



TEST REPORT
ON
10 GHz to 27 GHz
MILLIMETER WAVE
REFLECTIVE
SPDT SOLID STATE SWITCH

AMC MODEL No:
SWN-218-2DR-STANDARD
Options 1027, B02

Serial Numbers: 2MS009255 and 2MS009256

DESIGNED
BY
R. Afable

TESTED
BY
R. Afable

REPORTED
BY
W. Steinhaus

April 15, 2004

AMERICAN MICROWAVE CORPORATION., 7311-G Grove Road, Frederick, MD 21704
Tel: 301-662-4700 • Fax: 301-662-4938 • Email: sales@americanmicrowavecorp.com
Website: <http://www.americanmicrowavecorp.com>

ISO9001 : 1994 CERTIFIED

Handwritten notes:
Pro
ESS
WAS
JDT
mjs
DRH
SZ
lc PA
SKM

TABLE OF CONTENTS

●	PRODUCT DESCRIPTION AND ELECTRICAL SPECIFICATIONS	PAGE 3
●	PRODUCT FEATURE AND ENVIRONMENTAL SPECIFICATIONS	PAGE 4
●	MECHANICAL OUTLINE	PAGE 5
●	FUNCTIONAL SCHEMATIC	PAGE 6
●	TEST DATA ON SWN-218-2DR-STANDARD OPTIONS 1027, B02, SERIAL NUMBERS 2MS009255 THRU 2MS009256	PAGE 7
●	TEST DATA FOR SWN-218-2DR-STANDARD OPTIONS 1027, B02 SERIAL NUMBER 2MS009255	PAGE 8
●	TEST DATA FOR SWN-218-2DR-STANDARD OPTIONS 1027, B02 SERIAL NUMBER 2MS009256	PAGE 9

SPDT, REFLECTIVE, SOLID STATE SWITCH AMC MODEL No: SWN-218-2DR-STANDARD Options 1027, B02

FEATURES:

- **10 GHz TO 27 GHz**
- **MILLIMETER WAVE**
- **REFLECTIVE**



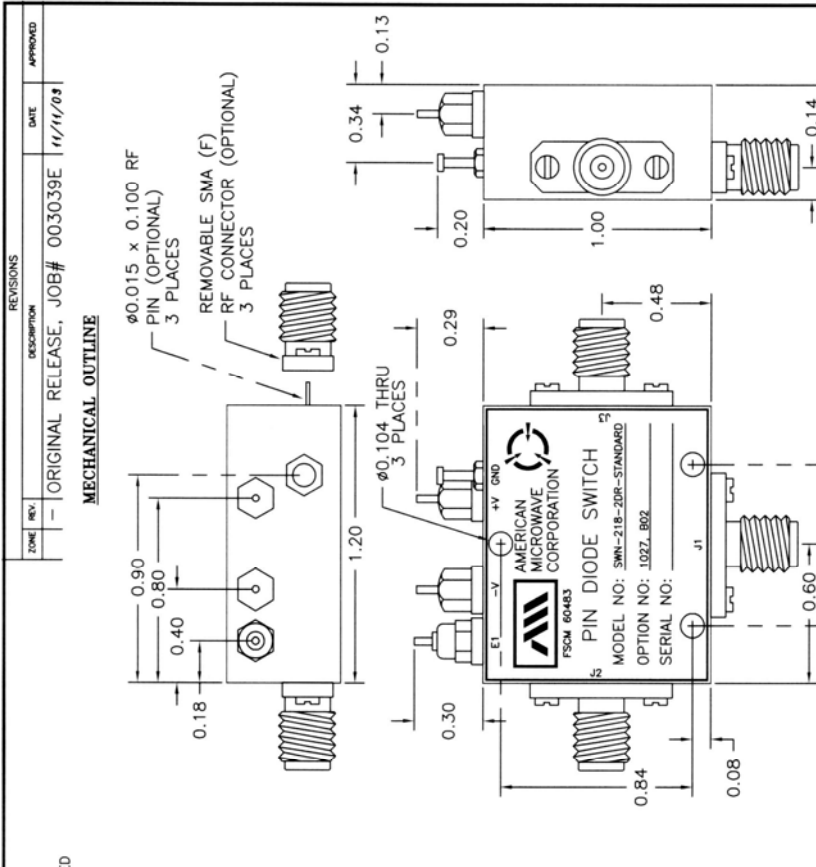
SPECIFICATIONS:

