



TEST REPORT
ON
70 MHz TO 570 MHz
SINGLE POLE TWO THROW
ABSORPTIVE / NON-REFLECTIVE SWITCH MODULE
AMC MODEL No:
MSN-2DT-05-STANDARD
OPTION 70M07

Serial Numbers: 2MS909705 THRU 2MS909708

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October 25, 2004

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ISO9001 : 2000 CERTIFIED

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SINGLE POLE TWO THROW ABSORPTIVE / NON-REFLECTIVE SWITCH MODULE AMC MODEL No: MSN-2DT-05-STANDARD OPTIONS 70M07

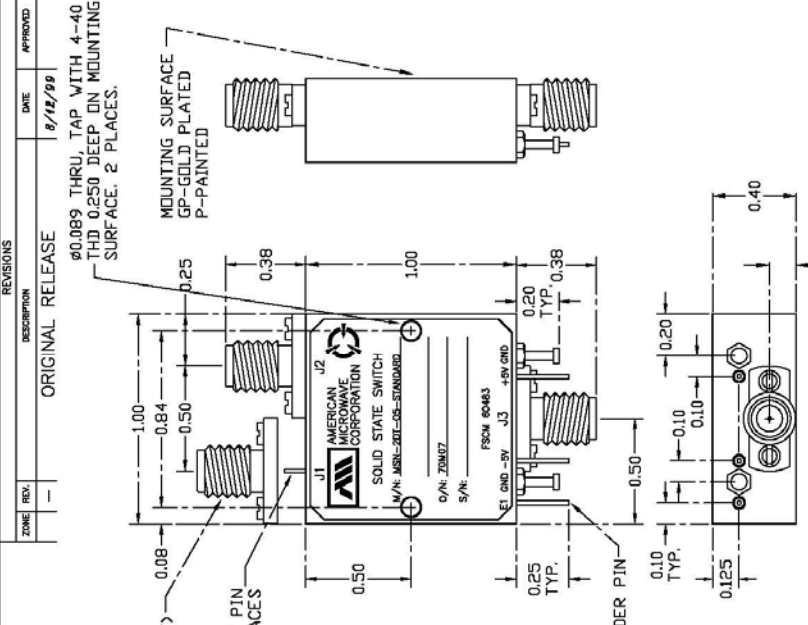
FEATURES:

- **70 MHz TO 570 MHz FREQUENCY RANGE**
- **LOW VIDEO TRANSIENTS**
- **LOW HARMONIC DISTORTION**

SPECIFICATIONS:

- | | | |
|--|---|---|
| ● FREQUENCY | : | 70 MHz TO 570 MHz |
| ● INSERTION LOSS | : | 1.5 dB MAXIMUM |
| ● ISOLATION | : | 60 dB MINIMUM |
| ● VSWR | : | 1.5:1 |
| ● SWITCHING SPEED | : | <30 ns |
| ● RISE / FALL TIME | : | <10 ns |
| ● MAXIMUM TOGGLE RATE (50% DC) | : | >20 MHz |
| ● RF CONNECTORS | : | SMA FEMALE |
| ● DC POWER SUPPLY | : | +5 V ±10% @ 100 mA MAXIMUM |
| | : | -5 V ±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) | : | ±0.5 dB |
| ● VIDEO LEAKAGE | : | 100 mV PEAK TO PEAK, 500 MHz BANDWIDTH (-60 dBm TO -65 dBm LEAKAGE POWER OR ENERGY IN THE BAND OF INTEREST) |
| ● 1 dB COMPRESSION POINT | : | +20 dBm |
| ● 2 TONE 3 RD ORDER INTERCEPT POINT, P _{OUT} 0 dBm | : | +35 dBm |
| ● 2 TONE 2 ND ORDER INTERCEPT POINT, P _{OUT} 0 dBm | : | +55 dBm |
| ● 0.1 dB PASS BAND | : | 70 MHz TO 570 MHz |

PRODUCT FEATURE

ZONE REV. - DESCRIPTION ORIGINAL RELEASE DATE 8/18/99 APPROVED		PART NO. MSN-2DT-05-STANDARD OPT 70M07 DATE 8/18/99 DRAWN WJG CHECKED ISSUED TITLE AMERICAN MICROWAVE CORPORATION PRODUCT FEATURE MSN-2DT-05-STANDARD OPTION 70M07 SOLID STATE SWITCH SIZE FROM NO. A 60483 DWG NO. 100-3922-7 REV. - SHEET 1 of 3
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REMOVABLE SMA (F) 3 PLACES
 MOUNTING SURFACE GP-GOLD PLATED P-PAINTED
 Ø0.089 THRU, TAP WITH 4-40 THD 0.250 DEEP ON MOUNTING SURFACE. 2 PLACES.
 Ø0.015 RF PIN 3 PLACES
 Ø0.020 SOLDER PIN 3 PLACES

