



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

AMC MODEL No:
SWN-2184-1DT-STANDARD
OPTION SHL, HPR4W, HS30NS

Serial Numbers: 1MS209204 THRU 1MS209206

**DESIGNED
BY
R. Afable**

**TESTED
BY
R. Afable**

**REPORTED
BY
E. Elder**

October 27, 2004

Handwritten notes and signatures:
SRW ✓
GC
JDT
WS ← SRW
SRW
PWS

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ISO9001 : 2000 CERTIFIED

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**SINGLE POLE SINGLE THROW
NON-REFLECTIVE / ABSORPTIVE SWITCH MODULE
AMC MODEL No:
SWN-2184-1DT-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 LOGIC "0"=ON, "1"=OFF |
| • POWER SUPPLY | : +5V @ 100 mA MAXIMUM
: -15V @ 100 mA MAXIMUM |

PRODUCT FEATURE

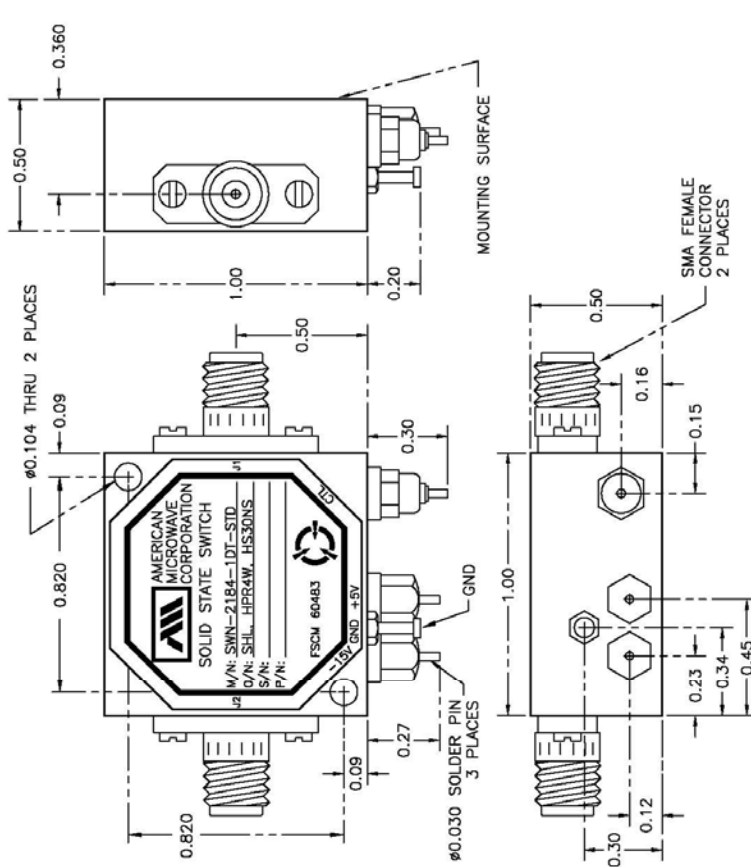
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	—	ORIGINAL JOB# 204067XE-1	05/07/04	

DESCRIPTION:
 AMC MODEL SWN-2184-1DT-STD OPTION: SHL, HPR4W, HS30NS IS A 600 TO 1300 MHz, HIGH POWER (4 WATTS), HIGH SPEED (30 nsec), NON-REFLECTIVE SPST SWITCH WITH +5V AND -15V.


