TEST DATA

ON

DC TO 2.5 GHz (USABLE TO 4 GHz)

HIGH POWER (5 WATTS)

HIGH SPEED

LOW INSERTION LOSS

LOW VIDEO TRANSIENT

REFLECTIVE

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 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

SP2T REFLECTIVE HIGH POWER (5 WATTS) T/R SOLID STATE SWITCH

KEY FEATURES

- DC TO 2.5 GHz
- ULTRA HIGH SPEED
- HIGH POWER
- TTL LOGIC COMPATIBLE

AMC MODEL No: SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

SPECIFICATIONS: (REFLECTIVE)

• FREQUENCY RANGE	:	DC to 2.5 GHz (USABLE TO 4 GHz)
• INSERTION LOSS	:	1.0 dB MAX.
	:	0.55 dB TYP. @ 40 MHz
	:	0.75 dB TYP. @ 1 GHz
	:	1.0 dB TYP. @ 2.5 GHz
• ISOLATION	:	≥ 20 dB MIN.
	:	≥ 50 dB TYP. @ 40 MHz
	:	≥ 28 dB TYP. @ 1 GHz
	:	≥ 20 dB TYP. @ 2.5 GHz
• VSWR	:	1.5:1
• SWITCHING SPEED	:	"RISE" 20nS MAX., 15nS TYP.
	:	"FALL" 20nS MAX., 15nS TYP.
	:	"ON" 40nS MAX., 35nS TYP.
	:	"OFF" 40nS MAX., 35nS TYP.
• CONTROL	:	Single control(Independent control available)
• VIDEO TRANSIENTS	:	≤ 66mV Peak to Peak @ 300 MHz Bandwidth
	:	≤ 21mV Peak to Peak @ 20 MHz Bandwidth
• RF INPUT POWER	:	5 watt (Other power Levels available)
• DC POWER SUPPLY	:	- 5vdc @ 20mA MAX.
(Other supply voltages available)	:	
• SIZE	:	1.2"(L) X 1.0"(W) X 0.50"(H)
• WEIGHT	:	≤ 1.5 oz.

AUGUST 17, 2000

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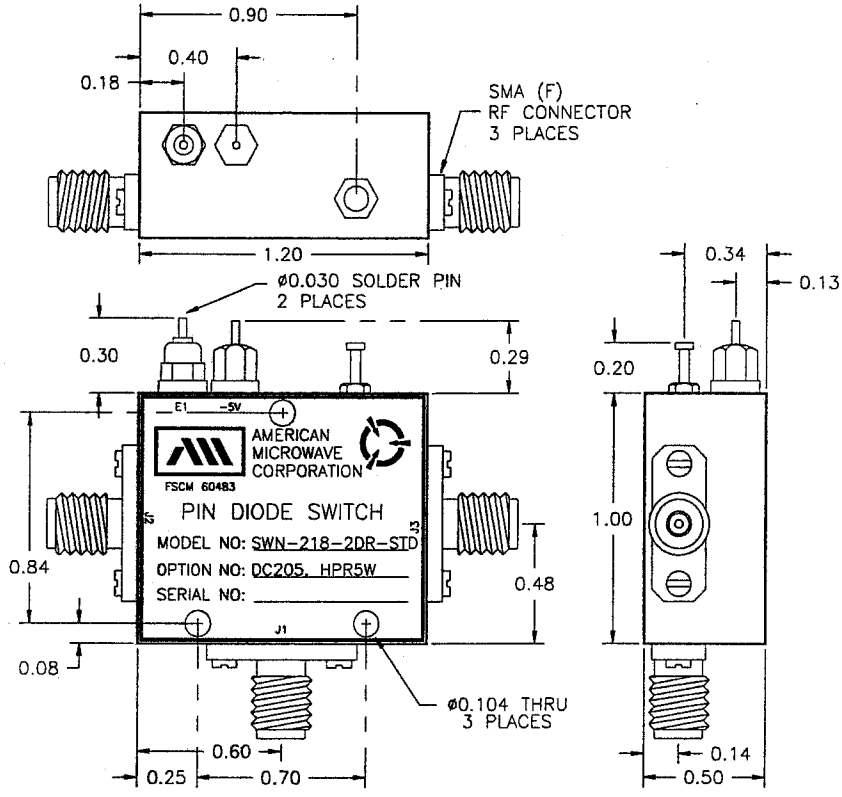
SUMMARY TEST DATA

MODEL NUMBER	**: SWN-218-2DR-STANDARD**
OPTION NUMBER	**: DC205, HPR5W**
SERIAL NUMBER	**: 2MS008239**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: -5V @ 8mA**



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**

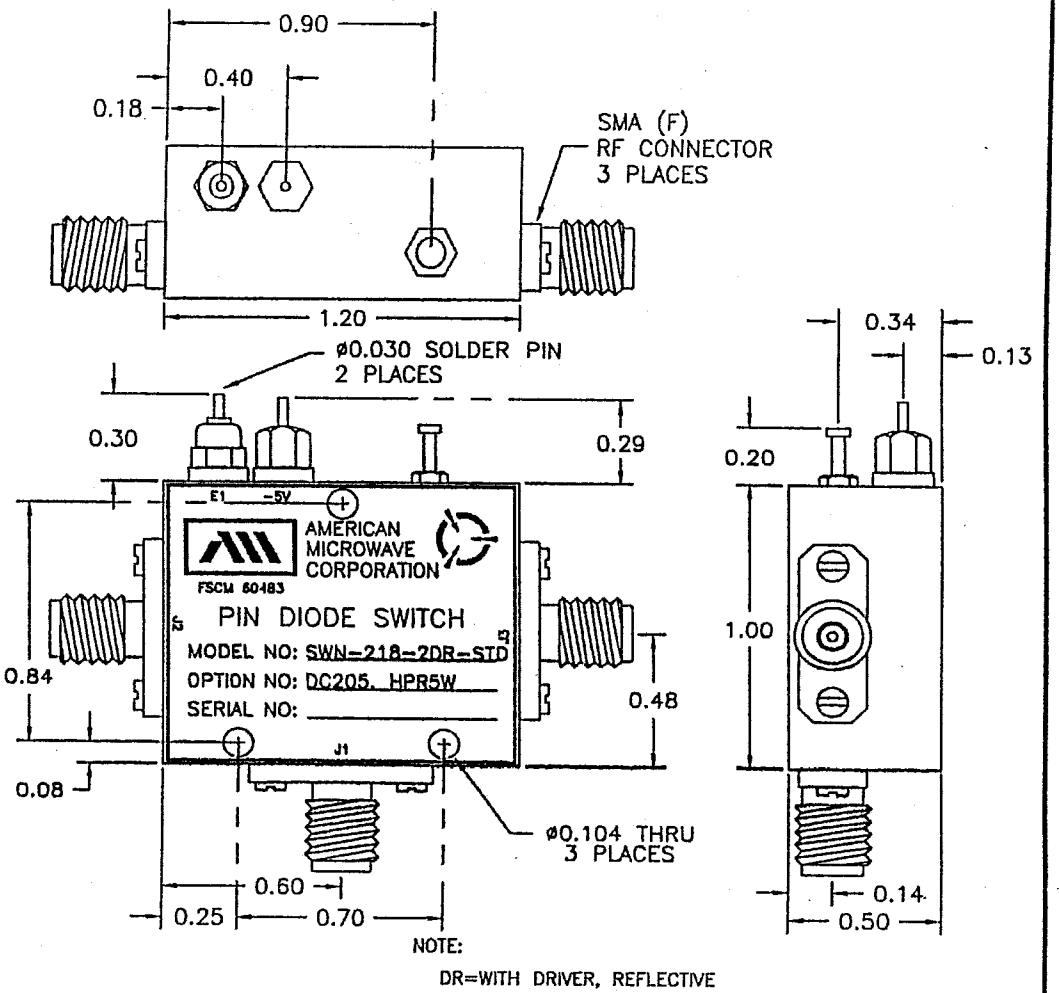
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.

AUGUST 17, 2000

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL JOB# 003038E	08/15/00	

DESCRIPTION

AMC MODEL SWN-218-2DR-STANDARD OPTIONS DC204, HPR5W IS A SINGLE POLE TWO THROW, HIGH POWER (5 WATTS) REFLECTIVE T/R SWITCH MODULE WITH VERY LOW INSERTION LOSS, HIGH ISOLATION, LOW VIDEO TRANSIENT AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR DC TO 2.5 GHz OPERATION USABLE TO 4 GHz.

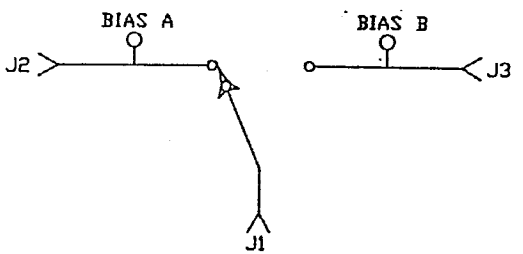


NOTE:
DR=WITH DRIVER, REFLECTIVE

SPECIFICATIONS:

- FREQUENCY: ..... DC TO 2.5 GHz (USABLE TO 4 GHz)
- INSERTION LOSS: ..... 0.8 dB TYPICAL, 1.0 dB MAXIMUM
- ISOLATION: ..... 22 dB TYPICAL, 20 dB MAXIMUM
- VSWR (ALL PORTS): 1.5:1
- SWITCHING SPEED:
  (10/90% RF TO 90/10% RF) .. 40 nS MAXIMUM, 30 nS TYPICAL
  (50% TTL TO 90/10% RF) 40 nS MAXIMUM, 30 nS TYPICAL
- RF POWER: ..... 5 WATTS (10 WATTS AVAILABLE)
- CONTROL: ..... TTL SINGLE ENDED 1 BIT
- POWER SUPPLY: ..... -5 VDC @ 25 mA MAXIMUM
- CONNECTORS (RF): ..... SMA FEMALE, 3 PLACES
- CONNECTORS (POWER): ..... SOLDER PINS
- CONNECTORS (CONTROL): ..... SOLDER PINS
- LOGIC "0": ..... J1 TO J2
- LOGIC "1": ..... J1 TO J3
- SIZE: ..... 1.20" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: ..... 1.5 OUNCE 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

APPROVALS	DATE
DRAWN WSP, RRd	08/15/00
CHECKED	8/26/00
ISSUED WP	8/29/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
SWN-218-2DR-STANDARD.
OPTIONS DC205, HPR5W

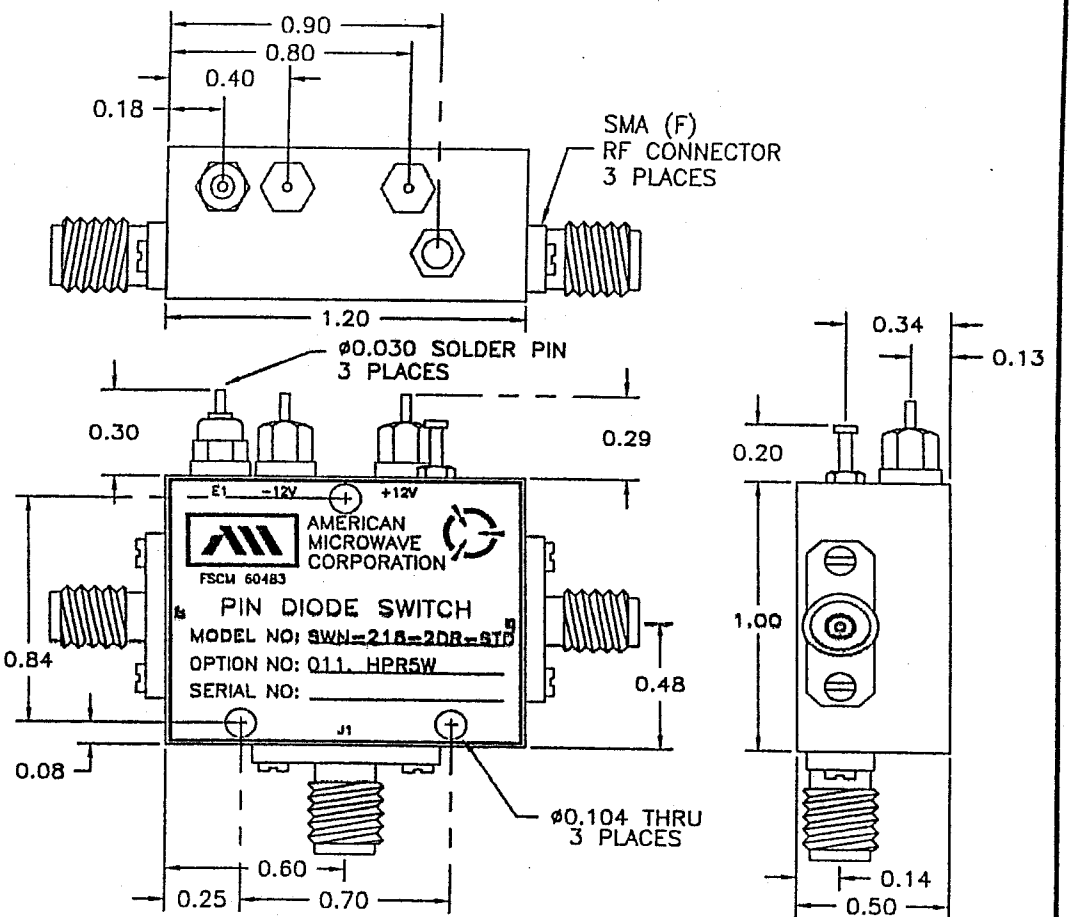
SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-13	

SCALE N/S SHEET 1 of 3

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL JOB# 003038E	08/15/00	

DESCRIPT

AMC MODEL SWN-218-2DR-STANDARD OPTIONS 011, HPR5W IS A SINGLE POLE TWO THROW, HIGH POWER (5 WATTS) REFLECTIVE T/R SWITCH MODULE WITH VERY LOW INSERTION LOSS, HIGH ISOLATION, LOW VIDEO TRANSIENT AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR 100 MHz TO 1.0 GHz OPERATION.

