



**TEST REPORT**  
**ON**  
**1 TO 8.2 GHz**  
**SINGLE POLE TWO THROW**  
**ABSORPTIVE / NON-REFLECTIVE SWITCH MODULE**

**AMC MODEL No:**  
**MSN-2DT-05-STANDARD**  
**OPTION 18, 12X, LVT**

Serial Numbers: 2MS909697 THRU 2MS909698

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**October 22, 2004**

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**ISO9001 : 2000 CERTIFIED**

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## SINGLE POLE TWO THROW ABSORPTIVE / NON-REFLECTIVE PIN DIODE SWITCH MODULE AMC MODEL No: MSN-2DT-05-STANDARD OPT 18, 12X, LVT

### FEATURES:

- **1.0 TO 8.2 GHz FREQUENCY RANGE**
- **2.5 dB MAXIMUM LOW INSERTION LOSS**
- **60 dB MINIMUM HIGH ISOLATION**
- **LOW VIDEO TRANSIENTS**
- **LOW HARMONIC DISTORTION**

### SPECIFICATIONS:

● FREQUENCY	: 1.0 TO 8.2 GHz
● INSERTION LOSS	: 2.5 dB MAXIMUM
● ISOLATION	: 60 dB MINIMUM
● VSWR	: 1.8:1
● SWITCHING SPEED	: < 30 nS
● RISE / FALL TIME	: < 10 nS
● MAXIMUM TOGGLE RATE	: > 20 MHz
● RF CONNECTORS	: SMA FEMALE
● DC POWER SUPPLY	: +5V ±10% @ 100 mA MAXIMUM -5V ±10% @ 100 mA MAXIMUM
● CONTROL	: TTL LOGIC "0"=ON J3-J1, "1"=ON J3-J2
● CONTROL INTERFACE	: DC SOLDER PINS
● HARMONIC DISTORTION	: ≤ 70 dB @ +10 dBm I/P
● FLATNESS ACROSS BAND (ON STATE)	: ±1.0 dB, 0.75 dB TYPICAL
● VIDEO LEAKAGE	: 100 mV PEAK TO PEAK, 20 MHz BANDWIDTH (-60 dBm TO -65 dBm LEAKAGE POWER OR ENERGY IN THE BAND OF INTEREST)
● 1 dB COMPRESSION POINT	: +20 dBm
● WEIGHT	: 1.5 OUNCES TYPICAL
● SIZE	: 1.00" (L) x 1.00" (W) x 0.40" (H)



**PRODUCT FEATURE**

ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	8/10/99	

$\phi 0.089$  THRU, TAP WITH 4-40 THD 0.250 DEEP ON MOUNTING SURFACE. 2 PLACES.  
 MOUNTING SURFACE GP-GOLD PLATED P-PAINTED  
 REMOVABLE SMA (F) 3 PLACES  
 $\phi 0.015$  RF PIN 3 PLACES  
 $\phi 0.020$  SOLDER PIN 3 PLACES  
 0.125 (GP) 0.127 (P)  
 0.08  
 1.00  
 0.84  
 0.50  
 0.25  
 0.38  
 1.00  
 0.20 TYP  
 0.38  
 0.50  
 0.25 TYP  
 0.10  
 0.10  
 0.125  
 0.10  
 0.20  
 0.40  
 0.125 (GP) 0.127 (P)

**DESCRIPTION:**  
 AMC MODEL MSN-2DT-05-STANDARD OPTION 18, 12X, LVT IS A SINGLE POLE TWO THROW, ABSORPTIVE/NON-REFLECTIVE SWITCH MODULE WITH VERY LOW INSERTION LOSS, HIGH ISOLATION AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR LOW VIDEO TRANSIENTS AND LOW HARMONIC DISTORTION OVER 1.0 TO 8.2 GHz BANDWIDTH.

**SPECIFICATIONS:**  
 • FREQUENCY: 1.0 GHz TO 8.2 GHz  
 • INSERTION LOSS: 2.5 dB MAXIMUM  
 • ISOLATION (PORT TO PORT): 18.1 dB MINIMUM  
 • ISOLATION (PORT TO STATE): 18.1 dB MINIMUM  
 • SWITCHING SPEED: <30 ns  
 • RISE/FALL TIME: <10 ns  
 • MAXIMUM TOGGLE RATE: >20 MHz  
 • RF CONNECTORS: SMA FEMALE  
 • DC POWER SUPPLY: +5V  $\pm 10\%$  @ 100 mA MAXIMUM  
 • CONTROL: TTL LOGIC "0"=ON J3-J1 "1"=ON J3-J2  
 • CONTROL INTERFACES: DC SOLDER PINS  
 • HARMONIC DISTORTION:  $\leq 70$ dB @ +10 dBm I/P  
 • FLATNESS ACROSS BAND:  $\pm 1.0$ dB, 0.75dB TYPICAL (ON STATE)  
 • VIDEO LEAKAGE: 100 mV PEAK TO PEAK, 20 MHz BANDWIDTH (-60 dBm TO -65 dBm LEAKAGE POWER OR ENERGY IN THE BAND OF INTEREST)  
 • 1 dB COMPRESSION POINT: +20 dBm  
 • 2 TONE 3RD ORDER INTERCEPT POINT, POUT dBm: +35 dBm  
 • 2 TONE 2ND ORDER INTERCEPT POINT, POUT dBm: +55 dBm  
 • 0.1 dB PASS BAND: 1.0 GHz TO 8.2 GHz  
 • WEIGHT: 1.5 OUNCES TYPICAL  
 • SIZE: 1.00 (L) X 1.00 (W) X 0.40 (H)