SPECIFICATIONS:

- FREQUENCY: 0.6 GHz TO 1.3 GHz
- INSERTION LOSS: 1.5 dB
- ISOLATION: 70 dB
- VSWR: 1.5:1
- SPEED: DELAY ON: 30 nS
 DELAY OFF: 30 nS
- POWER INPUT: 4 WATTS
- CONTROL: TTL LOGIC "0" = ON "1" = OFF
- POWER SUPPLY: +5V @ 100 mA MAXIMUM
 -15V @ 100 mA MAXIMUM

M/N = MANUFACTURER PART NUMBER
 O/N = OPTION NUMBER
 S/N = SERIAL NUMBER
 P/N = PART NUMBER



BLOCK DIAGRAM



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +85°C (OPERATING)
 -65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B CONDITION B
- SHOCK: MIL-STD-202F, METHOD 213B CONDITION B
- VIBRATION: MIL-STD-202F, METHOD 2040 CONDITION B
- ALTITUDE: MIL-STD-202F, METHOD 105C CONDITION B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D CONDITION A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE	TITLE	DRAWN	CHECKED	DESIGNED
	05/07/04	PRODUCT FEATURE			

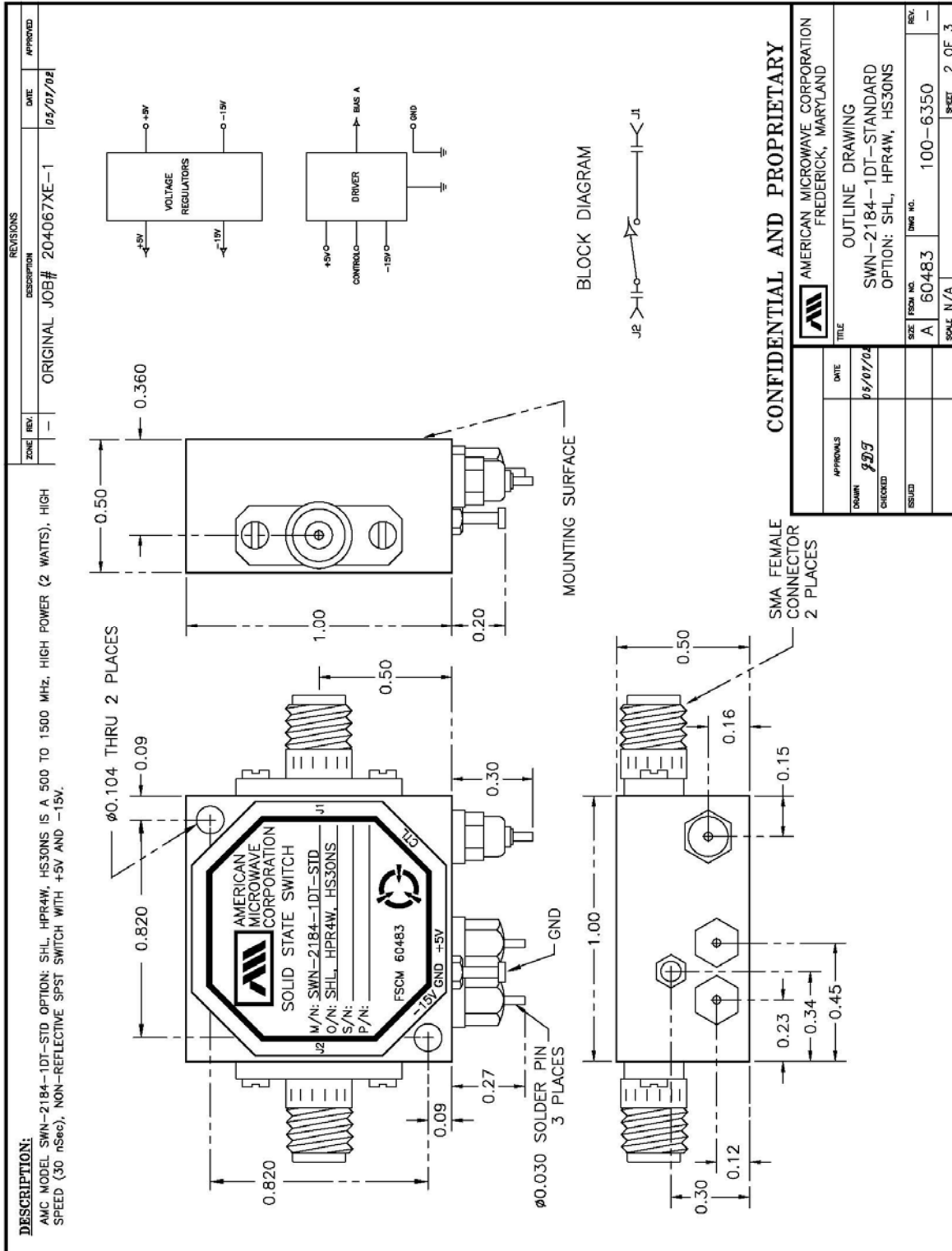
AMERICAN MICROWAVE CORPORATION
 FREDERICK, MARYLAND