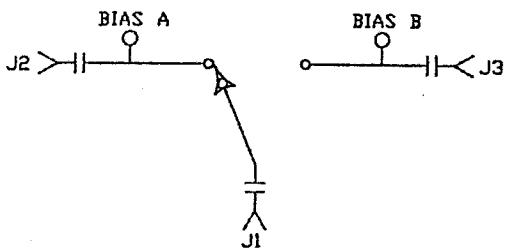


NOTE:
DR=WITH DRIVER, REFLECTIVE

SPECIFICATIONS:

- FREQUENCY: ..... 100 MHz TO 1.0 GHz (USABLE TO 2.5 GHz)
- INSERTION LOSS: ..... 0.8 dB TYPICAL, 1.0 dB MAXIMUM
- ISOLATION: ..... 30 dB TYPICAL, 28 dB MAXIMUM
- VSWR (ALL PORTS): 1.6:1
- SWITCHING SPEED: (50% TTL TO 90/10% RF) ..... 50 nS MAXIMUM
- RF POWER: ..... 5 WATTS.
- CONTROL: ..... TTL SINGLE ENDED 1 BIT
- POWER SUPPLY: ..... +12 VDC @ 25 mA MAXIMUM
  −12 VDC @ 25 mA MAXIMUM
- CONNECTORS (RF): ..... SMA FEMALE, 3 PLACES
- CONNECTORS (POWER): ..... SOLDER PINS
- CONNECTORS (CONTROL): ..... SOLDER PINS
- LOGIC "0": ..... J1 TO J2
- LOGIC "1": ..... J1 TO J3
- SIZE: ..... 1.20" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: ..... 1.5 OUNCE 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

APPROVALS	DATE
DRAWN WYP, RRA	08/15/00
CHECKED	8/25/00
ISSUED	8/29/00

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: PRODUCT FEATURE
SWN-218-2DR-STANDARD
OPTIONS 011, HPR5W

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-12	

SCALE N/S SHEET 1 of 3

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	9/20/99	

DESCRIPTION:

AMC MODEL SWN-2DR/DT-STANDARD IS A SINGLE POLE TWO THROW, REFLECTIVE OR ABSORPTIVE/NON-REFLECTIVE SWITCH MODULE WITH VERY LOW INSERTION LOSS, HIGH ISOLATION AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ... REFLECTIVE: 2.5db
  ABSORPTIVE: 3.5db
- 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
  -5V @ 75mA MAX.(RELECTIVE)
  100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- CONNECTORS:
  - RF ..... SMA FEMALE
  - CONTROL ..... SOLDER PIN
- SIZE: ..... 1.20" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: ..... 1.5 OUNCE TYPICAL

OPTIONS:

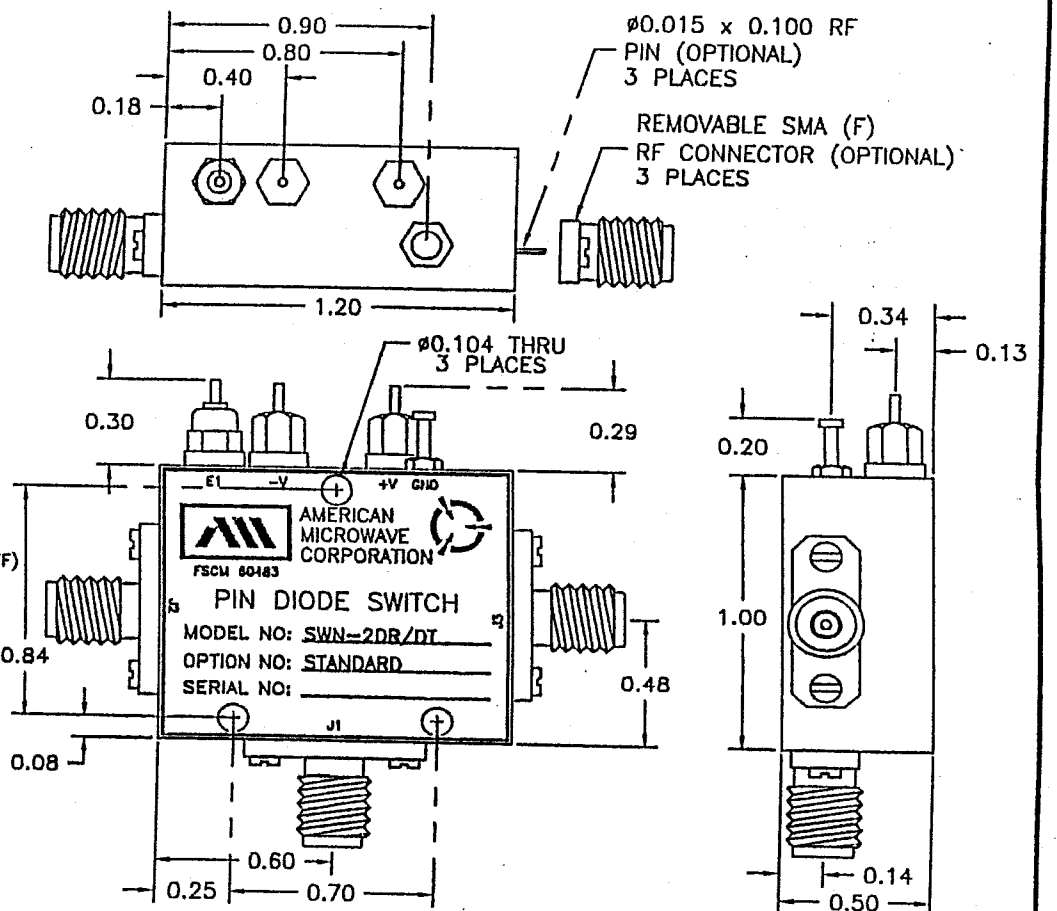
SINGLE CONTROL WITH SOLDER PIN STANDARD

IND-SP	INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
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)
818	8 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 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
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

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



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

APPROVALS	DATE
DRAWN WPP, RRd	7/20/99
CHECKED WP	7/29/99
ISSUED	7/29/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-2DR/DT-STANDARD
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-1	

SCALE N/S SHEET 1 of 2

DESCRIPTION:

AMC MODEL SWN-2DR/DT-IND-SP IS A SINGLE POLE TWO THROW, REFLECTIVE OR ABSORPTIVE/NON-REFLECTIVE SWITCH MODULE WITH VERY LOW INSERTION LOSS, HIGH ISOLATION AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	7/29/99	

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: .... REFLECTIVE: 2.5db
  ABSORPTIVE: 3.5db
- 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
  -5V @ 75mA MAX.(RELECTIVE)
  100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- CONNECTORS:
  - RF ..... SMA FEMALE
  - CONTROL ..... SOLDER PIN
- SIZE: ..... 1.20" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: ..... 1.5 OUNCE TYPICAL

OPTIONS:

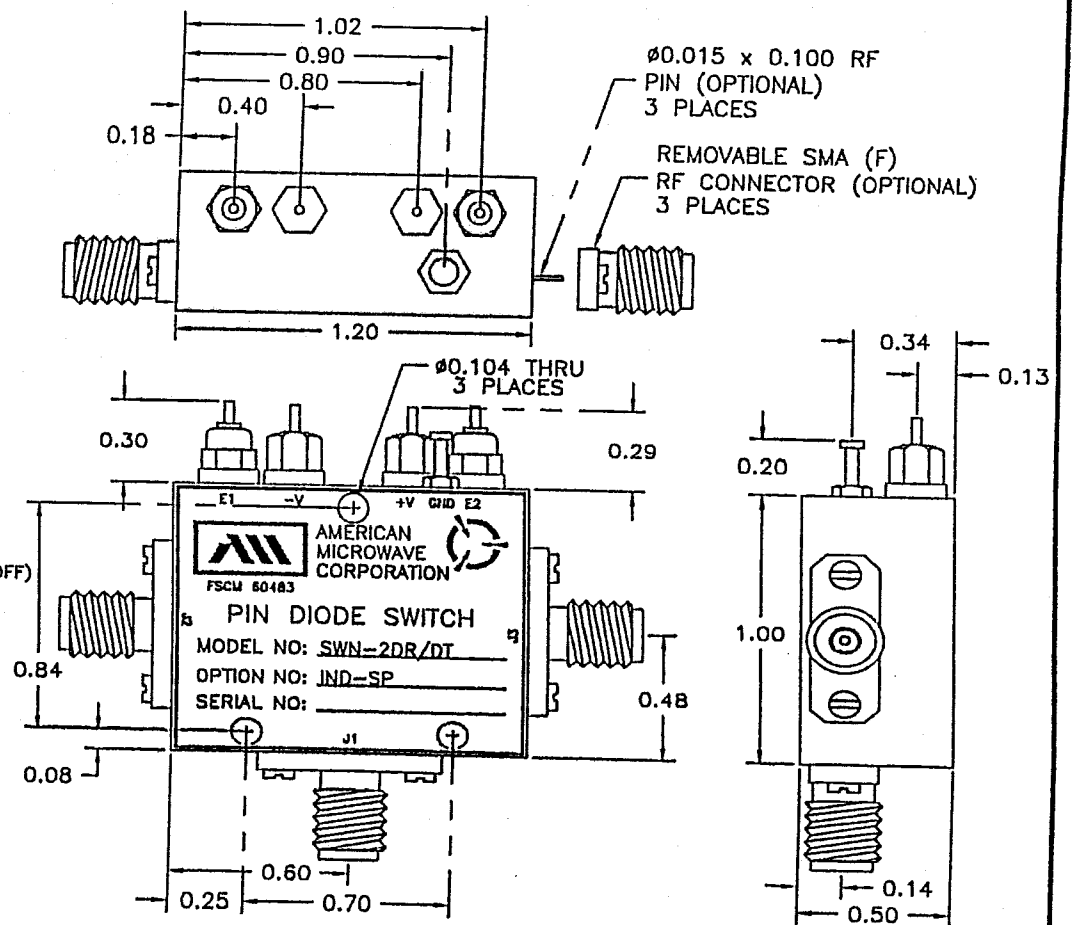
SINGLE CONTROL WITH SOLDER PIN STANDARD

IND-SP	INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
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 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
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

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



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

APPROVALS	DATE
DRAWN WSP, RRA	7/29/99
CHECKED WJP	7/29/99
ISSUED	7/29/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-2DR/DT-IND-SP
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-2	

SCALE N/S SHEET 1 of 2

DESCRIPTION:

AMC MODEL SWN-2DR/DT-AKG-STANDARD IS A SINGLE POLE TWO THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH VERY HIGH ISOLATION, LOW LOSS, HIGH SPEED AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	7/27/99	

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ..... REFLECTIVE: 4.0dB
  ABSORPTIVE: 4.5dB
- ISOLATION: ..... 0.5 GHz TO 6 GHz: 110dB
  6 GHz TO 18 GHz: 100dB
- 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
  -5V @ 75mA MAX.(RELECTIVE)
  100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE ..... 1.2" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT ..... 1.2 oz.

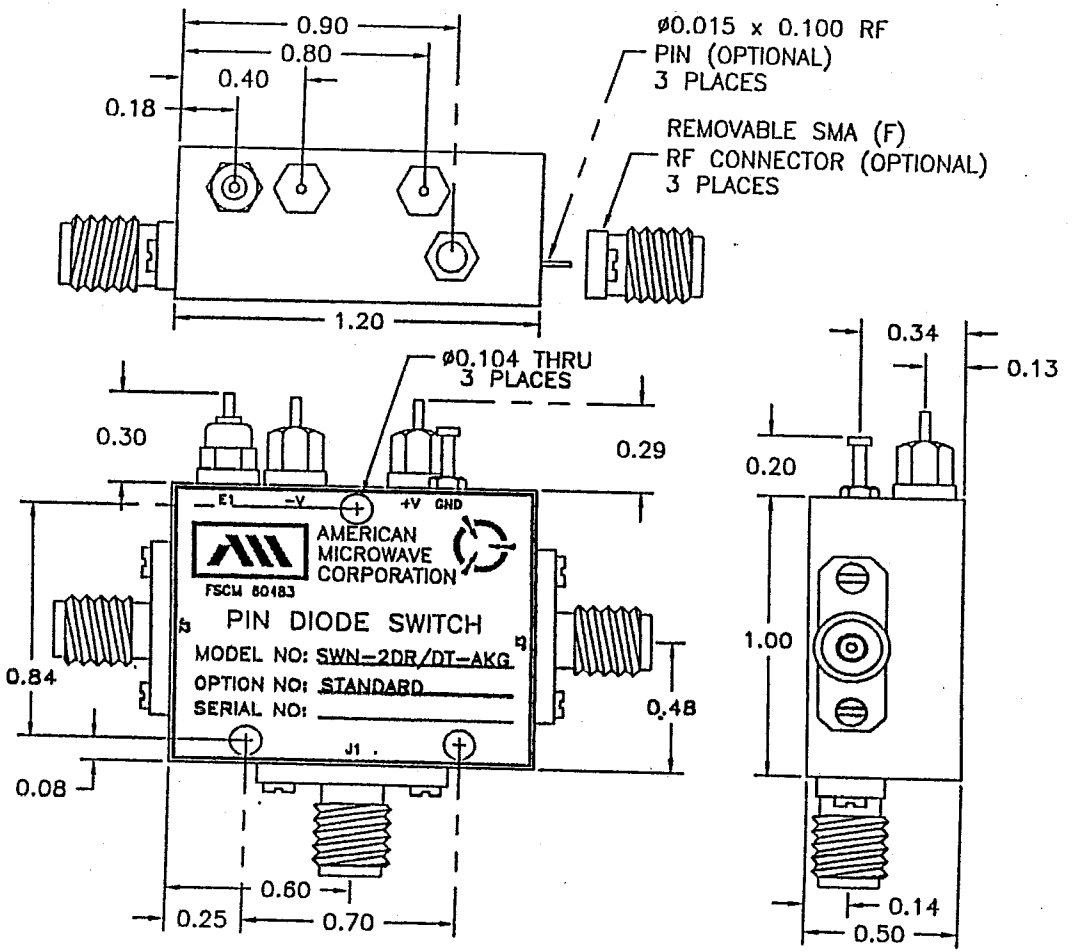
OPTIONS:

SINGLE CONTROL WITH SOLDER PIN STANDARD
IND-SP ..... INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
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 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
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

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



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

APPROVALS		DATE
DRAWN	WSP, RRd	7/27/99
CHECKED	WP	7/29/99
ISSUED	RR	7/29/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-2DR/DT-AKG-STANDARD
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4790-1	

SCALE N/S SHEET 1 of 2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	7/27/99	

DESCRIPTION:

AMC MODEL SWN-2DR/DT-AKG-IND-SP IS A SINGLE POLE TWO THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH VERY 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: 4.0dB
ABSORPTIVE: 4.5dB
- ISOLATION: ..... 0.5 GHz TO 6 GHz: 110dB
6 GHz TO 18 GHz: 100dB
- 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
-5V @ 75mA MAX.(RELECTIVE)
100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: ..... 1.2" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: ..... 1.2 oz.