- | | |
|------------------|-------------------------------------------------------------------------------------------------------|
| ● FREQUENCY | : 10 TO 27 GHz |
| ● INSERTION LOSS | : 4.5 dB MAXIMUM |
| ● ISOLATION | : 40 dB MINIMUM, 50 dB TYPICAL |
| ● VSWR | : REFLECTIVE IN/OUT: 2.0:1 |
| ● SPEED | : RISE: 15 nS MAXIMUM
FALL: 15 nS MAXIMUM
DELAY ON: 100 nS MAXIMUM
DELAY OFF: 100 nS MAXIMUM |
| ● POWER INPUT | : (CW) +20 dBm (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 MAXIMUM
-15V @ 100 mA MAXIMUM |
| ● CONNECTORS | : RF: SMA FEMALE
CONTROL: SOLDER PIN |
| ● 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 RELEASE, JOB# 003039E	11/11/03	

MECHANICAL OUTLINE

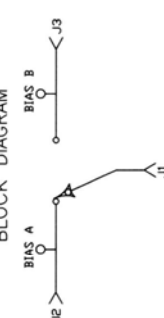


DESCRIPTION:
 AMC MODEL NUMBER SWN-218-2DR-STANDARD IS A SINGLE POLE DOUBLE THROW, REFLECTIVE SWITCH MODULE WITH LOW ISOLATION AND INTEGRAL TTL DRIVER DESIGNED FOR THE 10 GHz TO 27 GHz FREQUENCY BAND.

SPECIFICATIONS:

- FREQUENCY: 10 GHz TO 27 GHz
- INSERTION LOSS: 4.5 dB MAXIMUM
- ISOLATION: 40 dB MINIMUM
- VSWR: 50 dB TYPICAL
- REFLECTIVE IN/OUT: 2.0:1
- RISE: 15 ns MAXIMUM
- FALL: 15 ns MAXIMUM
- DELAY: 100 ns MAXIMUM
- DELAY OFF: 100 ns MAXIMUM
- 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 MAXIMUM
- POWER SUPPLY: -15V @ 100 mAX MAXIMUM
- CONNECTORS: SMA FEMALE
- RF CONTROL: SOLDER PIN
- SIZE: 1.20" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: 1.5 OUNCE TYPICAL

BLOCK DIAGRAM



ENVIRONMENTAL RATINGS:

