



TEST REPORT
ON
0.6 TO 1.3 GHz
SINGLE POLE TWO THROW
NON-REFLECTIVE / ABSORPTIVE SWITCH MODULE

AMC MODEL No:
SWN-218-2DT-STANDARD
OPTION SHL, HPR4W, HS30NS

Serial Numbers: 2MS208628 THRU 2MS208630

DESIGNED
BY
R. Afable

TESTED
BY
R. Afable

REPORTED
BY
E. Elder

October 27, 2004

Handwritten notes:
HW
JRH
ESC
JST
SKM
JC
PWS

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ISO9001 : 2000 CERTIFIED

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**SINGLE POLE THREE THROW
NON-REFLECTIVE / ABSORPTIVE SWITCH MODULE
AMC MODEL No:
SWN-218-2DT-STANDARD OPT SHL, HPR4W, HS30NS**

FEATURES:

- **0.6 TO 1.3 GHz FREQUENCY RANGE**
- **LOW INSERTION LOSS**
- **HIGH ISOLATION**
- **HIGH SPEED**
- **HIGH POWER CAPABILITIES**

SPECIFICATIONS:

● FREQUENCY	: 0.6 TO 1.3 GHz
● INSERTION LOSS	: 1.5 dB MAXIMUM
● ISOLATION	: 70 dB
● VSWR	: 1.5:1
● SPEED	: DELAY ON: 30 nS : DELAY OFF: 30 nS
● RF POWER	: 4 WATTS
● CONTROL	: TTL SINGLE ENDED 1 BIT
● POWER SUPPLY	: +5V @ 100 mA MAXIMUM : -15V @ 100 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 OUNCES TYPICAL

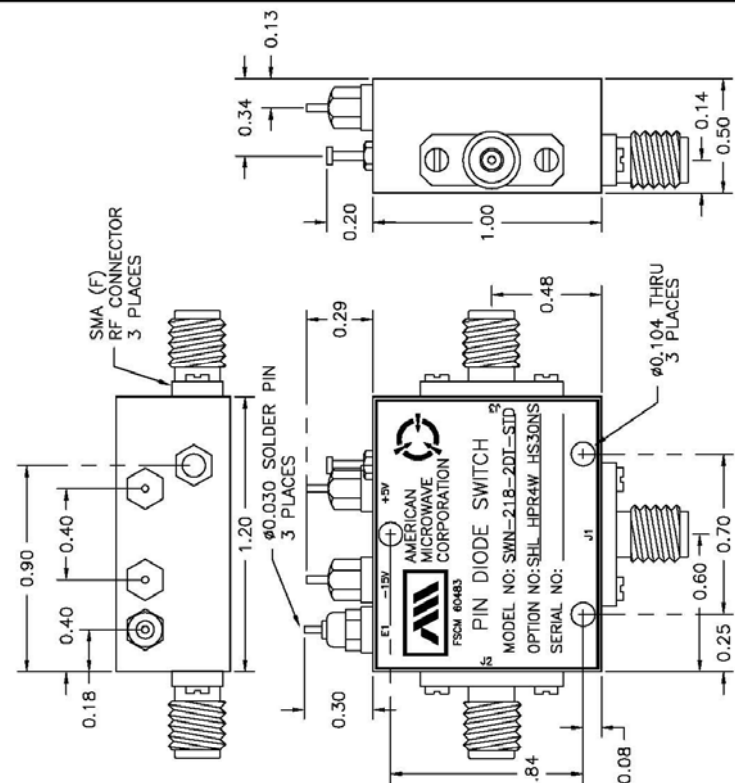
PRODUCT FEATURE

ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL JOB# 204067XE-2	05/07/04	

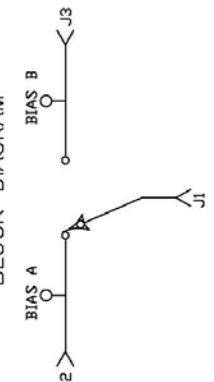
DESCRIPTION:
 AMC MODEL SWN-218-2DT-STANDARD OPTIONS SHL, HPR4W, HS30NS IS A SINGLE POLE TWO THROW, HIGH POWER (4 WATTS), HIGH SPEED TERMINATED SWITCH MODULE WITH LOW INSERTION LOSS, HIGH ISOLATION, AND INTEGRAL TTL DRIVER, DESIGNED FOR 600 MHz TO 1.3 GHz OPERATION.