OPTIONS:

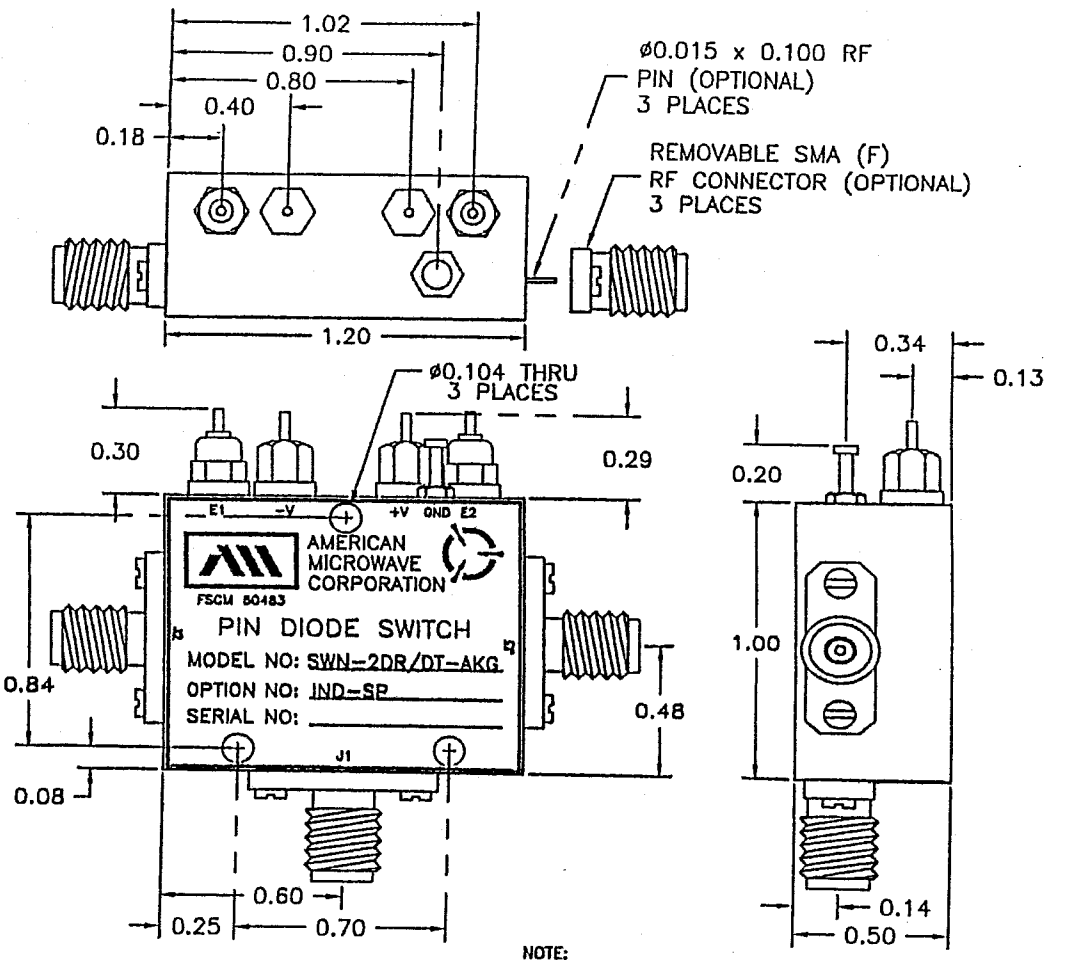
SINGLE CONTROL WITH SOLDER PIN STANDARD

IND-SP ..... INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
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 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
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

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



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

APPROVALS	DATE
DRAWN WSP, RRA	7/27/99
CHECKED WP	7/29/99
ISSUED	7/29/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-2DR/DT-AKG-IND-SP
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4790-2	

SCALE N/S SHEET 1 of 2

DESCRIPTION:

AMC M[illegible]SWN-218-2DR/DT-SIS IS A SINGLE SUPPLY, SINGLE POLE TWO THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH VERY LOW INSERTION LOSS AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ..... REFLECTIVE: 2.5db
  ABSORPTIVE: 3.0db
- ISOLATION: ..... 0.5 GHz TO 2 GHz: 55db
  2 GHz TO 12 GHz: 45db
  12 GHz TO 18 GHz: 25db
- VSWR: ..... REFLECTIVE IN/OUT: 2.0:1
  ABSORPTIVE IN/OUT: 2.0:1
  ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: ..... RISE: 15ns TYPICAL, 20ns MAX.
  FALL: 15ns TYPICAL, 20ns 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
- CONNECTORS:
  RF ..... SMA FEMALE
  CONTROL ..... SOLDER PIN
- SIZE: ..... (L) 1.2" X (W) 1.0" X (H) 0.5"
- WEIGHT: ..... 1.5 OUNCE TYPICAL

OPTIONS:

SINGLE CONTROL WITH SOLDER PIN STANDARD

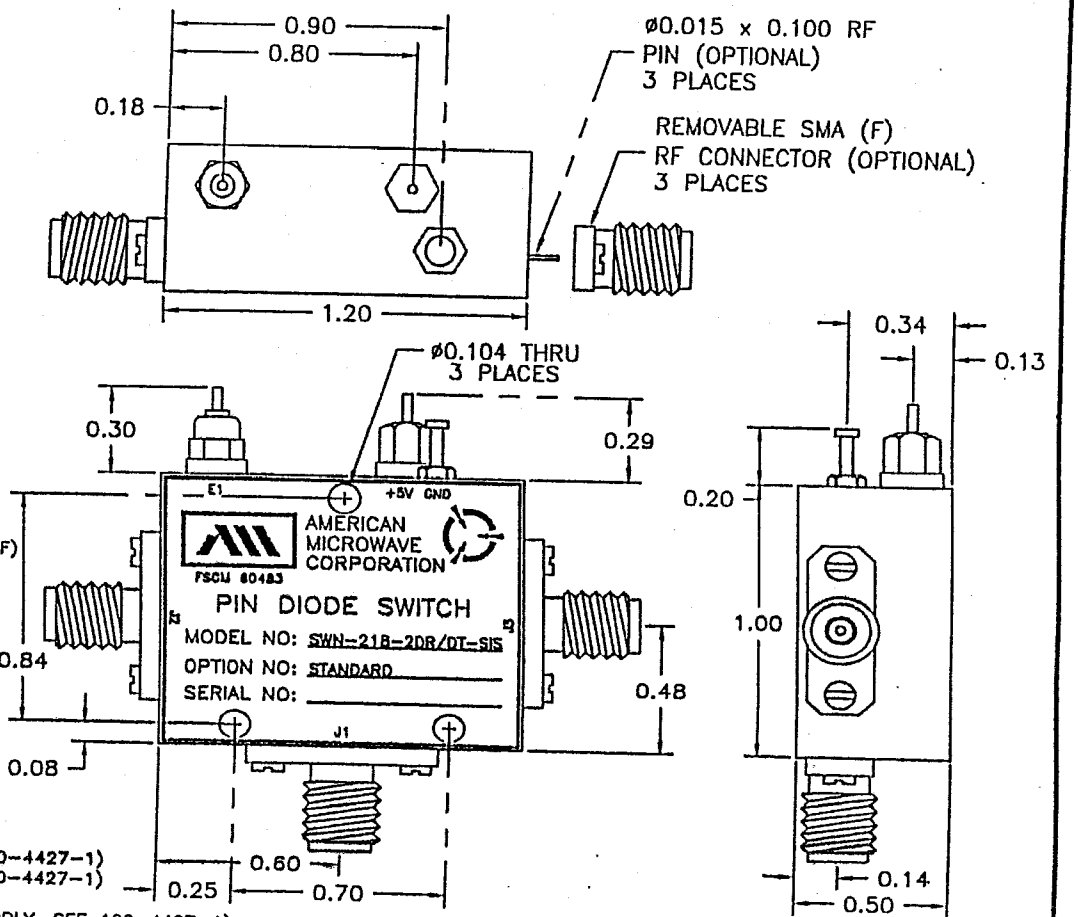
IND-SP ..... INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
10M18 ..... 10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
100M18 ..... 100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
118 ..... 1 GHz TO 18 GHz (NO CHANGE 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 (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-1)
B02 ..... -15V POWER SUPPLIES (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-1)
B03 ..... REVERSE LOGIC "1"=ON "0"=OFF
B04 ..... DRIVERLESS, CURRENT CONTROLLED (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-1)
B05 ..... HIGH SPEED, TURNON/TURNOFF 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
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

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	7/12/99	



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

APPROVALS	DATE
DRAWN RRA	7/12/99
CHECKED WP	7/13/99
ISSUED RA	7/19/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-218-2DR/DT-SIS-STANDARD
REFLECTIVE OR NON-REFLECTIVE(ABSORPTIVE)
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-5	

SCALE N/S SHEET 1 of 2

DESCRIPTION:

AMC [illegible] SWN-218-2DR/DT-SIS IS A SINGLE SUPPLY, SINGLE POLE TWO THROW, [illegible]ECTIVE OR NO[illegible]REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH VERY LOW INSERTION LOSS AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	7/12/99	

SPECIFICATIONS:

- FREQUENCY: ..... 0.5 GHz TO 18 GHz
- INSERTION LOSS: ..... REFLECTIVE: 2.5db
  ABSORPTIVE: 3.0db
- ISOLATION: ..... 0.5 GHz TO 2 GHz: 55db
  2 GHz TO 12 GHz: 45db
  12 GHz TO 18 GHz: 25db
- VSWR: ..... REFLECTIVE IN/OUT: 2.0:1
  ABSORPTIVE IN/OUT: 2.0:1
  ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: ..... RISE: 15ns TYPICAL, 20ns MAX.
  FALL: 15ns TYPICAL, 20ns 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"= J1-J2 ON "1"= J1-J3 ON
- POWER SUPPLY: ..... +5V @ 100 mA MAX.
- CONNECTORS:
  - RF ..... SMA FEMALE
  - CONTROL ..... SOLDER PIN
- SIZE: ..... (L) 1.2" X (W) 1.0" X (H) 0.5"
- WEIGHT: ..... 1.5 OUNCE TYPICAL

OPTIONS:

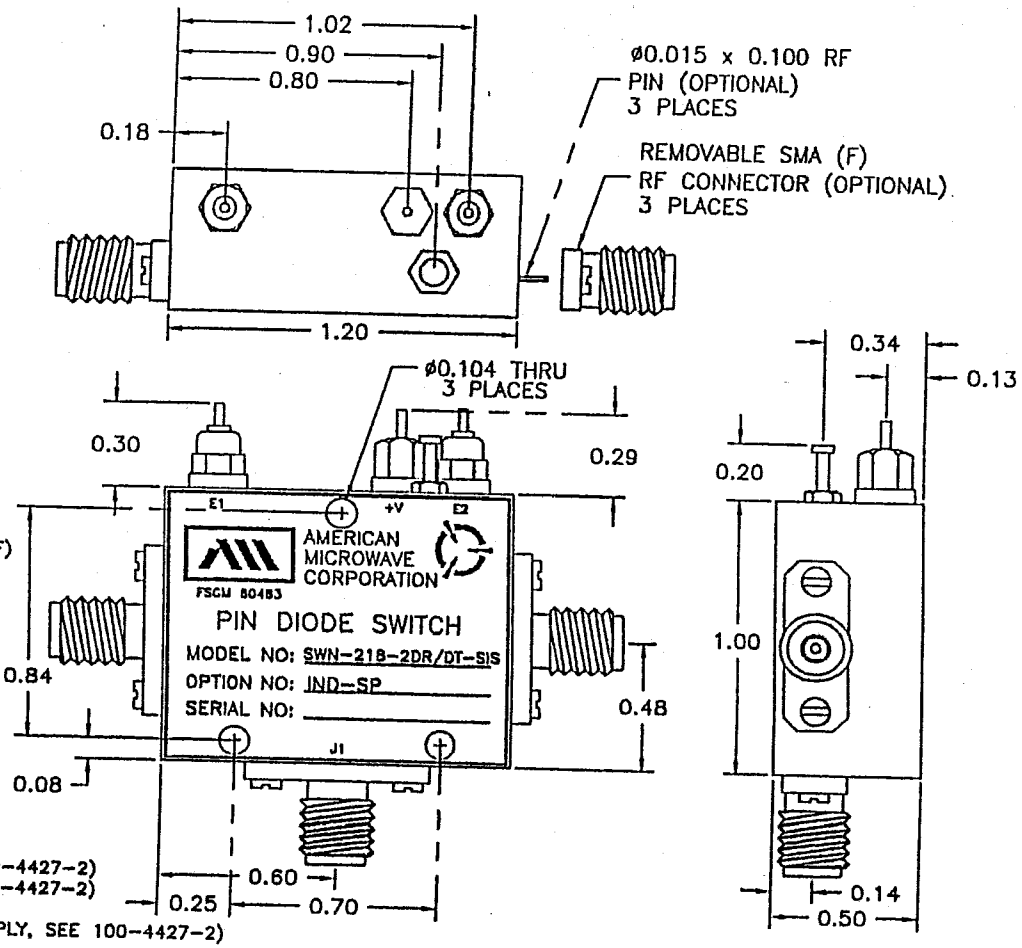
SINGLE CONTROL WITH SOLDER PIN STANDARD

- IND-SP ..... INDEPENDANT CONTROL WITH SOLDER PIN (LOGIC "0" = ON "1" = OFF)
- 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 (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-2)
- B02 ..... -15V POWER SUPPLIES (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-2)
- B03 ..... REVERSE LOGIC "1"=ON "0"=OFF
- B04 ..... DRIVERLESS, CURRENT CONTROLLED (NOT AVAILABLE WITH SINGLE SUPPLY, SEE 100-4427-2)
- B05 ..... HIGH SPEED, TURNON/TURNOFF 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
- 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

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

APPROVALS	DATE
DRAWN RRd	7/12/99
CHECKED [illegible]	7/19/99
ISSUED [illegible]	7/19/99