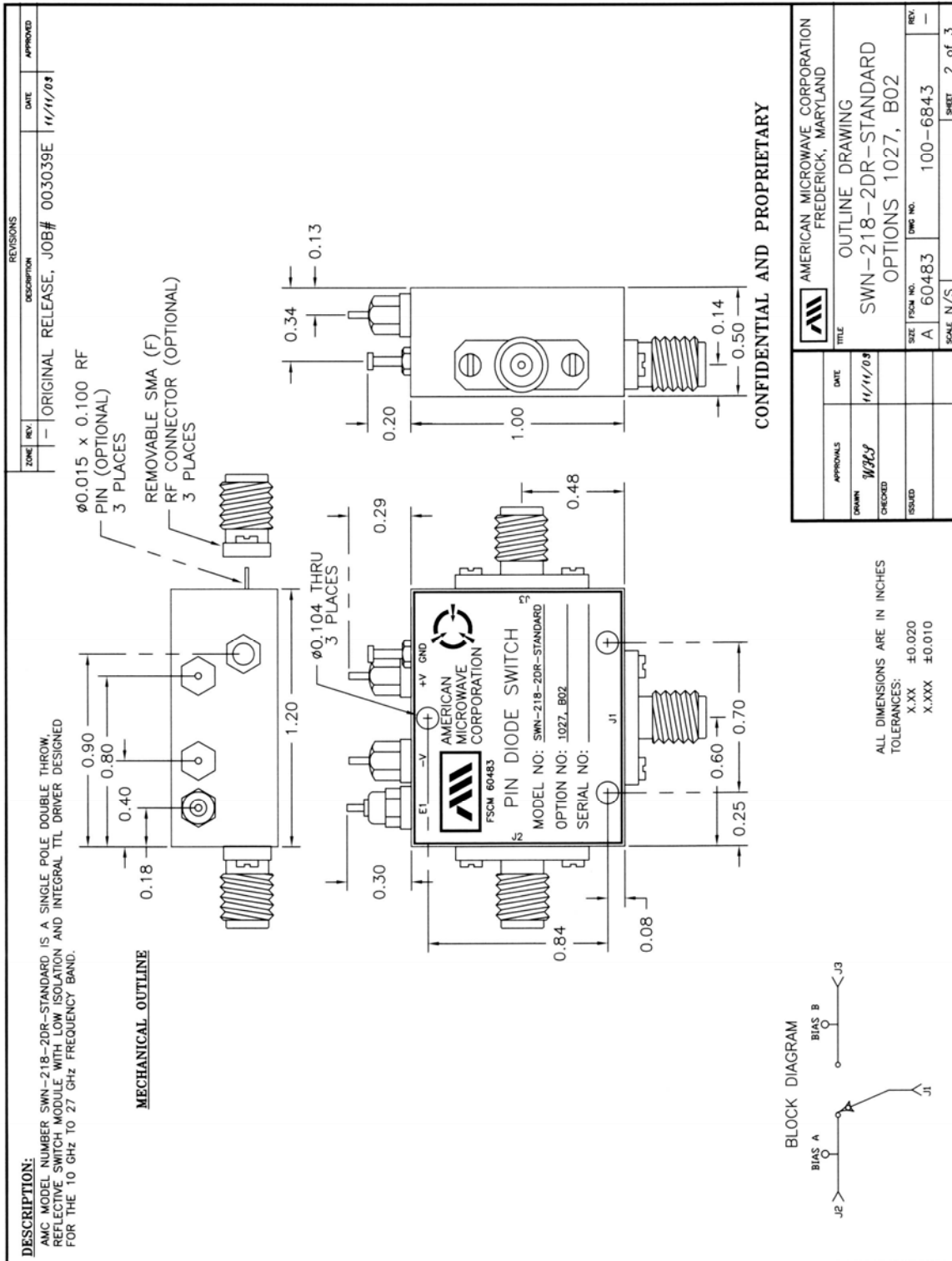
- TEMPERATURE: -55°C TO +85°C (OPERATING)
- TEMPERATURE: -65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