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 ±0.020
 X.XXX ±0.010

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -10°C TO +55°C (OPERATING)
 -40°C TO +71°C (STORAGE)
- HUMIDITY: 85% OVER TEMPERATURE
- 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

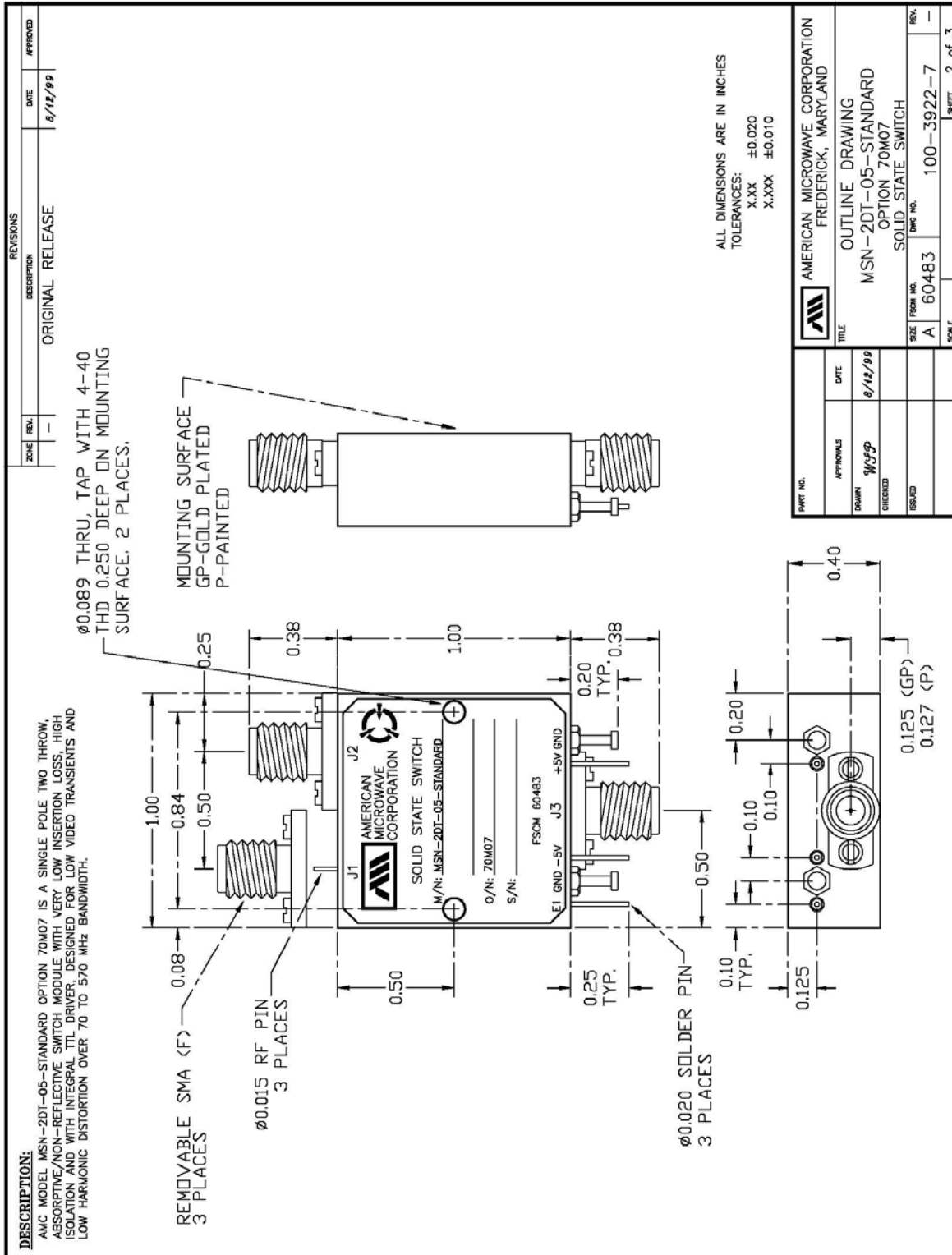
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

DESCRIPTION:
 AMC MODEL MSN-2DT-05-STANDARD OPTION 70M07 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 70 TO 570 MHz BANDWIDTH.