AMERICAN MICROWAVE CORPORATION
FREDERICK, MARYLAND

TITLE: OUTLINE DRAWING
SWN-218-2DR/DT-SIS-IND-SP
REFLECTIVE OR NON-REFLECTIVE(ABSORPTIVE)
SOLID STATE SWITCH

SIZE	FSCM NO.	DWG NO.	REV.
A	60483	100-4427-6	

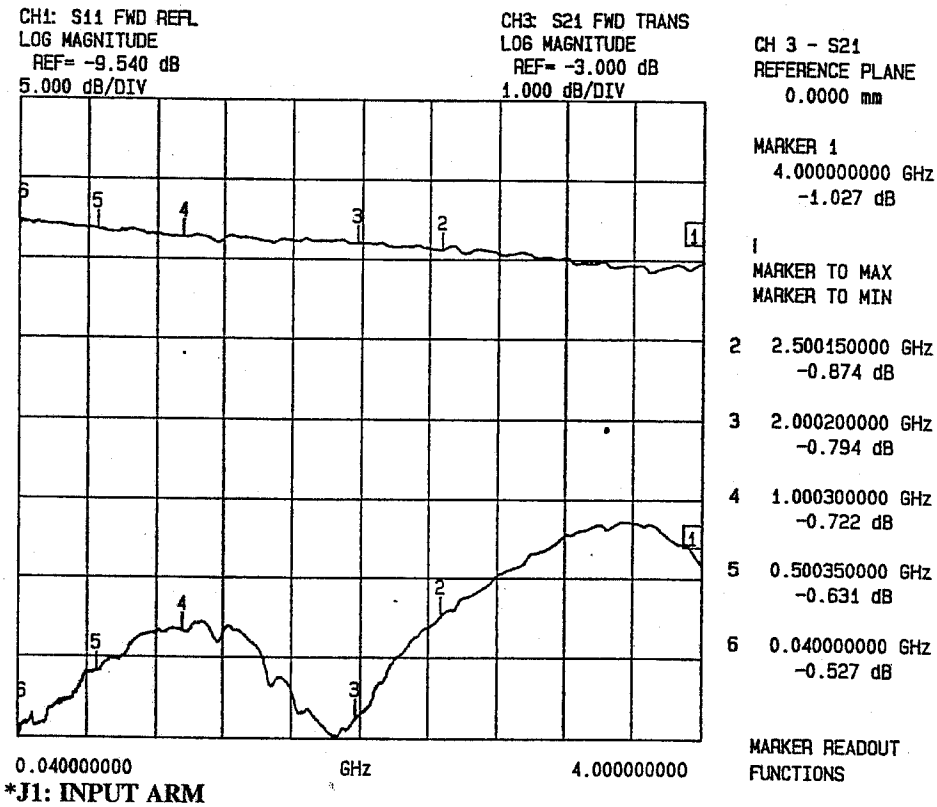
SCALE N/S SHEET 1 of 2

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J1-J2



*J1: INPUT ARM

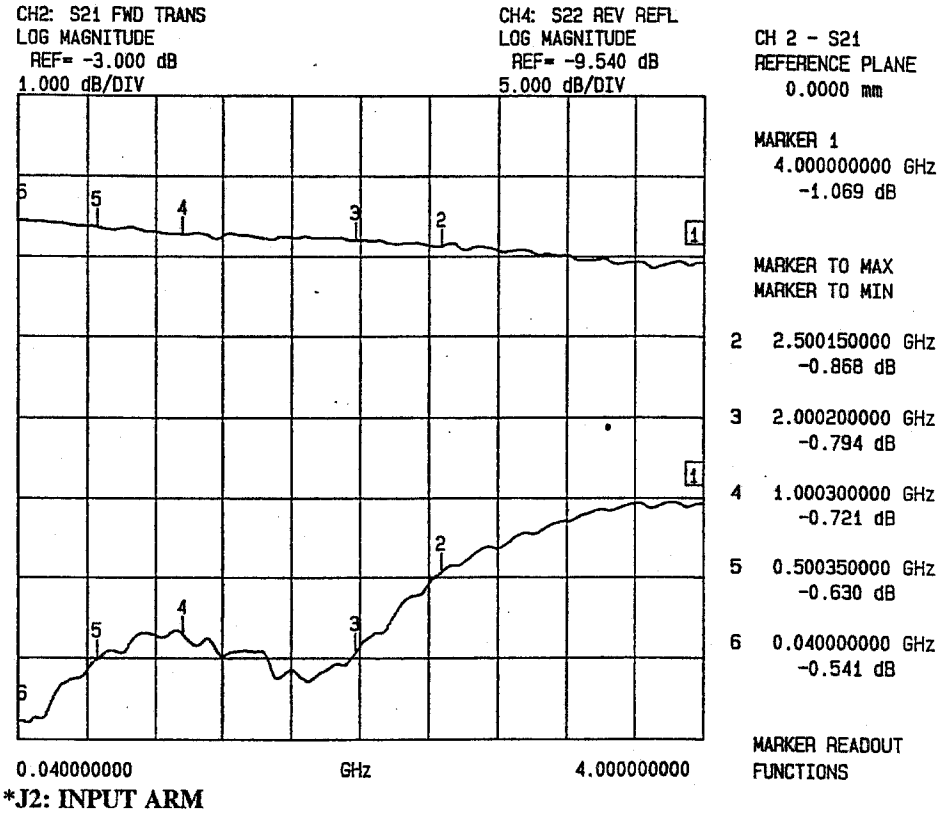
FREQUENCY	INSERTION LOSS	RETURN LOSS
40 MHz	0.52 dB	28.3 dB
500 MHz	0.63 dB	25.4 dB
1.0 GHz	0.72 dB	22.8 dB
2.0 GHz	0.79 dB	28.2 dB
2.5 GHz	0.87 dB	21.8 dB
4.0 GHz	1.02 dB	18.6 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J2-J1



*J2: INPUT ARM

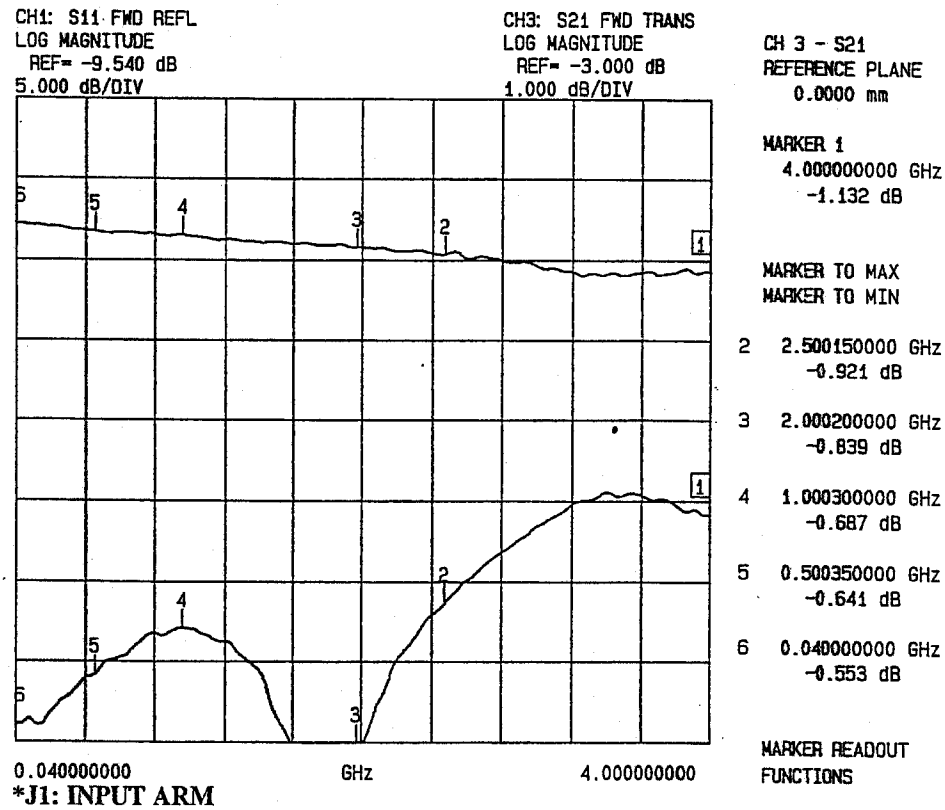
FREQUENCY	INSERTION LOSS	RETURN LOSS
40 MHz	0.54 dB	28.4 dB
500 MHz	0.63 dB	24.5 dB
1.0 GHz	0.72 dB	23.1 dB
2.0 GHz	0.79 dB	24.1 dB
2.5 GHz	0.86 dB	19.1 dB
4.0 GHz	1.06 dB	14.8 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J1-J3



*J1: INPUT ARM

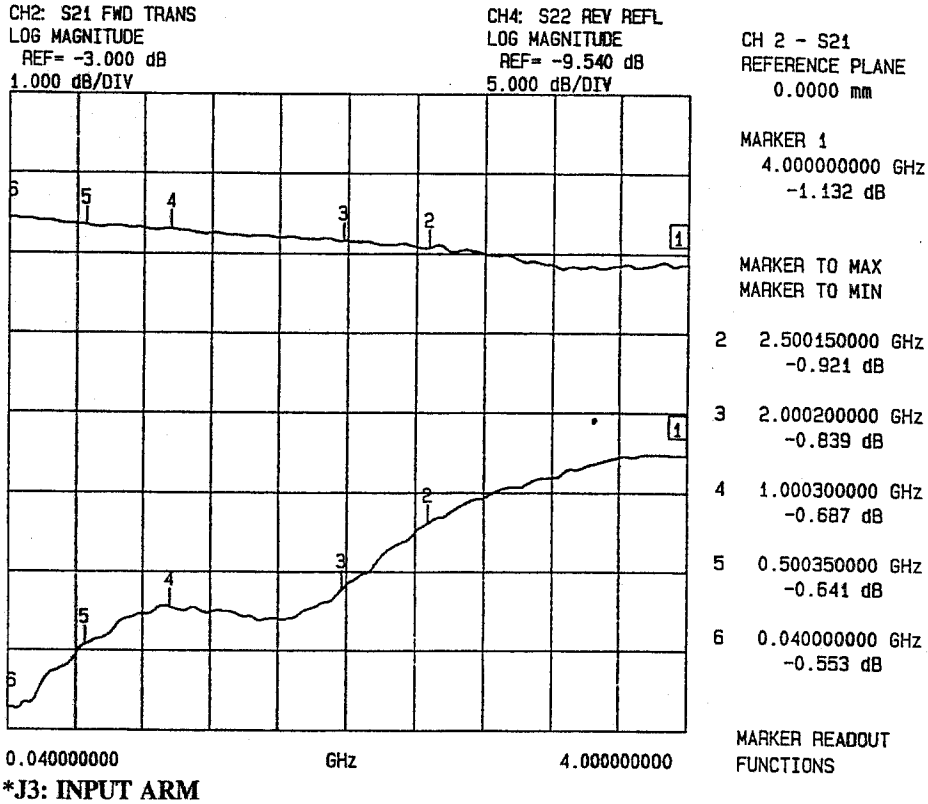
FREQUENCY	INSERTION LOSS	RETURN LOSS
40 MHz	0.55 dB	28.4 dB
500 MHz	0.64 dB	25.2 dB
1.0 GHz	0.68 dB	22.3 dB
2.0 GHz	0.83 dB	31.2 dB
2.5 GHz	0.92 dB	20.7 dB
4.0 GHz	1.13 dB	15.3 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J3-J1



*J3: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
40 MHz	0.55 dB	28.1 dB
500 MHz	0.64 dB	24.1 dB
1.0 GHz	0.68 dB	21.7 dB
2.0 GHz	0.83 dB	20.5 dB
2.5 GHz	0.92 dB	16.3 dB
4.0 GHz	1.13 dB	12.1 dB

SUMMARY TEST DATA

MODEL NUMBER : SWN-218-2DR-STANDARD
OPTION NUMBER : DC205, HPR5W
SERIAL NUMBER : 2MS008239
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER CW)

FREQUENCY	J2	J3
50 MHz	52 dB	51 dB
100 MHz	48 dB	48 dB
300 MHz	38 dB	38 dB
500 MHz	33 dB	33 dB
750 MHz	29 dB	30 dB
1.0 GHz	28 dB	28 dB
1.25 GHz	25 dB	26 dB
1.5 GHz	24 dB	25 dB
1.75 GHz	23 dB	23 dB
2.0 GHz	23 dB	23 dB
2.25 GHz	22 dB	22 dB
2.5 GHz	21 dB	21 dB
2.75 GHz	20 dB	20 dB
3.0 GHz	19 dB	19 dB
3.25 GHz	18 dB	18 dB
3.5 GHz	17 dB	17 dB
3.75 GHz	16 dB	15 dB
4.0 GHz	15 dB	14 dB
4.5 GHz	13 dB	12 dB
5.0 GHz	13 dB	10 dB