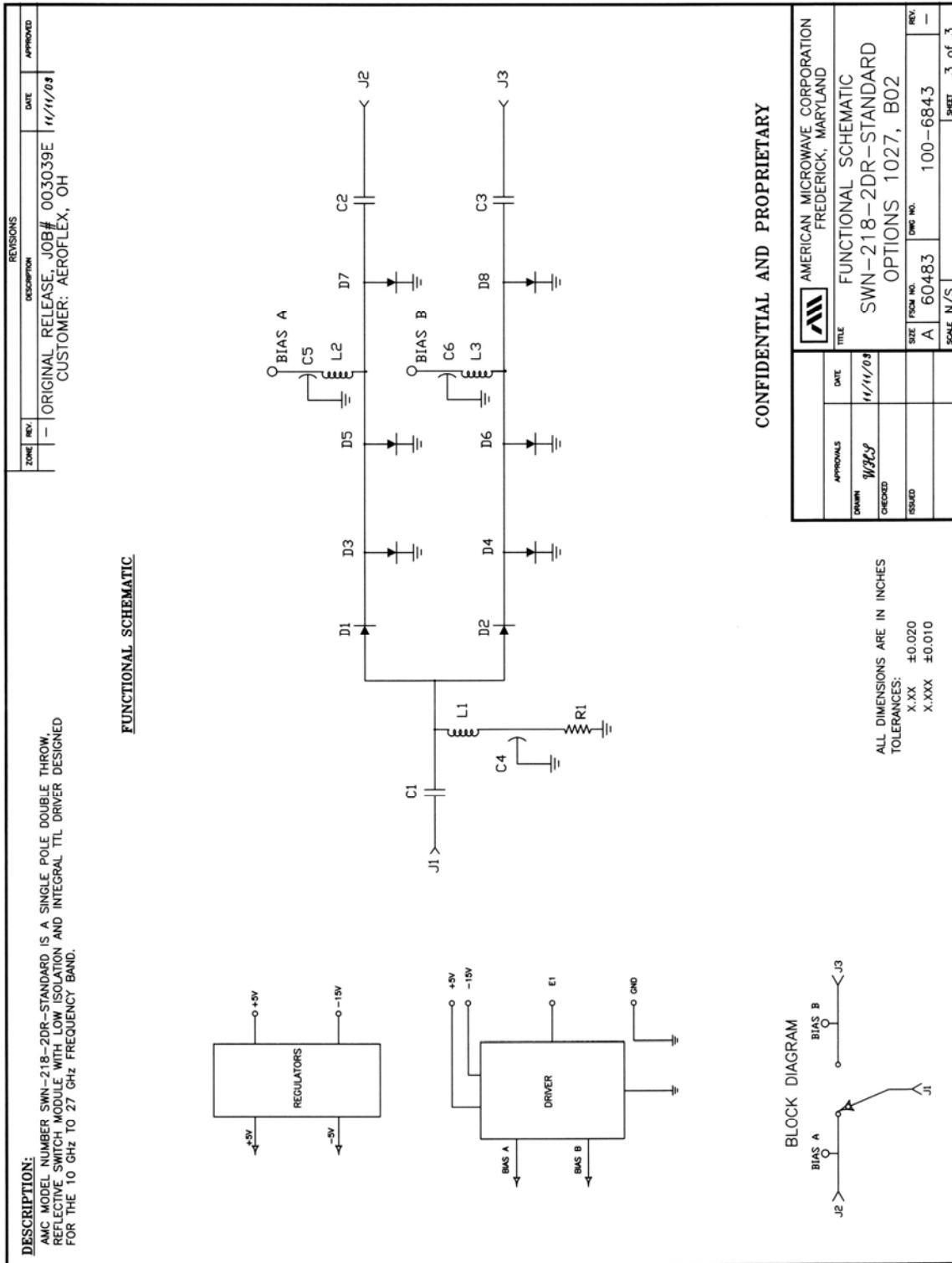
CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE	TITLE	DATE	APPROVED
WHS	11/11/03	PRODUCT FEATURE		
		SWN-218-2DR-STANDARD		
		OPTIONS 1027, B02		
ISSUED		SIZE FSQM NO. A 60483	DWG NO. 100-684.3	REV. -
		SCALE N/S		SHEET 1 of 3

MECHANICAL OUTLINE



FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

SWN-218-2DR-STANDARD
OPTION 1027, B02

Serial Numbers:

2MS009255 THRU 2MS009256

FINAL TEST DATA

AMC MODEL NO: SWN-218-2DR-STANDARD OPTIONS 1027, B02, SERIAL NUMBER: 2MS009255

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

DATE: 9/18/00

CUSTOMER: AEROFLEX LINTEK CORP. TECHNICIAN: PS
 JOB NO: 003039E
 MODEL NO: SWN-218-2DR-STANDAARD OPTION NO: 1027, B02
 SERIAL NO: 245009255 SPECIFICATION:
 CURRENT DRAW: + 5 VDC @ 40 mA; - 15 VDC @ 40 mA FREQUENCY RANGE: 10 - 25 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>4.01</u> dB	<u>9.21</u> dB	<u>2.10</u> : 1	<u>9.00</u> dB	<u>2.10</u> : 1	— dB	1. — : 1
J1-J3 dB	<u>9.29</u> dB	<u>2.04</u> : 1	<u>8.90</u> dB	<u>2.12</u> : 1	— dB	1. — : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	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	FALL TIME
J1-J2 <u>> 60</u> dB	<u>38</u> nS	<u>10</u> nS	<u>40</u> nS	<u>2</u> nS
J1-J3 <u>> 60</u> dB	<u>40</u> nS	<u>10</u> nS	<u>22</u> nS	<u>2</u> nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back TESTED ON: HP 8722D
 QA/QC APPROVAL: Q4 Donald Harmon DATED: 9/20/00

