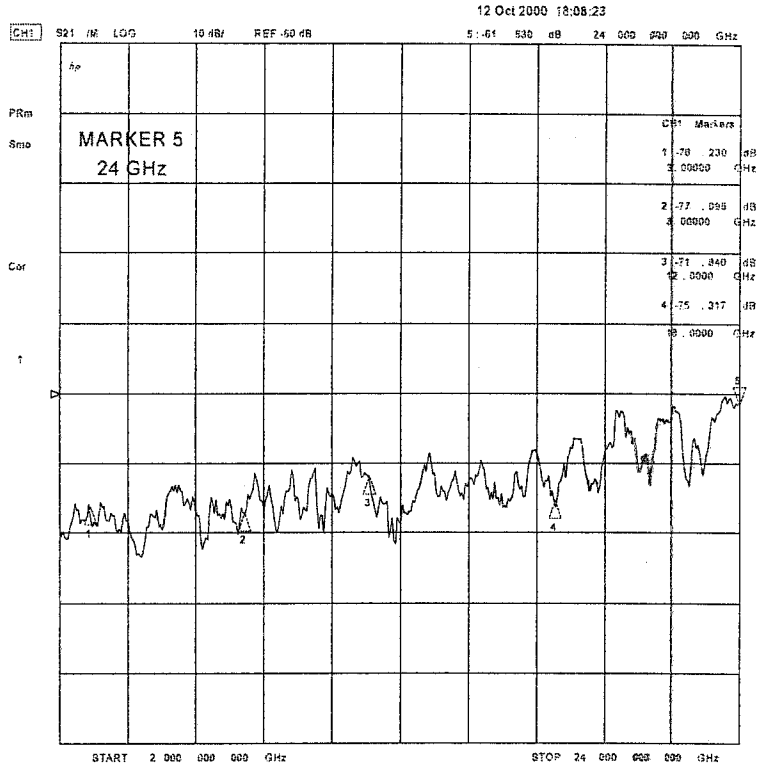
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J4



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	76.23 dB
8 GHz	77.09 dB
12 GHz	71.84 dB
18 GHz	75.31 dB
24 GHz	61.53 dB

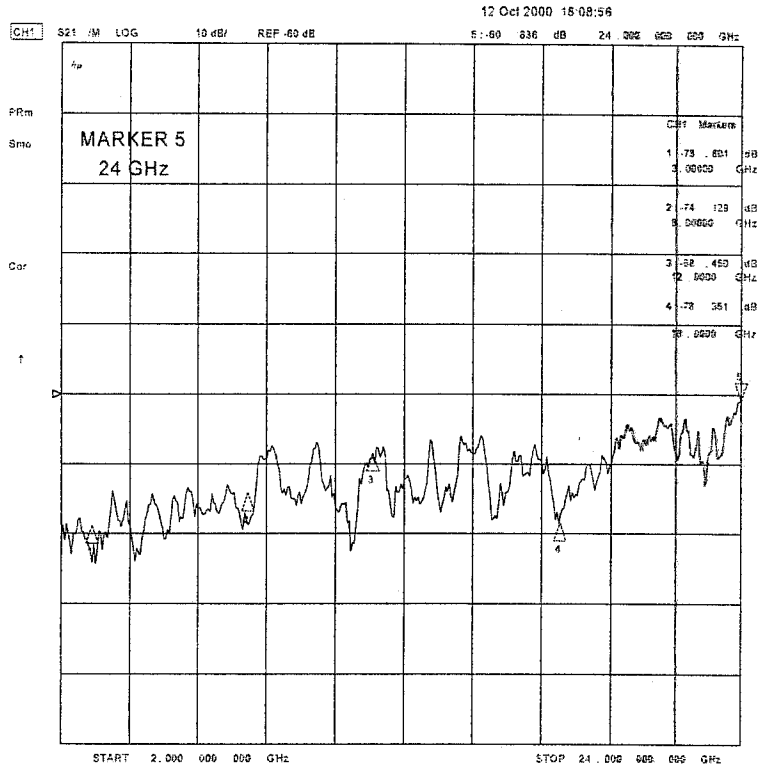
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J5



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	76.80 dB
8 GHz	74.12 dB
12 GHz	68.45 dB
18 GHz	78.35 dB
24 GHz	60.83 dB

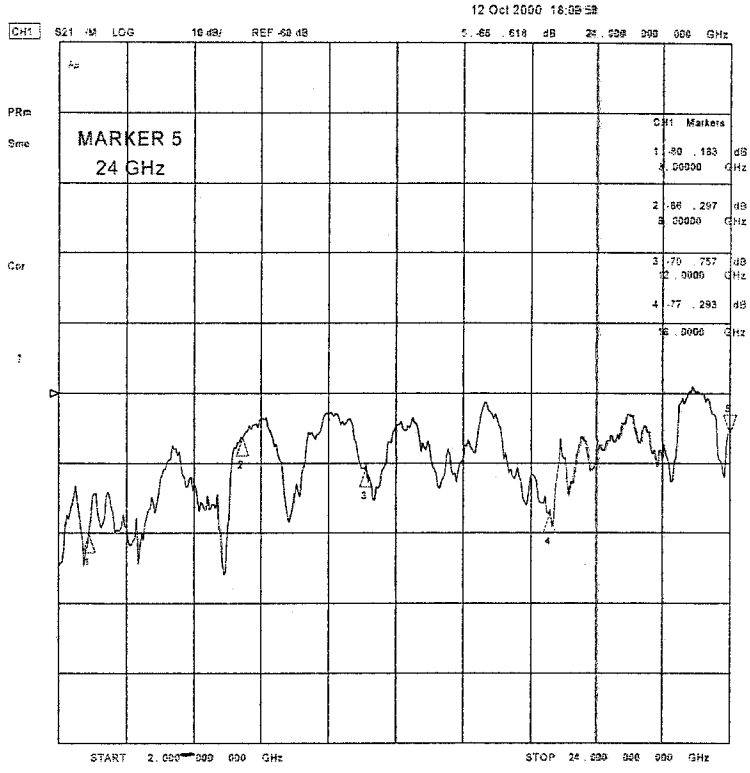
SUMMARY TEST DATA

MODEL NUMBER	**: MSN-6DR-06-STANDARD**
OPTION NUMBER	**: 1524, B02, AL**
SERIAL NUMBER	**: 6MS007160**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: +5vdc @ 180mA; -15vdc @ 40mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J7-J6



***J7: INPUT ARM**

FREQUENCY	ISOLATION
3 GHz	80.16 dB
8 GHz	66.29 dB
12 GHz	70.75 dB
18 GHz	77.29 dB
24 GHz	65.61 dB