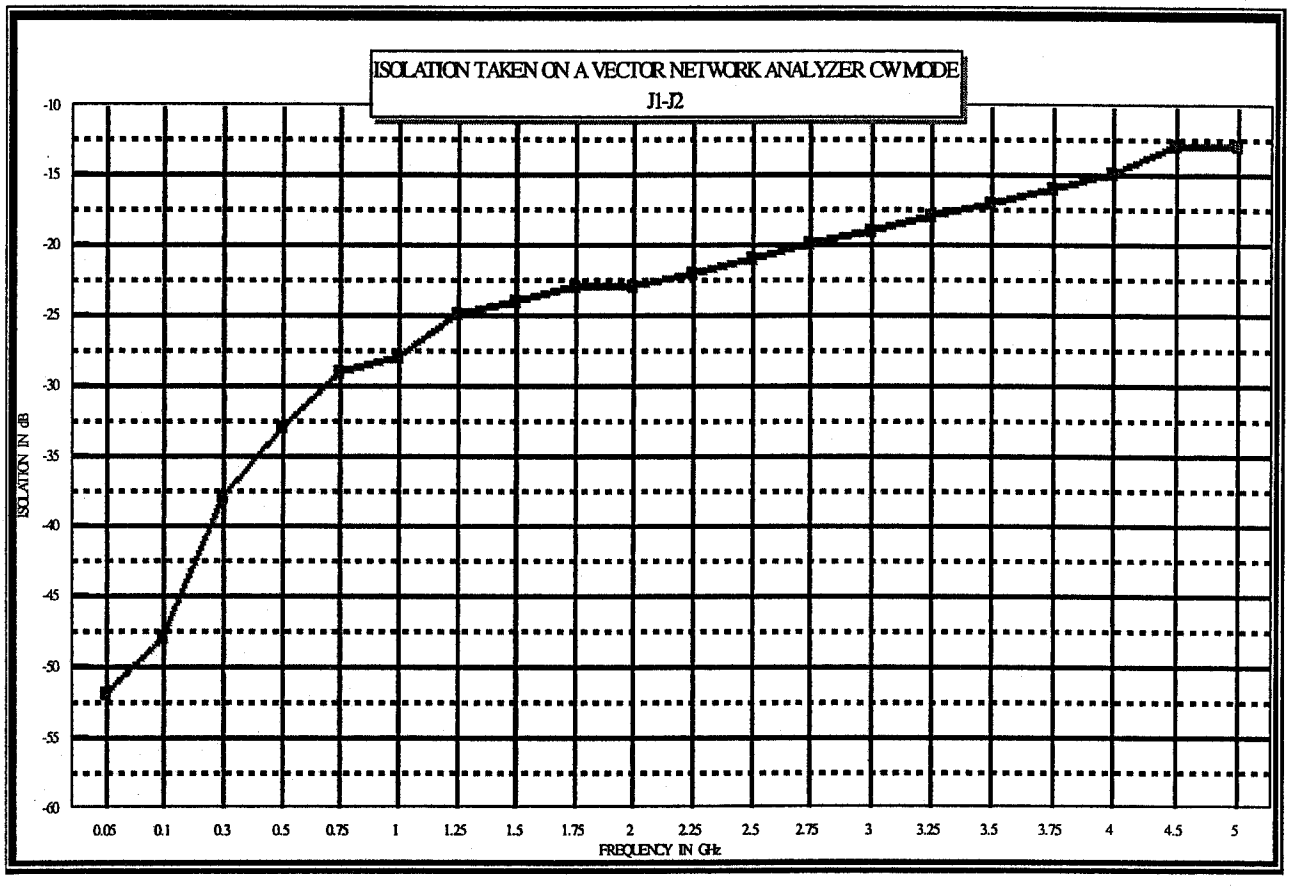
*J1: INPUT ARM

AUGUST 17, 2000

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER CW MODE)
J1-J2

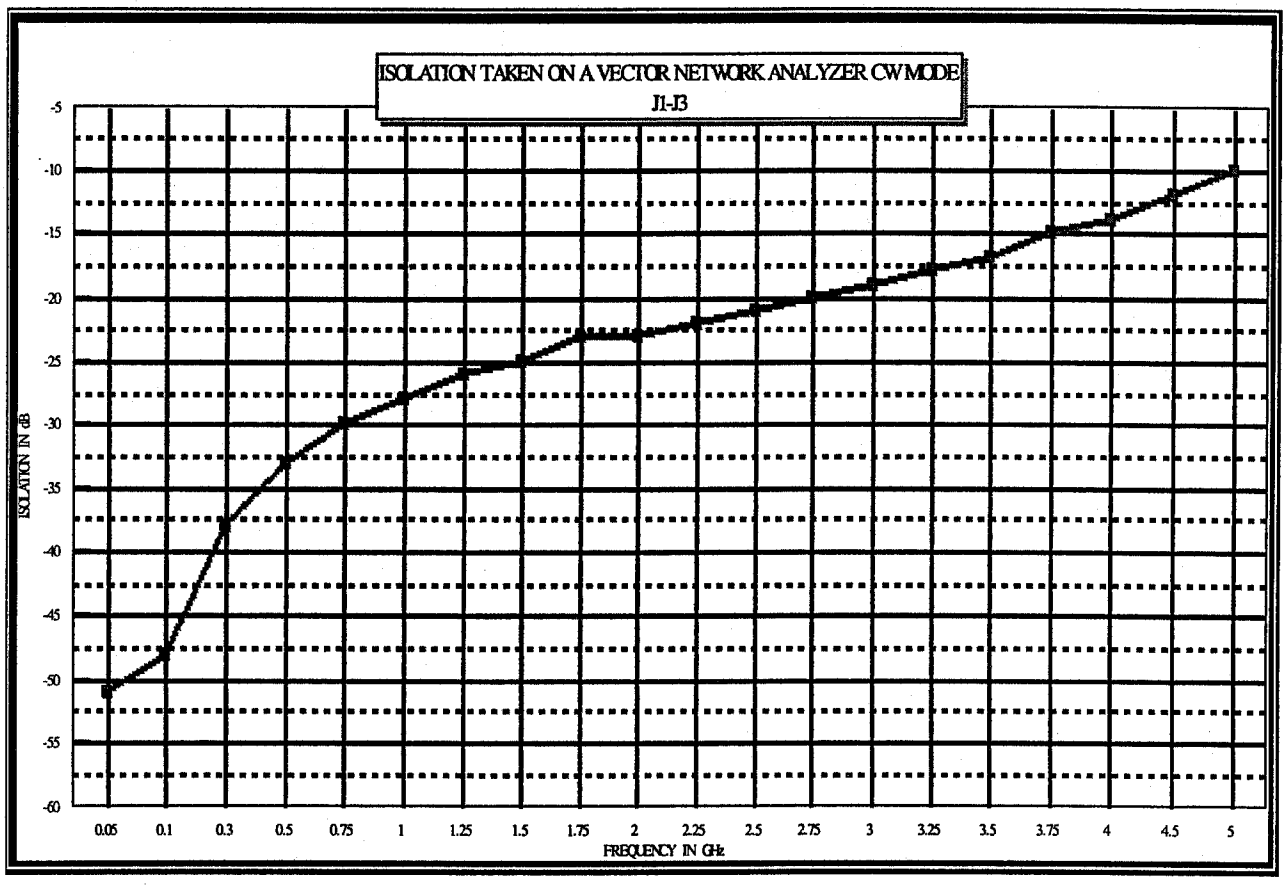


*J1: INPUT ARM

MODEL NUMBER	**: SWN-218-2DR-STANDARD**
OPTION NUMBER	**: DC205, HPR5W**
SERIAL NUMBER	**: 2MS008239**
ENGINEER	**: RENE AFABLE**
VOLTAGE & CURRENT DRAW	**: -5V @ 8mA**

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER CW MODE)
J1-J3



*J1: INPUT ARM

AMERICAN MICROWAVE CORPORATION

TEST DATA

FROM

100 MHz TO 1 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W
(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

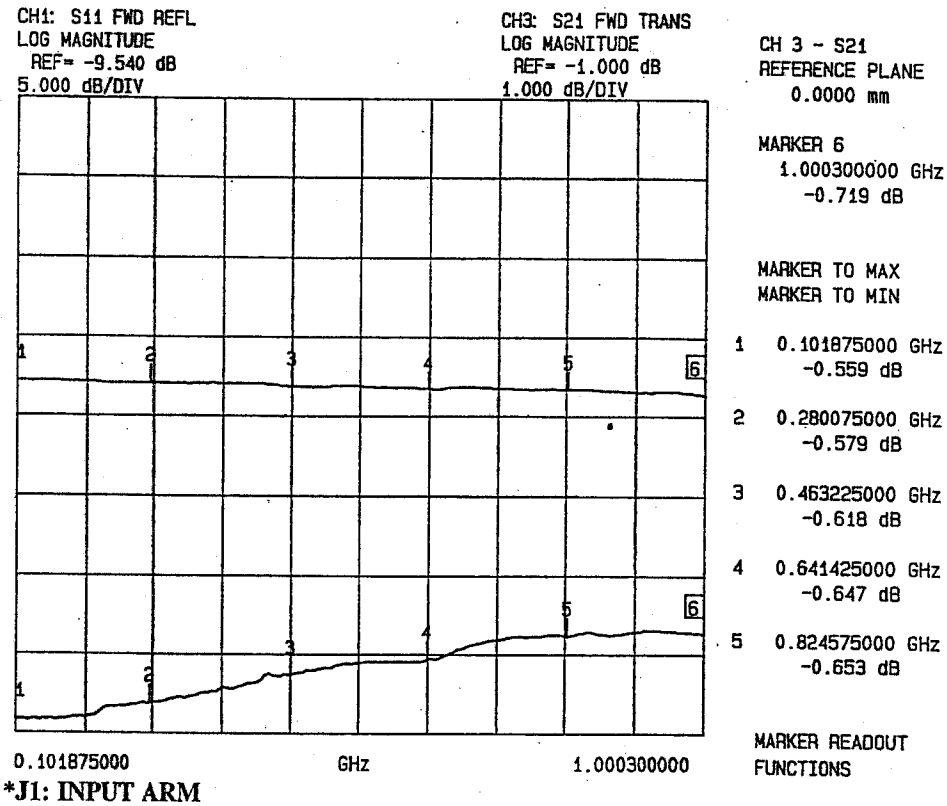
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J1-J2



*J1: INPUT ARM

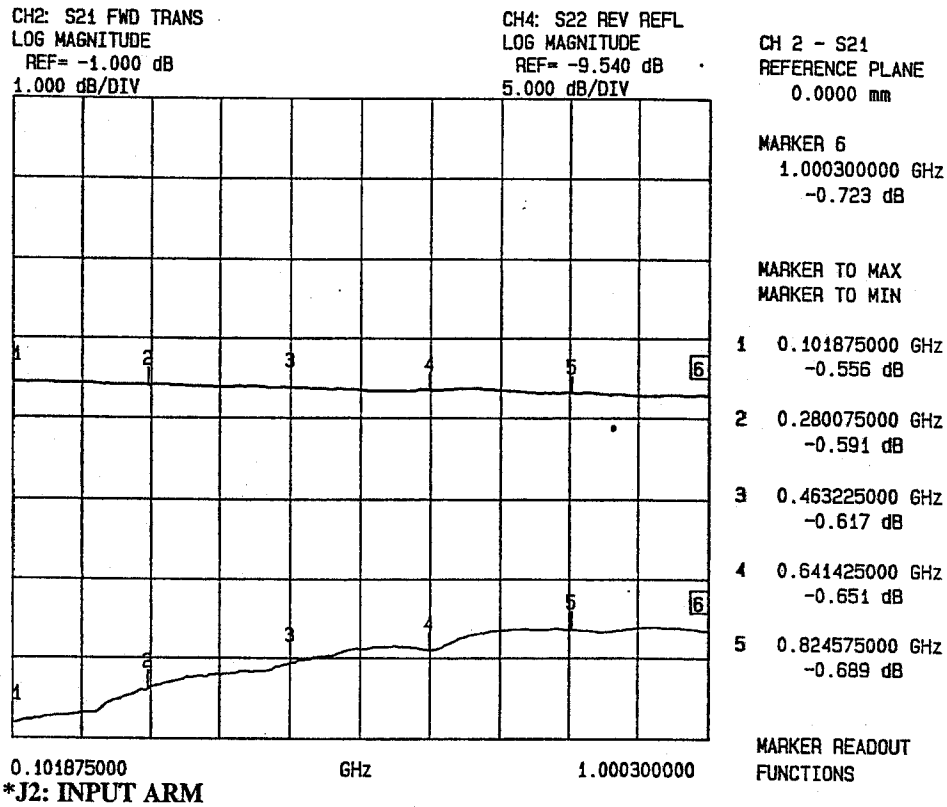
FREQUENCY	INSERTION LOSS	RETURN LOSS
100 MHz	0.55 dB	28.6 dB
280 MHz	0.57 dB	27.5 dB
460 MHz	0.61 dB	25.7 dB
640 MHz	0.64 dB	24.7 dB
820 MHz	0.65 dB	23.3 dB
1.0 GHz	0.71 dB	23.1 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J2-J1



*J2: INPUT ARM

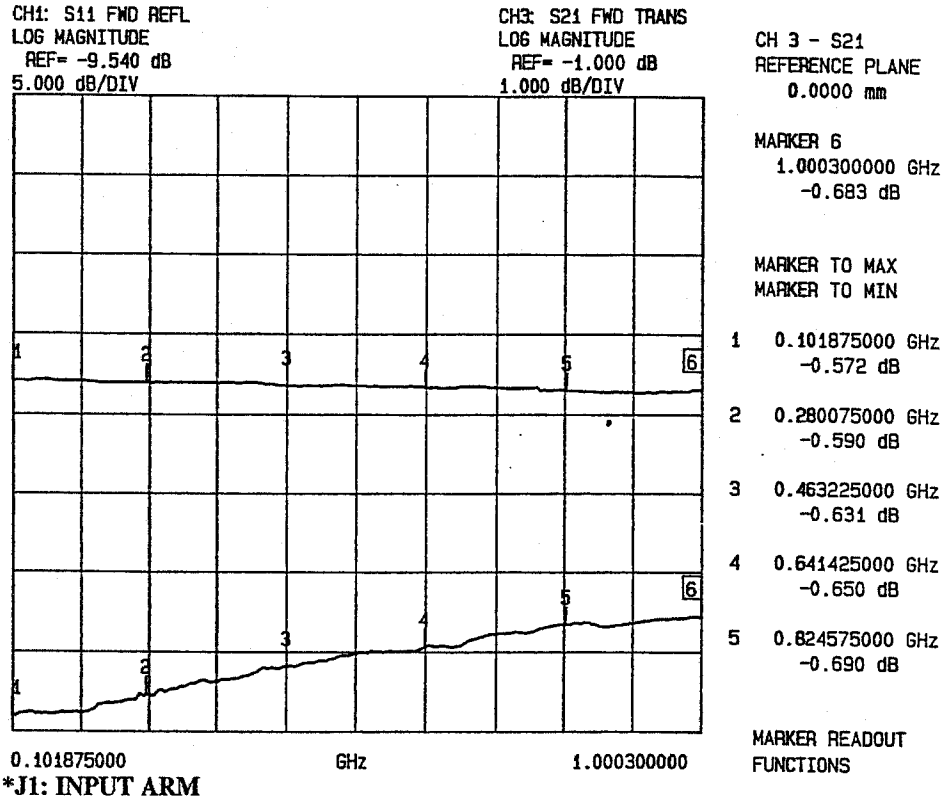
FREQUENCY	INSERTION LOSS	RETURN LOSS
100 MHz	0.55 dB	28.5 dB
280 MHz	0.59 dB	26.4 dB
460 MHz	0.61 dB	24.8 dB
640 MHz	0.65 dB	24.0 dB
820 MHz	0.68 dB	22.7 dB
1.0 GHz	0.72 dB	22.8 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J1-J3