SPECIFICATIONS:

- FREQUENCY: 600 MHz TO 1.3 GHz
- INSERTION LOSS: 1.5 dB
- ISOLATION: 70 dB
- VSWR (ALL PORTS): 1.5:1
- SWITCHING SPEED: DELAY ON: 30 nS
DELAY OFF: 30 nS
- RF POWER: 4 WATTS
- CONTROL: TTL SINGLE ENDED 1 BIT
- POWER SUPPLY: +5 VDC @ 100 mA MAXIMUM
-15 VDC @ 100 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: -55C TO +85C (OPERATING)
- TEMPERATURE: -65C TO +25C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 1003 COND. B
- SHOCK: MIL-STD-202F, METHOD 2133 COND. B
- VIBRATION: MIL-STD-202F, METHOD 2048 COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

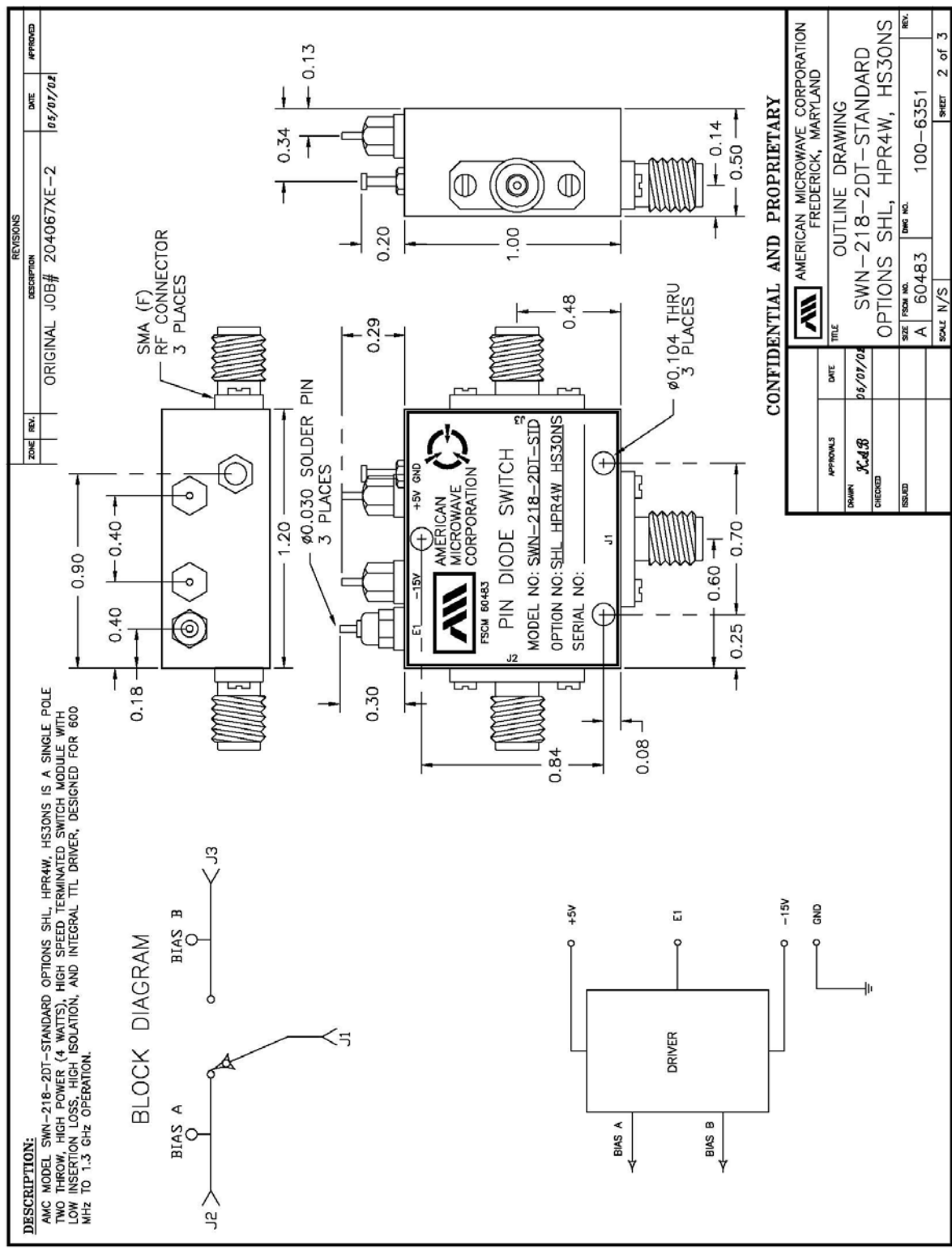
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

