



**TEST REPORT**

**ON**

**2 to 18 GHz**

**LOW LOSS**

**HIGH POWER**

**ABSORPTIVE**

**SPST PIN DIODE SWITCH**

**AMC MODEL No:**

**SW-2183-1DT-218-HPR3W-SHL-LVT**

Serial Numbers: 1MS205116 AND 1MS205117

DESIGNED

BY

A. K. Gorwara & R. Afable

TESTED

BY

R. Afable

REPORTED

BY

W. Steinhaus

**March 9, 2004**

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

**ISO9001 : 1994 CERTIFIED**

*Handwritten signatures and initials:*  
JAW  
DRH  
WAS  
JKM  
JFT  
LC

## TABLE OF CONTENTS

●	PRODUCT DESCRIPTION AND ELECTRICAL SPECIFICATIONS	PAGE 3
●	PRODUCT FEATURE	PAGE 4
●	OUTLINE DRAWING	PAGE 5
●	FUNCTIONAL SCHEMATIC	PAGE 6
●	FINAL TEST DATA ON SERIAL NUMBERS 1MS205116 - 1MS205117	PAGE 7
●	SERIAL NUMBER 1MS205116 FINAL TEST RESULTS	PAGE 8
●	SERIAL NUMBER 1MS205117 FINAL TEST RESULTS	PAGE 9

## SPST, ABSORPTIVE, PIN DIODE SWITCH AMC MODEL No: SW-2183-1DT-218-HPR3W-SHL-LVT

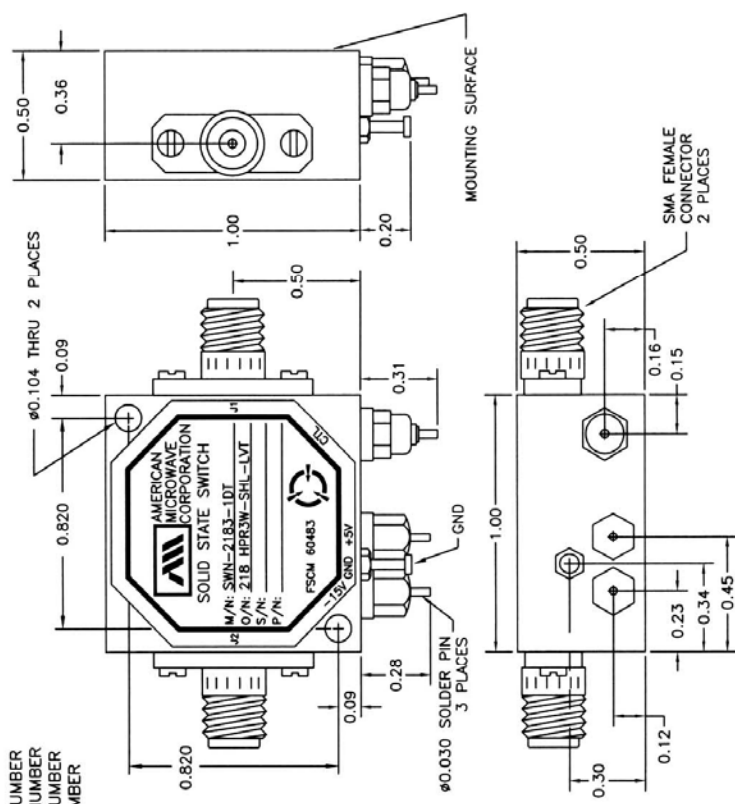

### FEATURES:

- **LOW LOSS**
- **SMALL SIZE**
- **ABSORPTIVE**
- **BROAD BAND**
- **HIGH POWER OF 3 WATTS**

### SPECIFICATIONS:

• FREQUENCY	:	2 GHz TO 18 GHz
• INSERTION LOSS	:	3.5 dB MAXIMUM, 3.0 dB TYPICAL
• ISOLATION	:	50 dB MINIMUM, 60 dB TYPICAL
• VSWR	:	2.0:1
• RF POWER	:	3 WATT CW
• RISE TIME	:	20 nS MAXIMUM
• FALL TIME	:	20 nS MAXIMUM
• DELAY ON	:	100 nS MAXIMUM
• DELAY OFF	:	100 nS MAXIMUM
• POWER SUPPLY (POSITIVE)	:	+5 V @ 100 mA
• POWER SUPPLY (NEGATIVE)	:	- 5 V @ 100 mA
• CONTROL	:	TTL LOGIC "0"=ON, "1"=OFF
• SIZE	:	1.00" (L) X 1.00" (W) X 0.50" (H)
• WEIGHT	:	1.5 OUNCES TYPICAL