**ENVIRONMENTAL RATINGS:**  
 • TEMPERATURE: -10°C TO +55°C (OPERATING)  
 • HUMIDITY: 95% OVER TEMPERATURE  
 • SHOCK: MIL-STD-202F, METHOD 213B COND. B  
 • VIBRATION: MIL-STD-202F, METHOD 2040 COND. B  
 • ALTITUDE: MIL-STD-202F, METHOD 105C COND. B  
 • TEMPERATURE CYCLE: MIL-STD-202F, METHOD 1070 COND. A

NOTE: DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE  
 M/N = MANUFACTURER PART NUMBER  
 O/N = OPTION NUMBER  
 S/N = SERIAL NUMBER

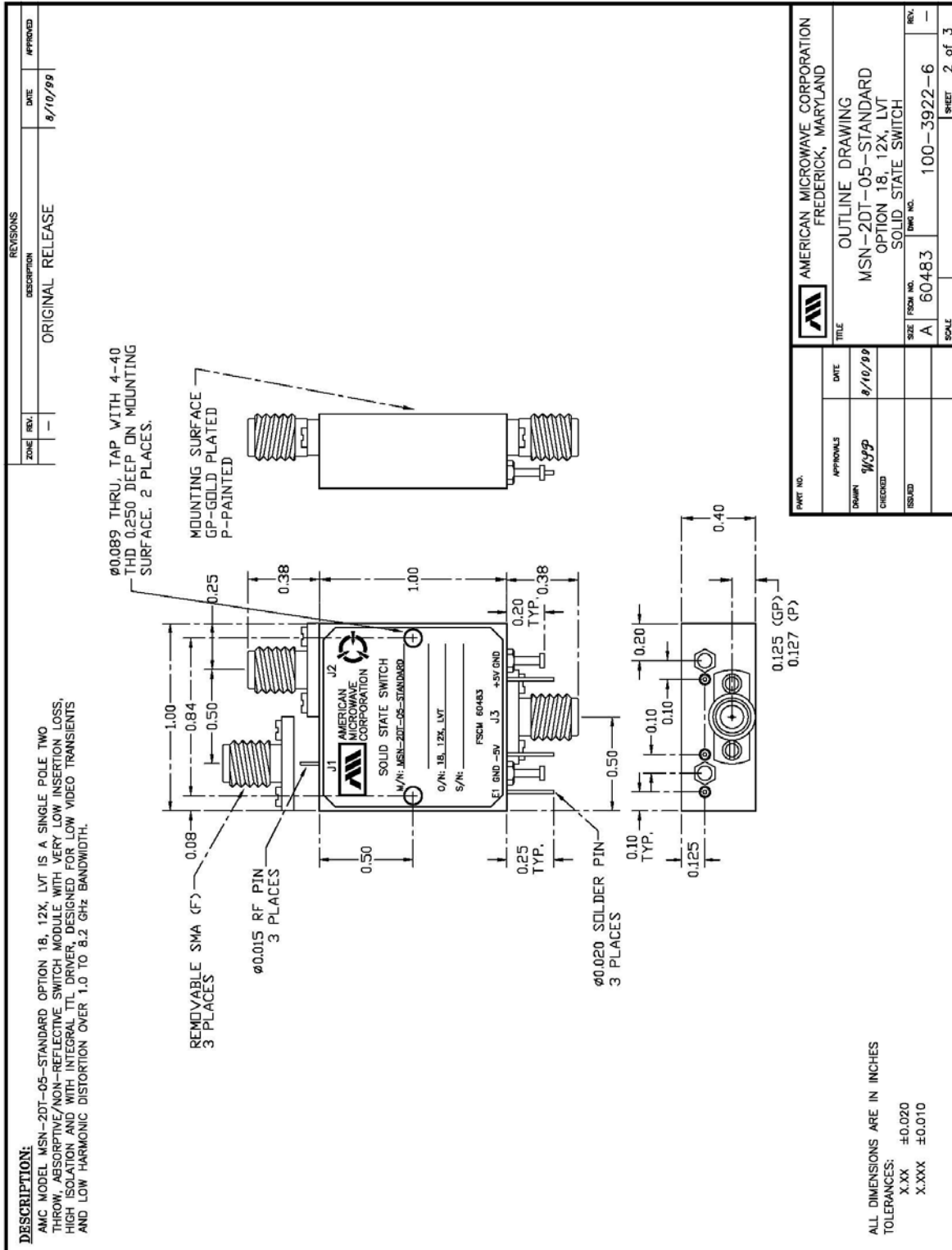
ALL DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 X.XX  $\pm 0.020$   
 X.XXX  $\pm 0.010$