CONFIDENTIAL AND PROPRIETARY

AMERICAN MICROWAVE CORPORATION
 FREDERICK, MARYLAND

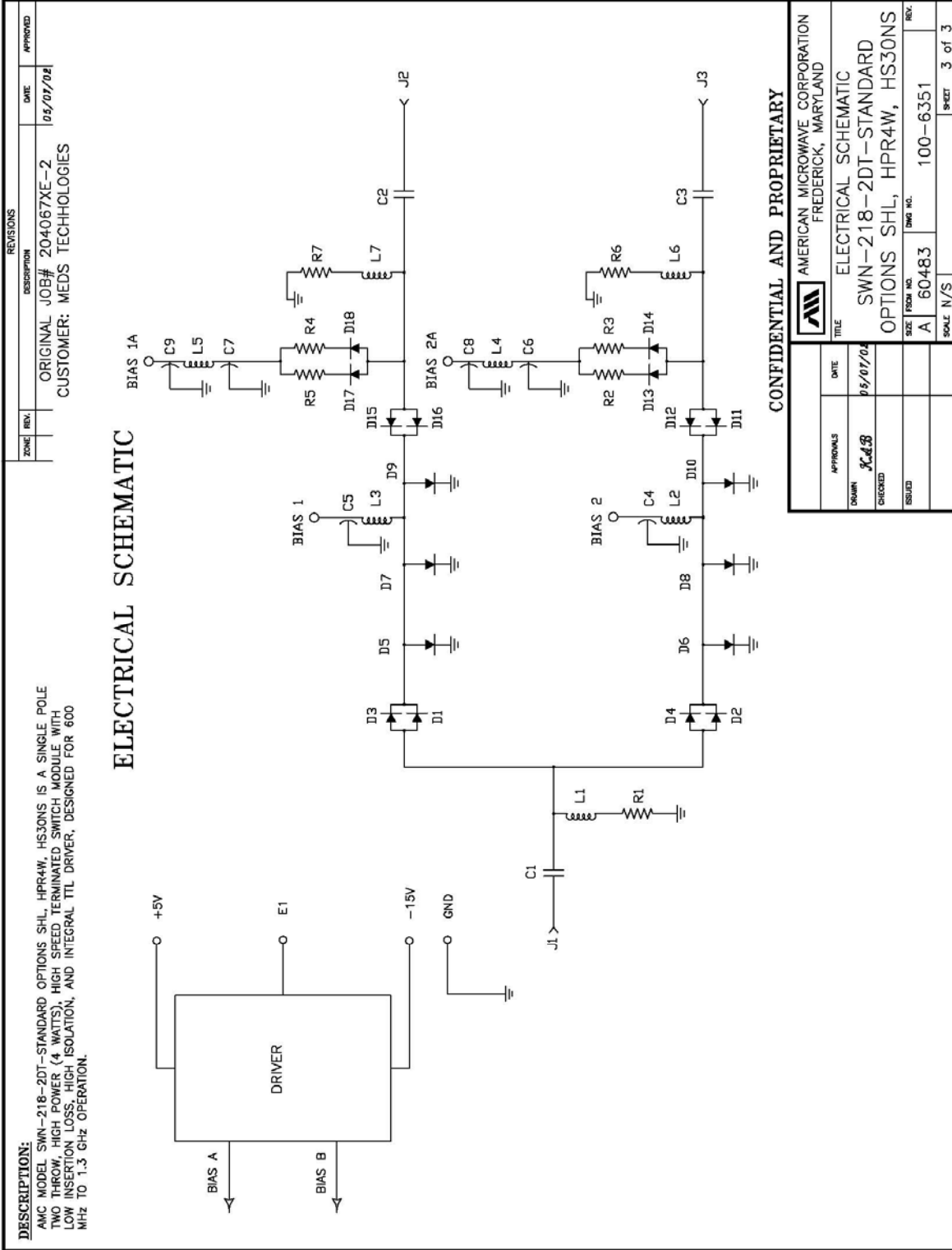
APPROVALS	DATE	TITLE
DAWN	05/07/04	PRODUCT FEATURE
CHECKED		SWN-218-2DT-STANDARD
DESIGNED		OPTIONS SHL, HPR4W, HS30NS
		SIZE FROM NO. 60483
		DWG NO. 100-6351
		SCALE N/S
		SHEET 1 of 3

OUTLINE DRAWING





FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

SWN-218-2DT-STANDARD
OPTION SHL, HPR4W, HS30NS

Serial Numbers:

2MS208628 THRU 2MS208630

FINAL TEST DATA

AMC MODEL NO: SWN-218-2DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 2MS208628

FORMS: 268-SW-DTA



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD, 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 10/1/02

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: MEDS TECHNOLOGY TECHNICIAN: R. M. Jole
 JOB NO: 204067XE-2
 MODEL NO: SWN-218-2DT-STD OPTION NO: SHL, HPR4W, HS30NS
 SERIAL NO: 2MS208628 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 40 mA; -15 VDC @ 34 mA FREQUENCY RANGE: 0.6 - 1.3 GHz