**PRODUCT FEATURE**

REVISIONS ZONE REV. 1 DESCRIPTION ORIGINAL JOB# 202038E-1 DATE 01/01/02 APPROVED	 <p style="text-align: center;">BLOCK DIAGRAM</p>  <p style="text-align: center;">ALL DIMENSIONS ARE IN INCHES          TOLERANCES:          X.XX ±0.020          X.XXX ±0.010</p>	<p style="text-align: center;"><b>CONFIDENTIAL AND PROPRIETARY</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">APPROVALS</td> <td style="width: 15%;">DATE</td> <td style="width: 15%;">TITLE</td> <td style="width: 15%;">AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND</td> </tr> <tr> <td>9999</td> <td>01/01/02</td> <td>PRODUCT FEATURE</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> <td>SW-2183-1DT-218-HPR3W-SHL-LVT</td> <td></td> </tr> <tr> <td>ISSUED</td> <td></td> <td>2 - 18 GHz NON-REFLECTIVE HIGH POWER PIN DIODE SWITCH</td> <td></td> </tr> <tr> <td></td> <td>SIZE / PFORM NO.</td> <td>DATE</td> <td>REV.</td> </tr> <tr> <td></td> <td>A 60483</td> <td>100-6320</td> <td>-</td> </tr> <tr> <td></td> <td>SCALE N/S</td> <td>SHEET</td> <td>1 OF 3</td> </tr> </table>	APPROVALS	DATE	TITLE	AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	9999	01/01/02	PRODUCT FEATURE		CHECKED		SW-2183-1DT-218-HPR3W-SHL-LVT		ISSUED		2 - 18 GHz NON-REFLECTIVE HIGH POWER PIN DIODE SWITCH			SIZE / PFORM NO.	DATE	REV.		A 60483	100-6320	-		SCALE N/S	SHEET	1 OF 3
APPROVALS	DATE	TITLE	AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND																											
9999	01/01/02	PRODUCT FEATURE																												
CHECKED		SW-2183-1DT-218-HPR3W-SHL-LVT																												
ISSUED		2 - 18 GHz NON-REFLECTIVE HIGH POWER PIN DIODE SWITCH																												
	SIZE / PFORM NO.	DATE	REV.																											
	A 60483	100-6320	-																											
	SCALE N/S	SHEET	1 OF 3																											

**DESCRIPTION:**  
 AMC MODEL SW-2183-1DT-218-HPR3W-SHL-LVT IS A 2 TO 18 GHz, LOW VIDEO TRANSIENT, 3 WATT CW HIGH POWER, NON-REFLECTIVE PIN DIODE SWITCH HAVING A RISE/FALL TIME OF 20 nS MAXIMUM AND TURN ON/OFF OF 100 nS MAXIMUM, +5V @ 100 mA MAXIMUM, -15V @ 100 mA MAXIMUM WITH A SHUNT LOAD TO HANDLE 2 WATTS MAXIMUM. ISOLATION WILL BE 50 dB MINIMUM, 60 dB TYPICAL, INSERTION LOSS 3.5 dB MAXIMUM, 3.0 dB TYPICAL.

**SPECIFICATIONS:**

- FREQUENCY: - - - - - 2 TO 18 GHz
- INSERTION LOSS: - - - - - 3.5dB MAXIMUM, 3.0dB TYPICAL
- ISOLATION: - - - - - 50dB MINIMUM, 60dB TYPICAL
- VSWR: - - - - - 2.0:1
- RF POWER: - - - - - 3 WATT CW
- RISE TIME: - - - - - 20 nS MAXIMUM
- FALL TIME: - - - - - 20 nS MAXIMUM
- DELAY ON: - - - - - 100 nS MAXIMUM
- DELAY OFF: - - - - - 100 nS MAXIMUM
- POWER SUPPLY: - - - - - +5V @ 100mA  
 -15V @ 100mA
- CONTROL: - - - - - TTL LOGIC "0"=ON "1"=OFF
- SIZE: - - - - - 1.00" (L) x 1.00" (W) x 0.50" (H)
- WEIGHT: - - - - - 1.5 OUNCE TYPICAL