PART NO.		APPROVALS		DATE	
DESIGN	W/99	DATE	8/10/99		
CHECKED					
ESD					

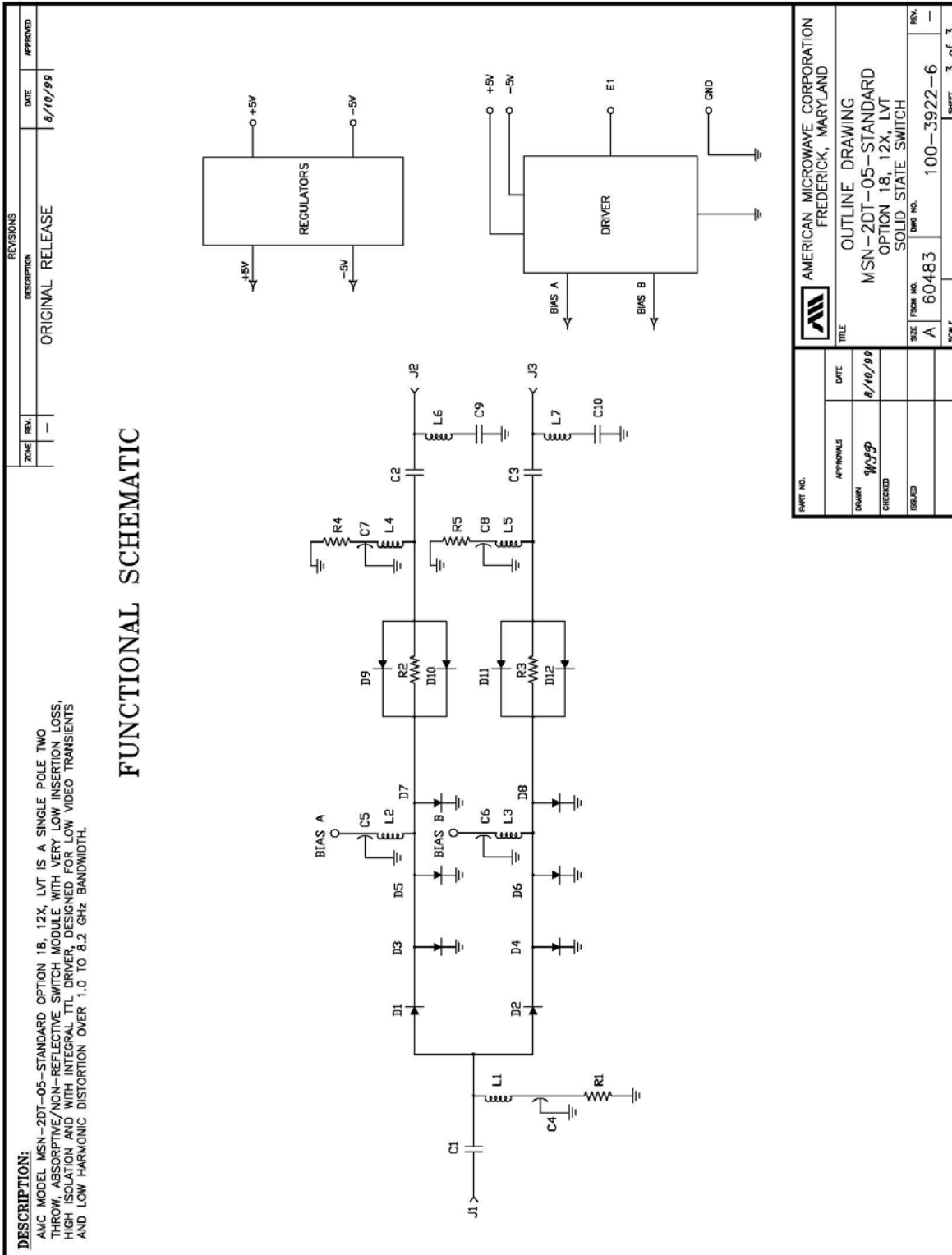
AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND		PRODUCT FEATURE	
MSN-2DT-05-STANDARD		OPTION 18, 12X, LVT	
SOLID STATE SWITCH		ENG. NO. 100-3922-6	
SIZE FROM NO.	A 60483	REV.	-
SCALE		SHEET	1 of 3



**OUTLINE DRAWING**



## FUNCTIONAL SCHEMATIC



## FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

**MSN-2DT-05-STANDARD**  
**OPTION 18, 12X, LVT**

Serial Numbers:

**2MS909697 AND 2MS909698**