*J1: INPUT ARM

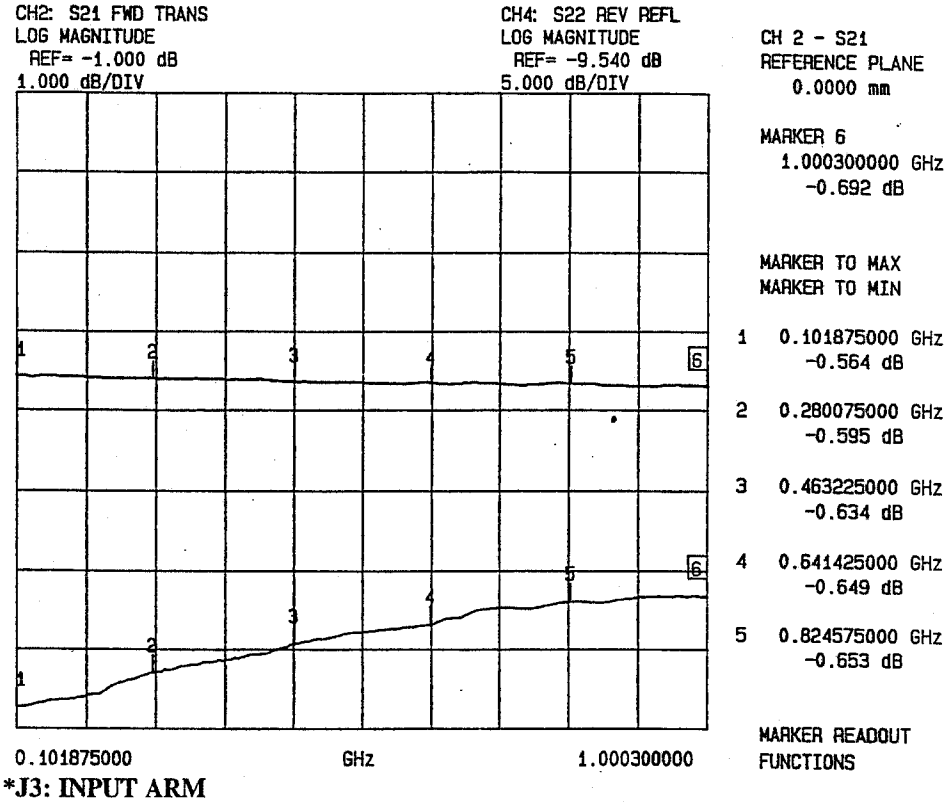
FREQUENCY	INSERTION LOSS	RETURN LOSS
100 MHz	0.57 dB	28.5 dB
280 MHz	0.59 dB	27.1 dB
460 MHz	0.63 dB	25.4 dB
640 MHz	0.65 dB	24.1 dB
820 MHz	0.69 dB	22.7 dB
1.0 GHz	0.68 dB	22.3 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

INSERTION LOSS & RETURN LOSS*

J3-J1



*J3: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
100 MHz	0.56 dB	28.2 dB
280 MHz	0.59 dB	26.0 dB
460 MHz	0.63 dB	24.1 dB
640 MHz	0.64 dB	22.9 dB
820 MHz	0.65 dB	21.4 dB
1.0 GHz	0.69 dB	21.1 dB

AMPLITUDE

DATA

BETWEEN

PORT TO PORT

FROM

40 MHz TO 2.5 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

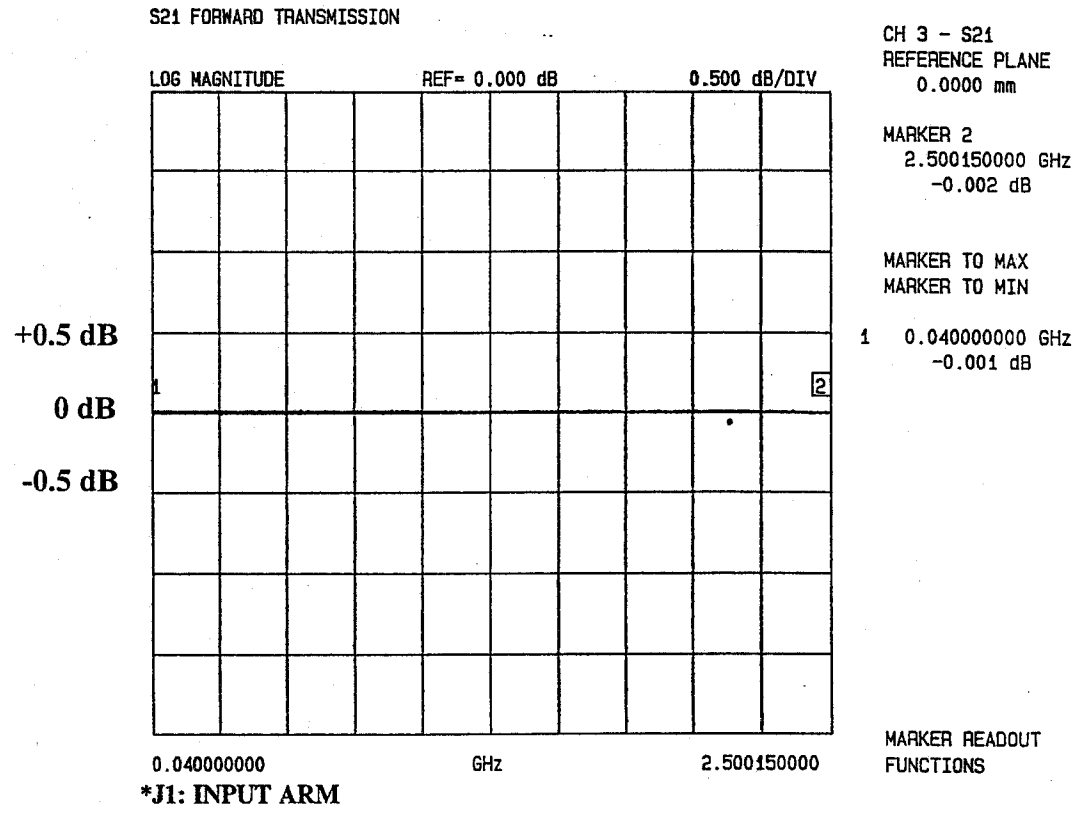
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

AMPLITUDE*

J1-J2 (REFERENCE)



*J1: INPUT ARM

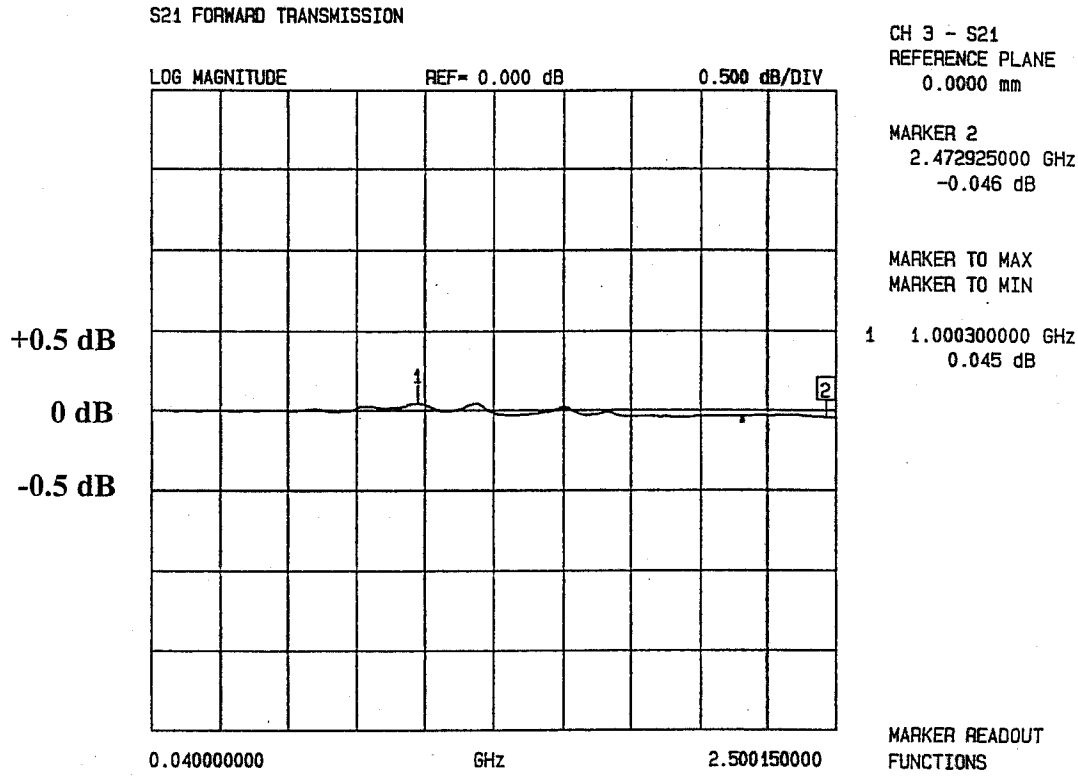
FREQUENCY	AMPLITUDE (PEAK) (POSITIVE SIDE)	AMPLITUDE (PEAK) (NEGATIVE SIDE)
40 MHz		-0.001 dB
2.5 GHz		-0.002 dB

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

AMPLITUDE*

J1-J2



*J1: INPUT ARM

FREQUENCY	AMPLITUDE (PEAK) (POSITIVE SIDE)	AMPLITUDE (PEAK) (NEGATIVE SIDE)
1.0 GHz	0.045 dB	
2.47 GHz		-0.046 dB

AMERICAN MICROWAVE CORPORATION

PHASE

DATA

BETWEEN

PORT TO PORT

FROM

40 MHz TO 2.5 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

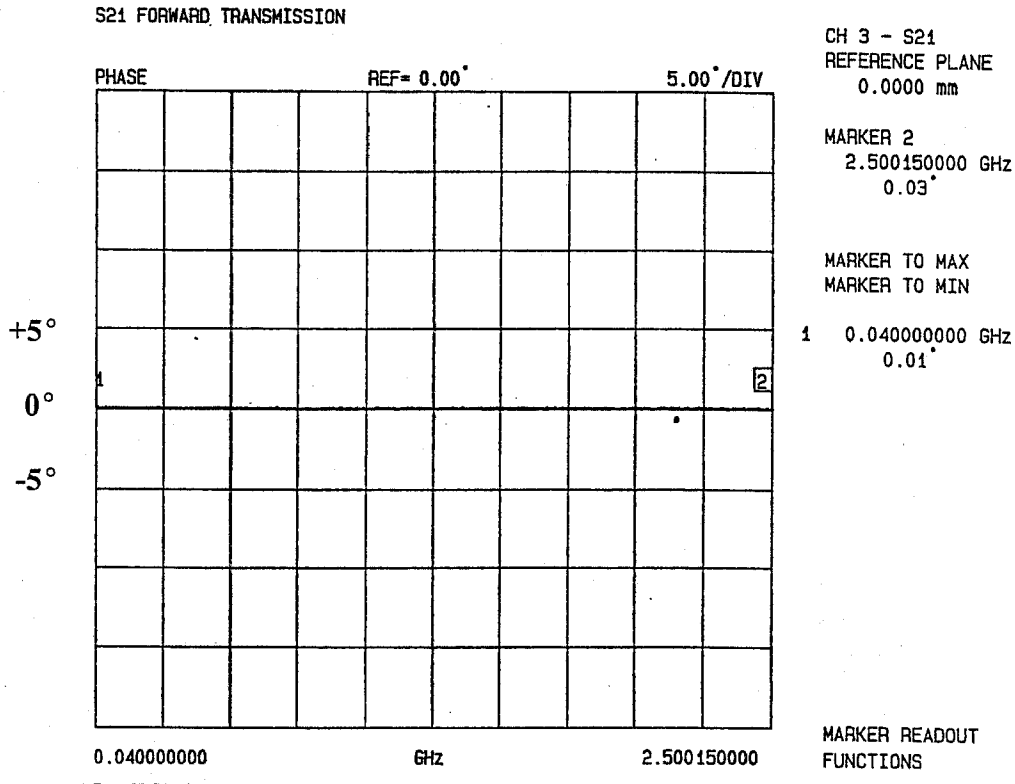
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

PHASE*

J1-J2 (REFERENCE)



*J1: INPUT ARM

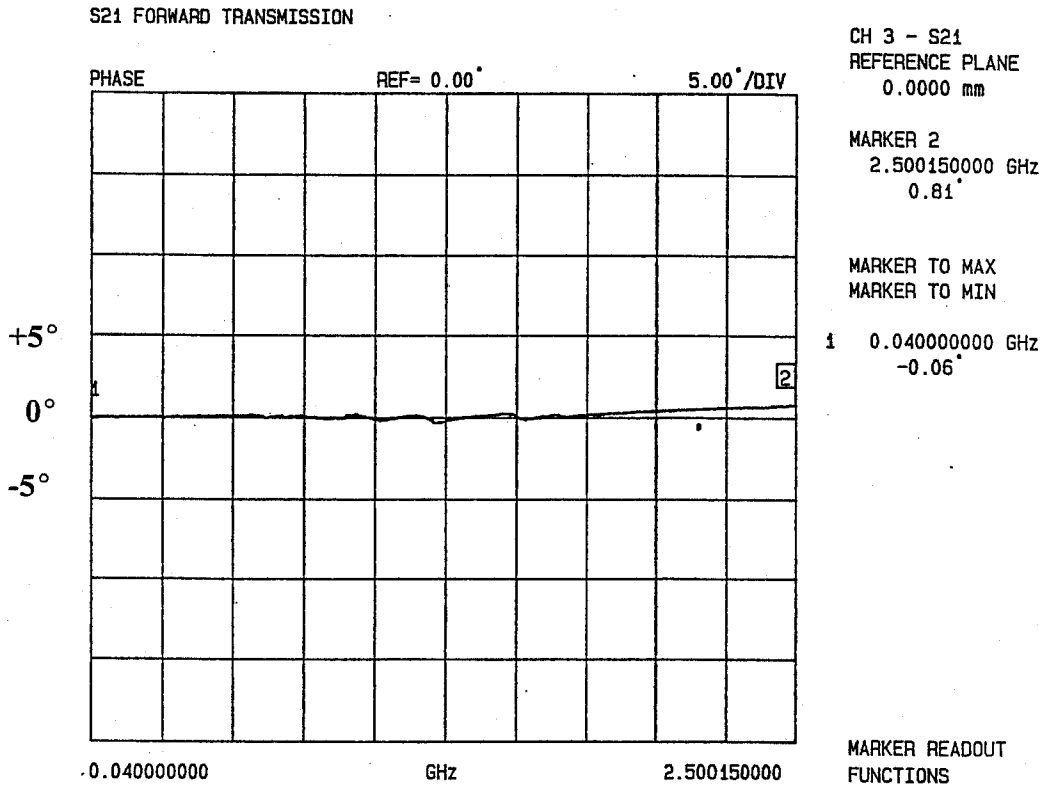
FREQUENCY	PHASE (PEAK) (POSITIVE SIDE)	PHASE (PEAK) (NEGATIVE SIDE)
40 MHz	0.01°	
2.5 GHz	0.03°	