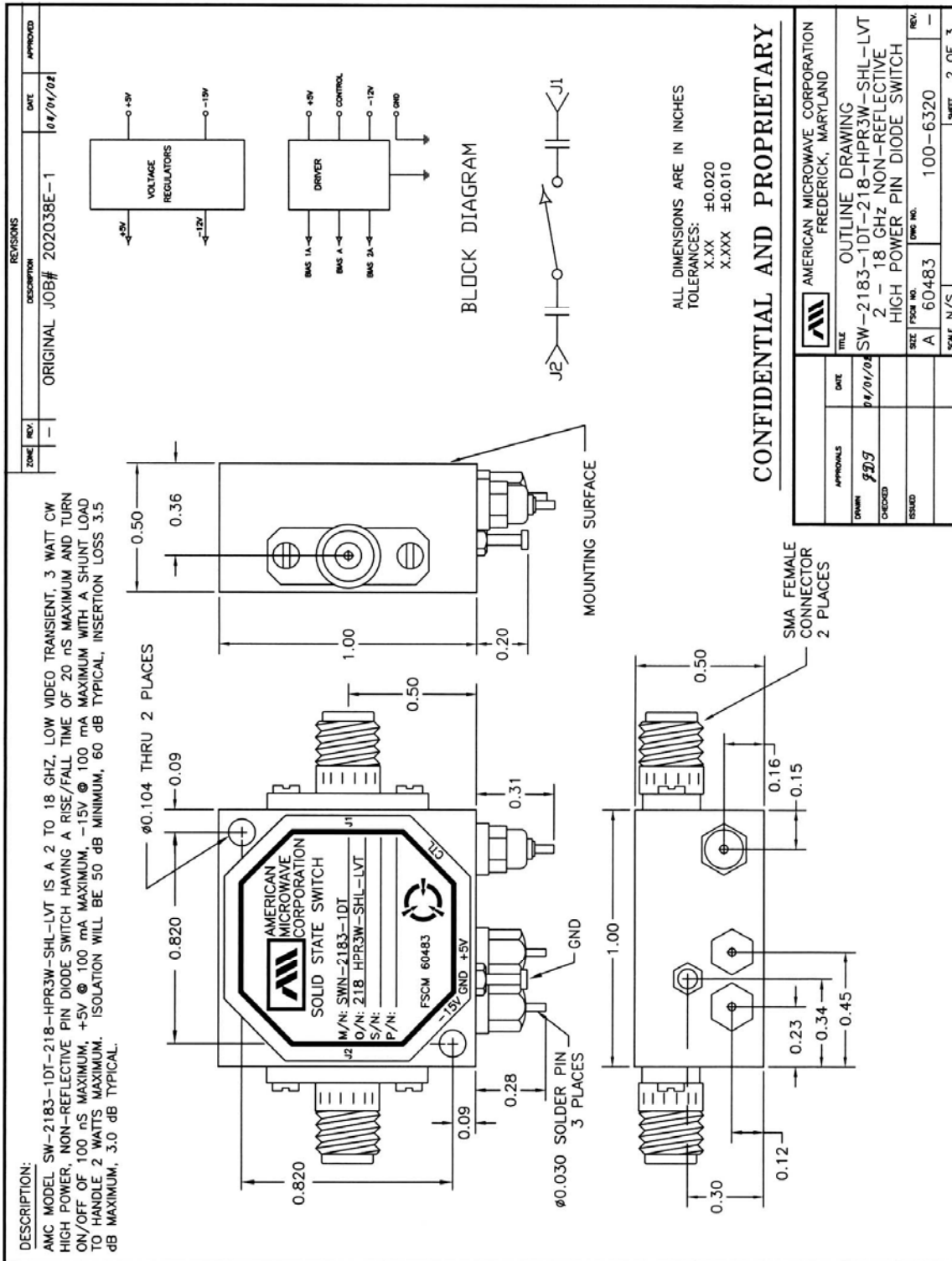
M/N = MODEL NUMBER  
 O/N = OPTION NUMBER  
 S/N = SERIAL NUMBER  
 P/N = PART NUMBER