PRODUCT FEATURE
 SWN-2184-1DT-STANDARD
 OPTION: SHL, HPR4W, HS30NS

SIZE	FORM NO.	ENG NO.	REV.
A	60483	100-6350	—

SCALE: N/A | SHEET 1 OF 3

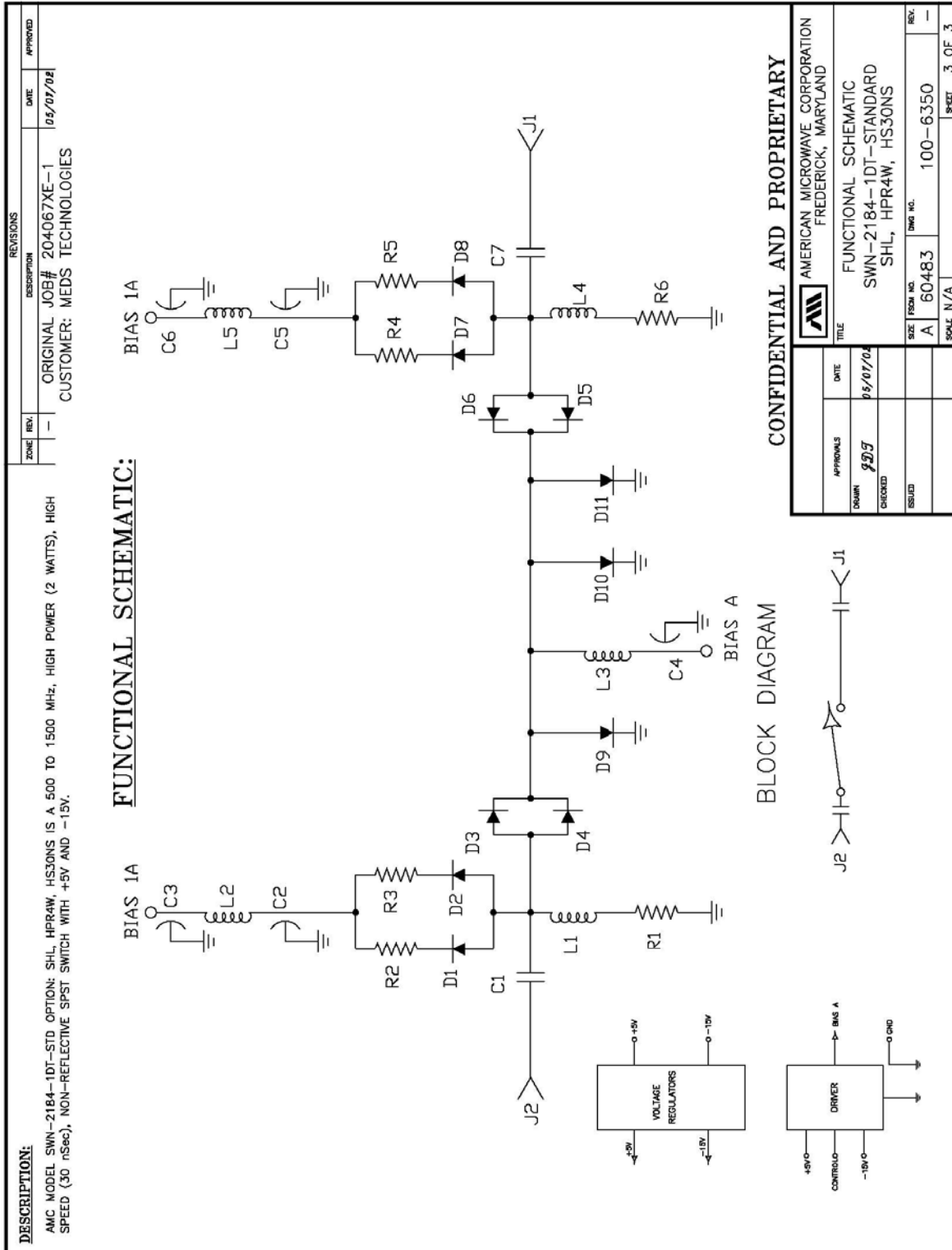
OUTLINE DRAWING



CONFIDENTIAL AND PROPRIETARY

 AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
TITLE OUTLINE DRAWING SWN-2184-1DT-STANDARD OPTION: SHL, HPR4W, HS30NS	
APPROVALS DRAWN: JJJ CHECKED: ISSUED:	DATE 05/07/04
SIZE: FROM NO. A 60483 SCALE: N/A	REV. FROM NO. 100-6350 SHEET 2 OF 3

FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

SWN-2184-1DT-STANDARD

OPTION SHL, HPR4W, HS30NS

Serial Numbers:

1MS209204 THRU 1MS209206

FINAL TEST DATA

AMC MODEL NO: SWN-2184-1DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 1MS209204

FORMS: 267-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: <u>MEDS TECHNOLOGY</u>	TECHNICIAN: <u>R. Afable</u>
JOB NO: <u>204067XE-1</u>	
MODEL NO: <u>SWN-2184-1DT-STD</u>	OPTION NO: <u>SHL, HPR4W, HS30NS</u>
SERIAL NO: <u>1MS 209204</u>	SPECIFICATION:
CURRENT DRAW: <u>+5 VDC @ 39 mA; -15 VDC @ 34 mA</u>	FREQUENCY RANGE: <u>0.6 - 1.3 GHz</u>

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	1.04 dB @ 0.6 - 1.3 GHz	30.56	1.06 : 1	26.09	1.10 : 1	19.66	1.23 : 1
	dB @ GHz	dB	: 1	dB	: 1	18.14	1.28 : 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	172 dB @ 0.6 - 1.3 GHz	22 nS	— nS	12 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: H? 8720C

QA/QC APPROVAL: _____ DATED: 10/3/02

FINAL TEST DATA