INSERTION LOSS (WORST CASE)		RETURN LOSS (WORST CASE)					
		INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J1 - J2	<u>1.03</u> dB @ 0.6 - 1.3 GHz	<u>29.80</u>	dB:1.07 : 1	<u>32.01</u>	dB:1.05 : 1	<u>17.31</u>	dB:1.32 : 1
J1 - J3	<u>1.09</u> dB @ 0.6 - 1.3 GHz	<u>26.31</u>	dB:1.10 : 1	<u>32.71</u>	dB:1.05 : 1	<u>17.19</u>	dB:1.32 : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1
	dB @ GHz	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1	dB:1. : 1

ISOLATION		SWITCHING SPEED			
		DELAY ON	RISE TIME	DELAY OFF	FALLTIME
J1 - J2	<u>272</u> dB @ 0.6 - 1.3 GHz	<u>18</u> nS	- nS	<u>15</u> nS	- nS
J1 - J3	<u>272</u> dB @ 0.6 - 1.3 GHz	<u>22</u> nS	nS	<u>12</u> nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP8720C

QA/QC APPROVAL: [Signature] ^{Q3} DATED: 10/03/02



FINAL TEST DATA

AMC MODEL NO: SWN-218-2DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 2MS208629

FORMS: 268-SW-DTA



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 10/1/02

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: MEDS TECHNOLOGY TECHNICIAN: R. Abble
 JOB NO: 204067XE-2
 MODEL NO: SWN-218-2DT-STD OPTION NO: SHL, HPR4W, HS30NS
 SERIAL NO: 2MS208629 SPECIFICATION:
 CURRENT DRAW: + 5 VDC @ 41 mA; - 15 VDC @ 33 mA FREQUENCY RANGE: 0.6 - 1.3 GHz

INSERTION LOSS (WORST CASE)		RETURN LOSS (WORST CASE)					
		INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J1 - J2	1.17 dB @ 0.6 - 1.3 GHz	27.67	1.09 : 1	27.76	1.09 : 1	17.17	1.32 : 1
J1 - J3	1.10 dB @ 0.6 - 1.3 GHz	25.67	1.11 : 1	26.87	1.09 : 1	19.34	1.24 : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
	dB @ GHz		dB:1. : 1		dB:1. : 1		dB:1. : 1
ISOLATION		SWITCHING SPEED					
		DELAY ON	RISE TIME	DELAY OFF	FALLTIME		
J1 - J2	> 72 dB @ 0.6 - 1.3 GHz	18 nS	nS	17 nS	nS		
J1 - J3	72 dB @ 0.6 - 1.3 GHz	22 nS	nS	15 nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		

NOTE: Any additional test data on back

TESTED ON: HP8720C

QA/QC APPROVAL: [Signature] Q3 DATED: 10/3/02



FINAL TEST DATA

AMC MODEL NO: SWN-218-2DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 2MS208630

FORMS: 268-SW-DTA



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 10/1/02

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: MEDS TECHNOLOGY TECHNICIAN: R. Mable
 JOB NO: 204067XE-2
 MODEL NO: SWN-218-2DT-STD OPTION NO: SHL, HPR4W, HS30NS
 SERIAL NO: 2MS208630 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 40 mA; -15 VDC @ 34 mA FREQUENCY RANGE: 0.6 - 1.3 GHz

INSERTION LOSS (WORST CASE)		RETURN LOSS (WORST CASE)					
		INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J1-J2	<u>1.04</u> dB @ 0.6 - 1.3 GHz	<u>28.27</u> dB	<u>1.08</u> : 1	<u>28.54</u> dB	<u>1.08</u> : 1	<u>17.53</u> dB	<u>1.31</u> : 1
J1-J3	<u>1.07</u> dB @ 0.6 - 1.3 GHz	<u>26.50</u> dB	<u>1.10</u> : 1	<u>32.45</u> dB	<u>1.05</u> : 1	<u>17.79</u> dB	<u>1.30</u> : 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
	dB @ GHz	dB	: 1	dB	: 1	dB	: 1
ISOLATION		SWITCHING SPEED					
		DELAY ON	RISE TIME	DELAY OFF	FALLTIME		
J1-J2	<u>>72</u> dB @ 0.6 - 1.3 GHz	<u>17</u> nS	— nS	<u>15</u> nS	— nS		
J1-J3	<u>>72</u> dB @ 0.6 - 1.3 GHz	<u>22</u> nS	nS	<u>12</u> nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		
	dB @ GHz	nS	nS	nS	nS		

NOTE: Any additional test data on back

TESTED ON: HP8720C

QA/QC APPROVAL: [Signature] Q3 DATED: 10/3/02