ENVIRONMENTAL RATINGS

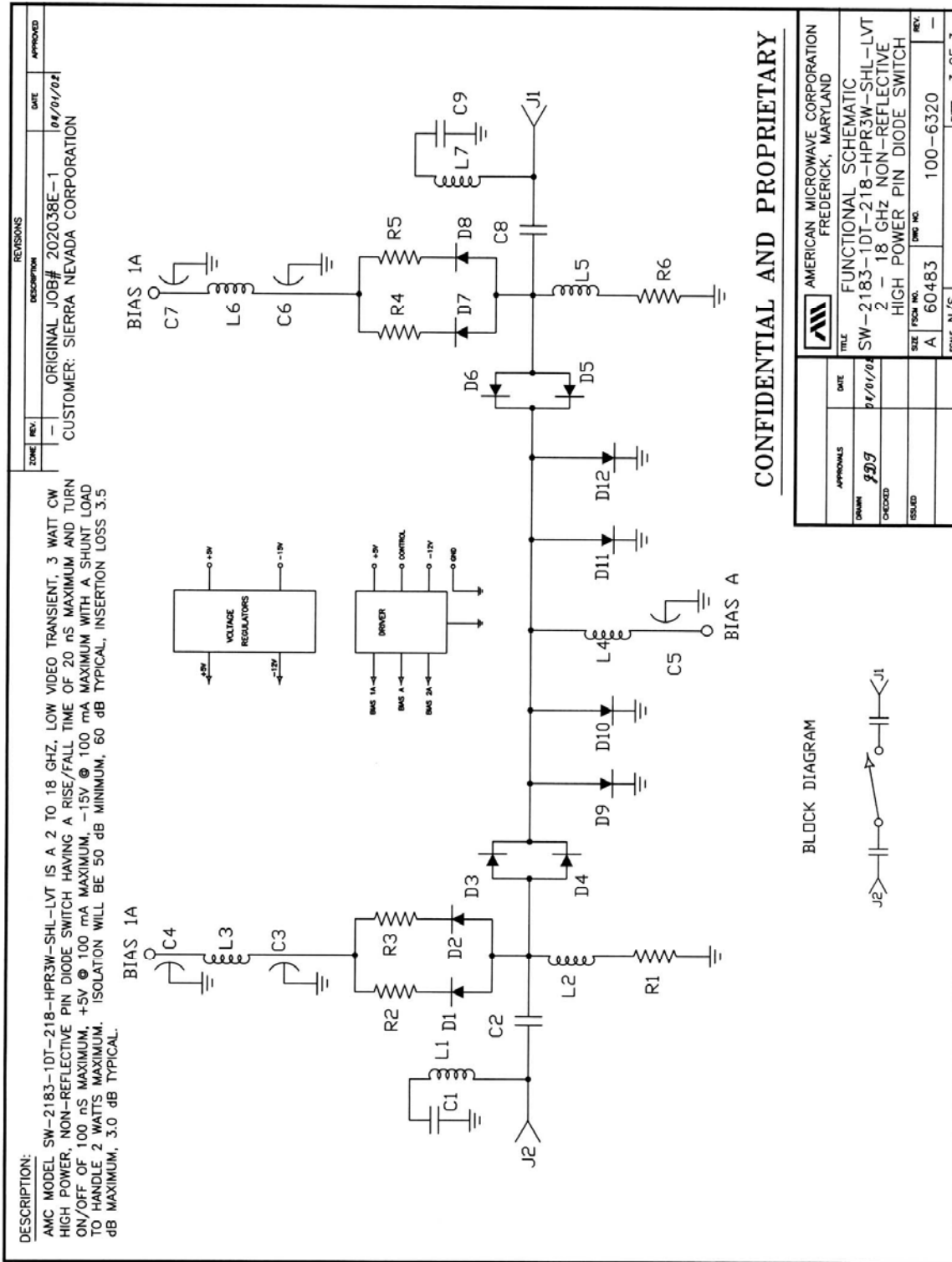
- OPERATING TEMPERATURE: - - - - - -65°C TO 110°C
- NON-OPERATING TEMPERATURE: - - - - - -65°C TO 125°C
- HUMIDITY: - - - - - MIL-STD-202F, METHOD 103B COND. B
- SHOCK: - - - - - MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: - - - - - MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: - - - - - MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: - - - - - MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**OUTLINE DRAWING**



**FUNCTIONAL SCHEMATIC**



**FINAL TEST DATA**

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

**SW-2183-1DT-218-HPR3W-SHL-LVT**

Serial Numbers:

**1MS205116 AND 1MS205117**