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

PHASE*

J1-J2



*J1: INPUT ARM

FREQUENCY	PHASE (PEAK) (POSITIVE SIDE)	PHASE (PEAK) (NEGATIVE SIDE)
40 MHz		-0.06°
2.5 GHz	0.81°	

AMERICAN MICROWAVE CORPORATION

AMPLITUDE

DATA

BETWEEN

PORT TO PORT

FROM

40 MHz TO 3.5 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

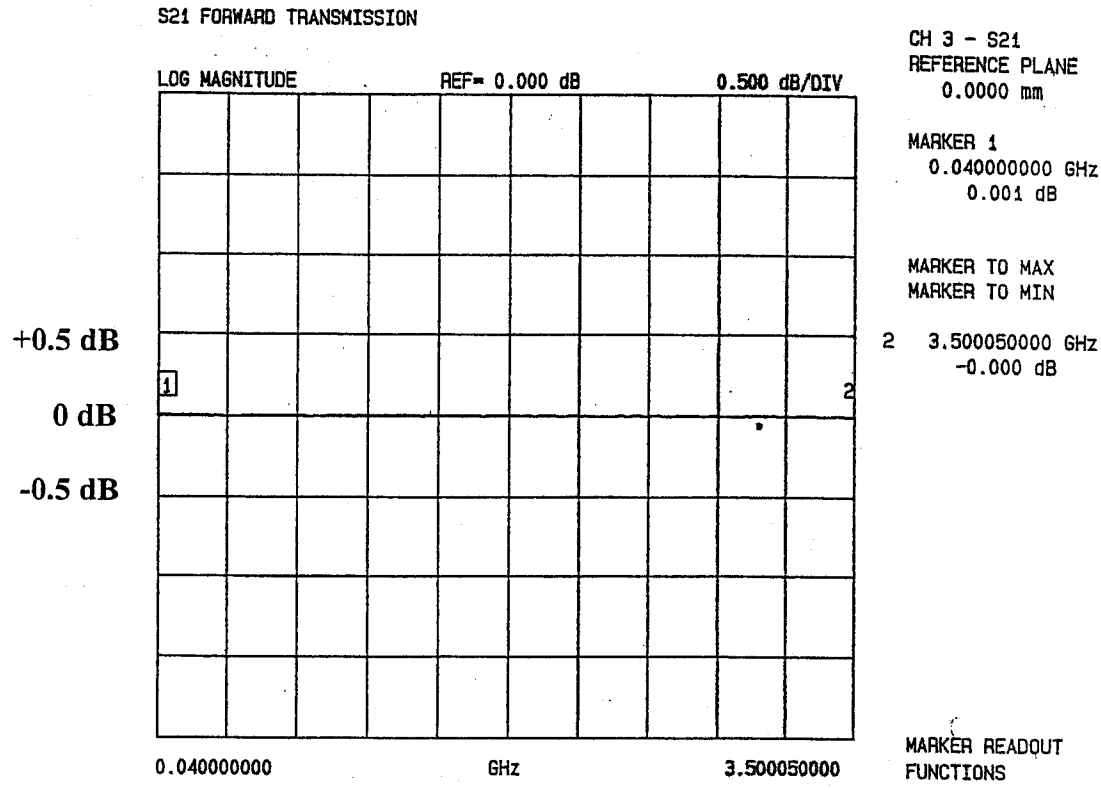
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

AMPLITUDE*

J1-J2 (REFERENCE)



*J1: INPUT ARM

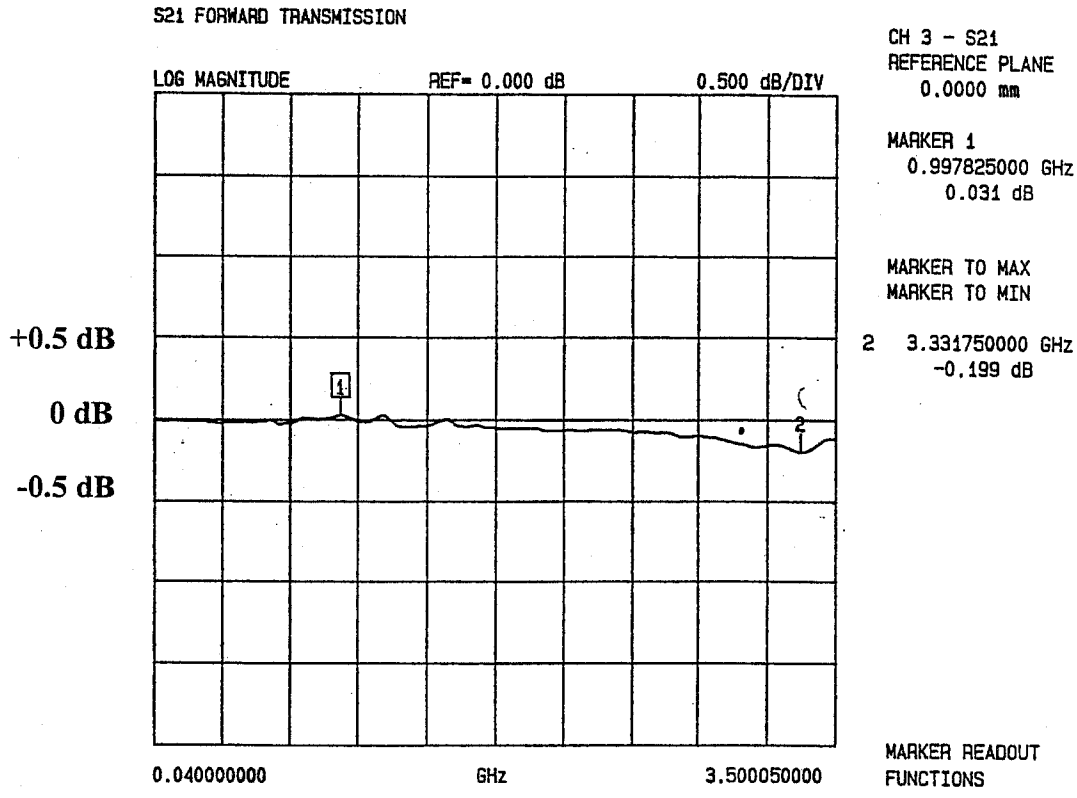
FREQUENCY	AMPLITUDE (PEAK) (POSITIVE SIDE)	AMPLITUDE (PEAK) (NEGATIVE SIDE)
40 MHz	0.001 dB	
3.5 GHz	0.000 dB	

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

AMPLITUDE*

J1-J2



*J1: INPUT ARM

FREQUENCY	AMPLITUDE (PEAK) (POSITIVE SIDE)	AMPLITUDE (PEAK) (NEGATIVE SIDE)
0.99 GHz	0.031 dB	
3.33 GHz		-0.199 dB

AMERICAN MICROWAVE CORPORATION

PHASE

DATA

BETWEEN

PORT TO PORT

FROM

40 MHz TO 3.5 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

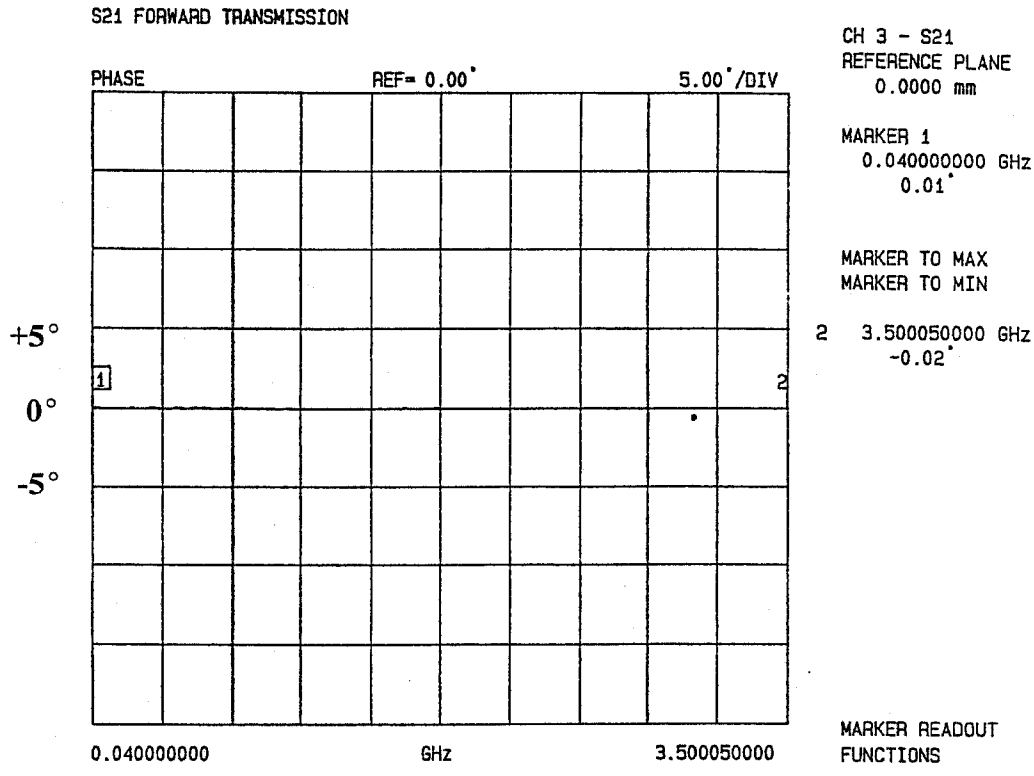
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @8mA

PHASE*

J1-J2 (REFERENCE)



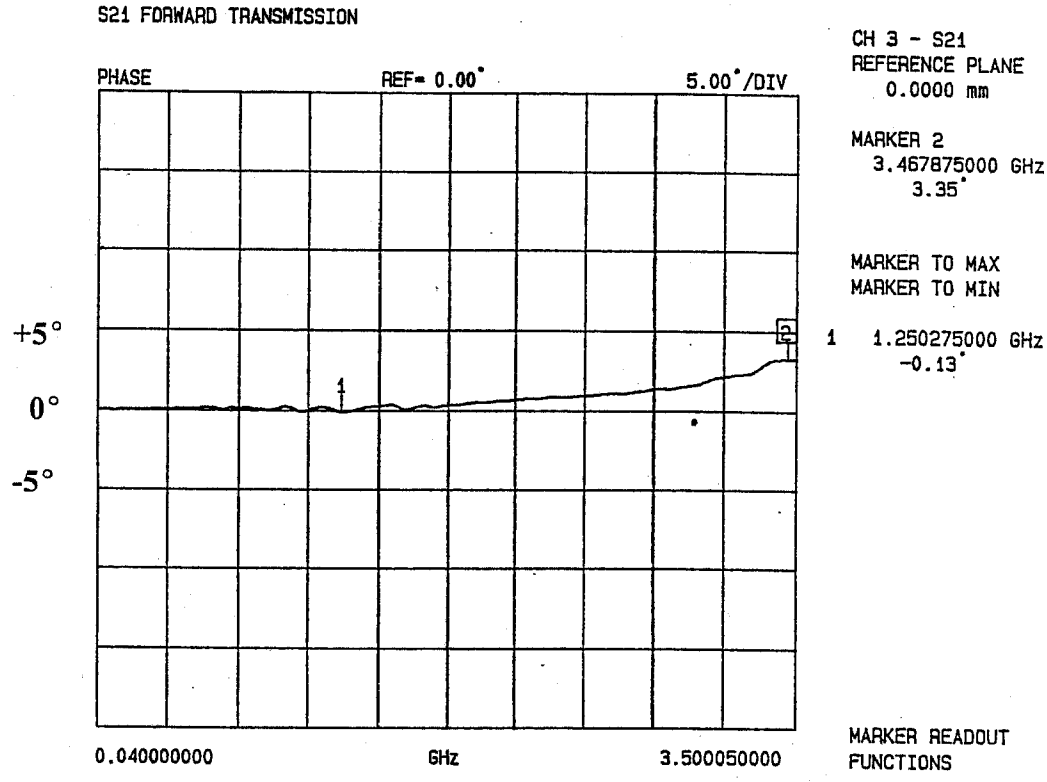
*J1: INPUT ARM

FREQUENCY	PHASE (PEAK) (POSITIVE SIDE)	PHASE (PEAK) (NEGATIVE SIDE)
40 MHz	0.01°	
3.5 GHz		-0.02°

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @8mA

PHASE*
J1-J2



*J1: INPUT ARM

FREQUENCY	PHASE (PEAK) (POSITIVE SIDE)	PHASE (PEAK) (NEGATIVE SIDE)
3.46 GHz	3.35°	
1.25 GHz		-0.13°

AUGUST 17, 2000

SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

SWITCHING SPEED

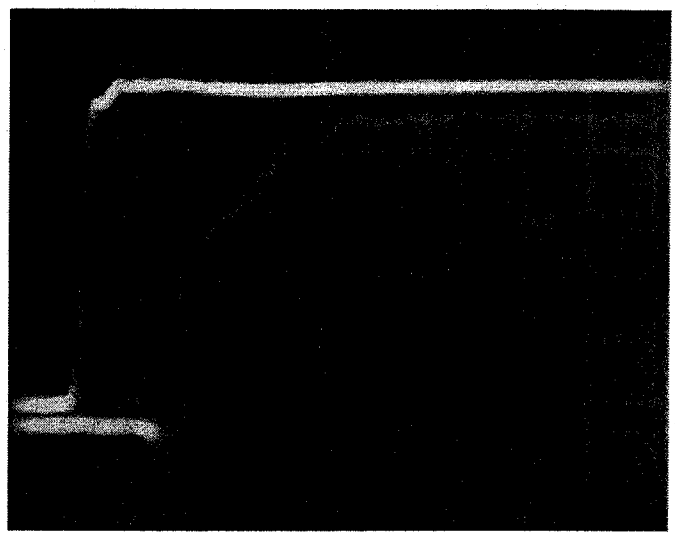
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF
"On/Off" Time: 50% TTL to 90% RF or 10% RF