AMC MODEL NO: SWN-2184-1DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 1MS209205

FORMS: 267-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. Nobile
 JOB NO: 204067XE-1
 MODEL NO: SWN-2184-IDT-STD OPTION NO: SHL, HPR4W, HS30NS
 SERIAL NO: 1MS209205 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 40 mA; -15 VDC @ 53 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	0.99 dB @ 0.6 - 1.3 GHz	18.22	1.28 : 1	18.47	1.27 : 1	17.65	1.30 : 1
	dB @ GHz	dB:1.	: 1	dB:1.	: 1	18.54	dB:1.27 : 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
	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	772 dB @ 0.6 - 1.3 GHz	20	nS	—	nS	12	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: 498720C

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



FINAL TEST DATA

AMC MODEL NO: SWN-2184-1DT-STANDARD OPTIONS SHL, HPR4W, HS30NS
 SERIAL NUMBER: 1MS209206

FORMS: 267-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. Apable
 JOB NO: 204067XE-1
 MODEL NO: SWN-2184-1DT-STD OPTION NO: SHL, HPR4W, HS30NS
 SERIAL NO: 1MS 209206 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 40 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	1.00 dB @ 0.6-1.3 GHz	24.25	1.17 : 1	26.46	1.10 : 1	19.91	1.22 : 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
	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	772 dB @ 0.6-1.3 GHz	20	nS	—	nS	12	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS
	dB @ GHz	nS	nS	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP 8720C

QA/QC APPROVAL: [Signature] 23 DATED: 10/1/02