TYPICAL OF ALL ARMS

"DELAY ON": 31 nS
"RISE TIME": 18 nS

HORIZONTAL SCALE:
10 nS PER DIVISION

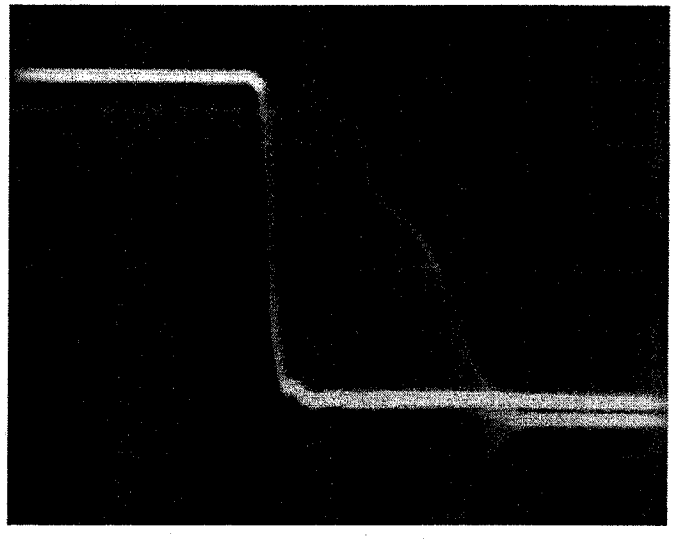
VERTICAL SCALE:
0.1V PER DIVISION



"DELAY OFF": 34 nS
"FALL TIME": 20 nS

HORIZONTAL SCALE:
10 nS PER DIVISION

VERTICAL SCALE:
0.1V PER DIVISION



SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

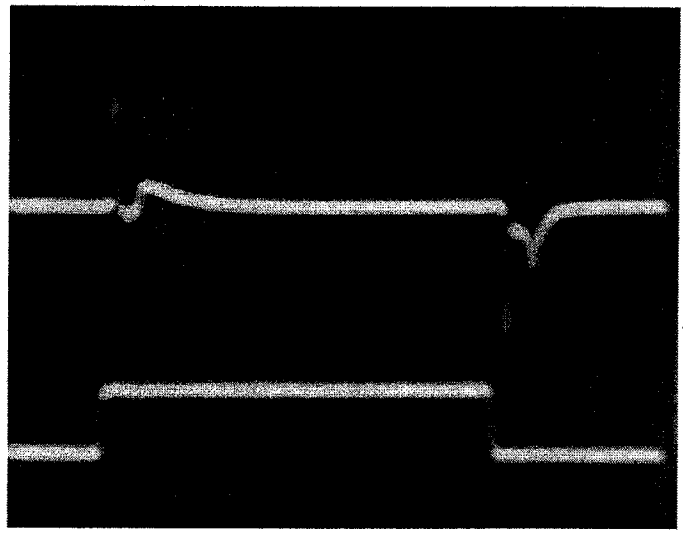
VIDEO TRANSIENTS

TYPICAL OF ALL ARMS

≤66 mV P-P
MEASURED IN A
300 MHZ BANDWIDTH

VERTICAL SCALE:
20 mV PER DIVISION

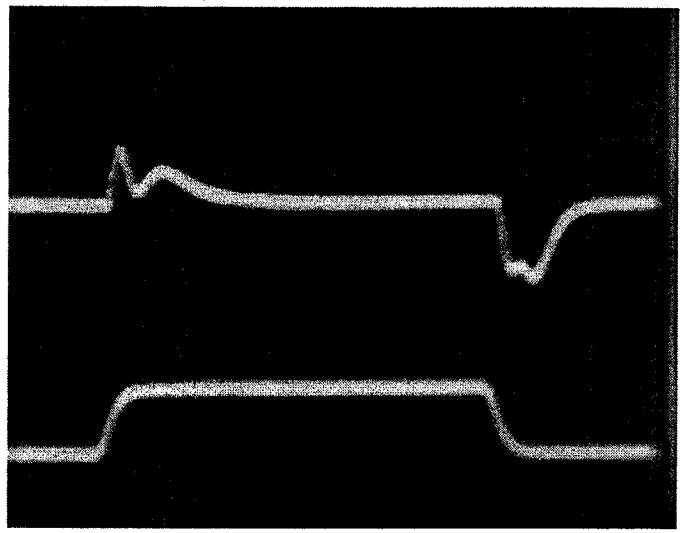
HORIZONTAL SCALE:
20 nS PER DIVISION



≤21 mV P-P
MEASURED IN A
20 MHZ BANDWIDTH

VERTICAL SCALE:
10 mV PER DIVISION

HORIZONTAL SCALE:
20 nS PER DIVISION



AMERICAN MICROWAVE CORPORATION

APPENDIX A

MISCELLANEOUS

TEST DATA AND PLOTS

ON

ISOLATION

AS

MEASURED

ON A VECTOR NETWORK ANALYZER

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W
(Serial Number: 2MS008239)

FROM

40 MHz TO 4 GHz

AND

FROM

100 MHz TO 1 GHz

AUGUST 17, 2000

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

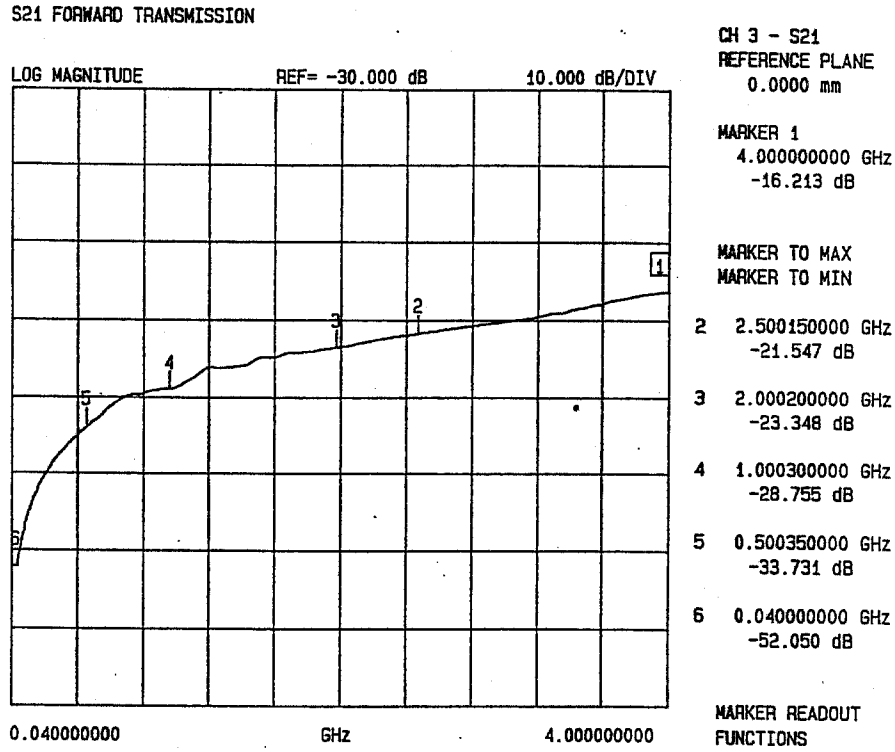
SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J1-J2



*J1: INPUT ARM

FREQUENCY	ISOLATION
40 MHz	52.05 dB
500 MHz	33.73 dB
1.0 GHz	28.75 dB
2.0 GHz	23.34 dB
2.5 GHz	21.54 dB
4.0 GHz	16.21 dB

AUGUST 17, 2000

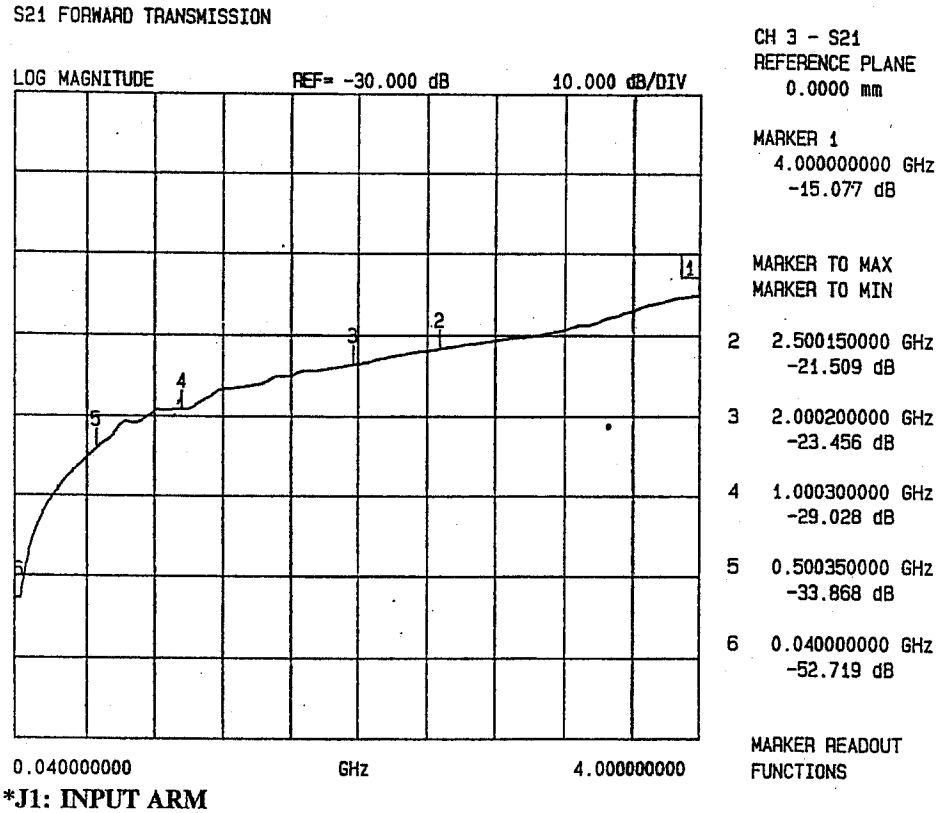
SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J1-J3



*J1: INPUT ARM

FREQUENCY	ISOLATION
40 MHz	52.71 dB
500 MHz	33.86 dB
1.0 GHz	29.02 dB
2.0 GHz	23.45 dB
2.5 GHz	21.50 dB
4.0 GHz	15.07 dB

AUGUST 17, 2000

AMERICAN MICROWAVE CORPORATION

ISOLATION

DATA

FROM

100 MHz TO 1 GHz

ON A

SP2T

T/R SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD OPTIONS DC205, HPR5W

(Serial Number: 2MS008239)

PREPARED
BY
KATIE BAISEY

TESTED
BY
RENE AFABLE

AUGUST 17, 2000

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

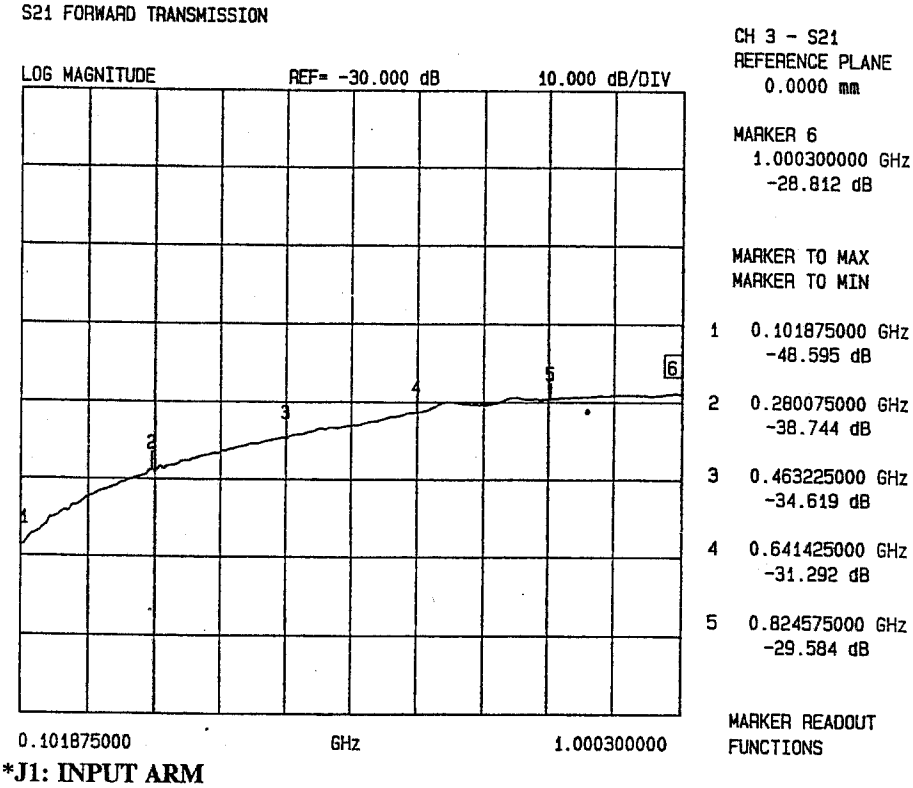
SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J1-J2



*J1: INPUT ARM

FREQUENCY	ISOLATION
100 MHz	48.59 dB
280 MHz	38.74 dB
460 MHz	34.61 dB
640 MHz	31.29 dB
820 MHz	29.58 dB
1.0 GHz	28.81 dB

AUGUST 17, 2000

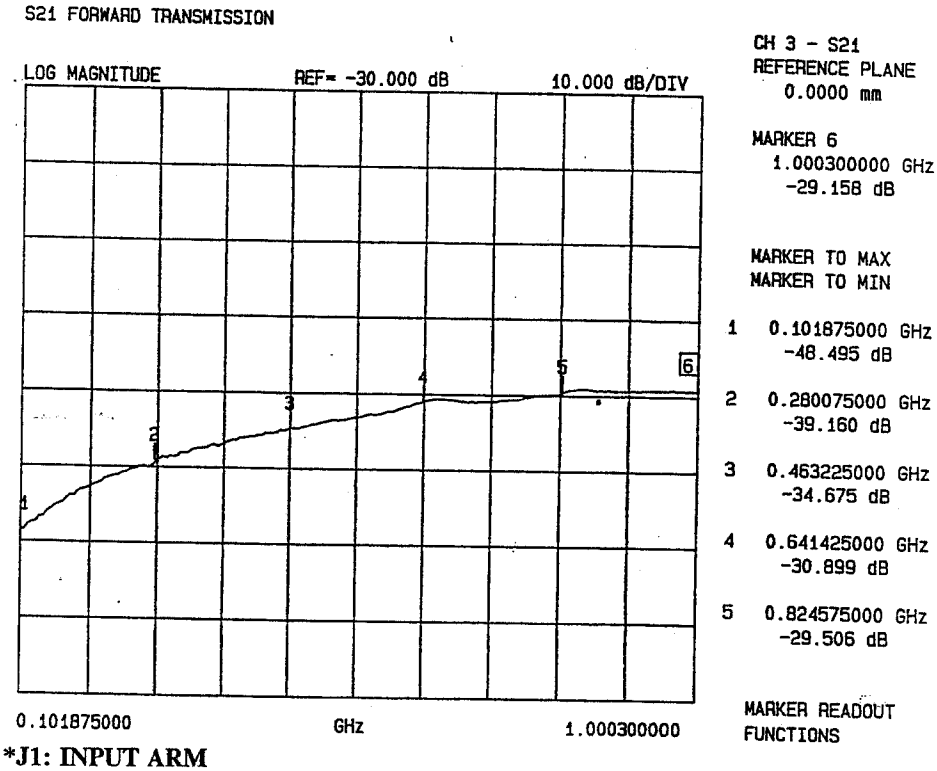
SUMMARY TEST DATA

MODEL NUMBER	: SWN-218-2DR-STANDARD
OPTION NUMBER	: DC205, HPR5W
SERIAL NUMBER	: 2MS008239
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: -5V @ 8mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J1-J3



*J1: INPUT ARM

FREQUENCY	ISOLATION
100 MHz	48.49 dB
280 MHz	39.16 dB
460 MHz	34.67 dB
640 MHz	30.89 dB
820 MHz	29.50 dB
1.0 GHz	29.15 dB

AUGUST 17, 2000