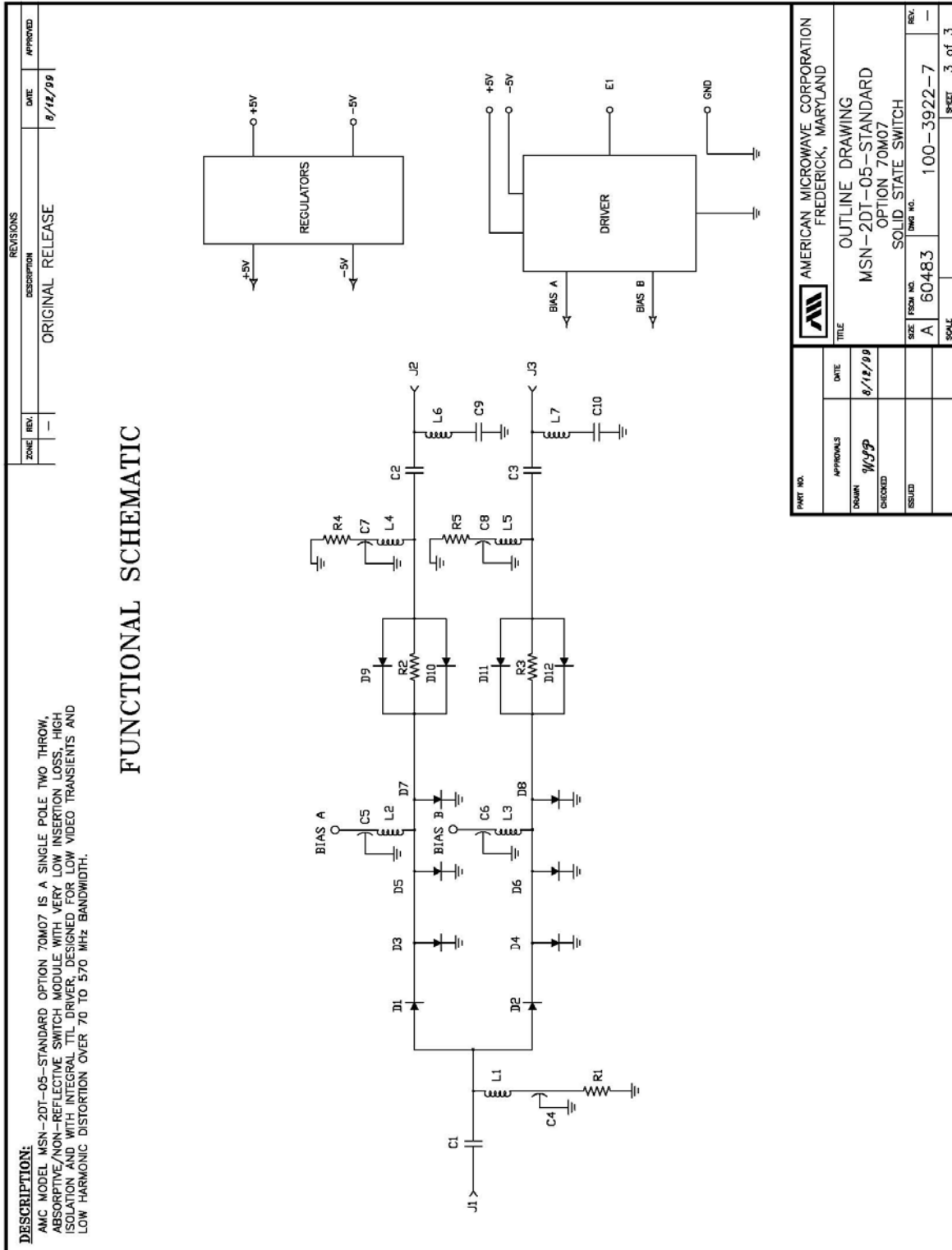
SPECIFICATIONS:

- FREQUENCY: 70 MHz TO 570 MHz
- INSERTION LOSS: 1.5 dB MAXIMUM
- ISOLATION (ANY PORT): 60 dB MINIMUM
- VSWR (ANY PORT ANY STATE): 1.5:1
- SWITCHING SPEED: <30 ns
- RISE/FALL TIME: (50% TTL TO 10%/90% RF) <10 ns
- (10% TO 90% RF) (90% TO 10% RF)
- MAXIMUM TOGGLE RATE: >20 MHz (50% DC)
- 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: ≤ 70dB @ +10 dBm I/P (ON STATE) ±0.5dB
- VIDEO LEAKAGE: 100 mV PEAK TO PEAK, 500 MHz BANDWIDTH (-60 dBm TO -65 dBm LEAKAGE POWER OR ENERGY IN THE BAND OF INTEREST) +20 dBm
- 1 dB COMPRESSION POINT: +20 dBm
- 2 TONE 3RD ORDER INTERCEPT POINT, POUT 0dBm: +35 dBm
- 2 TONE 2RD ORDER INTERCEPT POINT, POUT 0dBm: +55 dBm
- 0.1 dB PASS BAND: 70 MHz TO 570 MHz
- WEIGHT: 1.5 OUNCES TYPICAL
- SIZE: 1.00 (L) X 1.00 (W) X 0.40 (H)

OUTLINE DRAWING



FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

MSN-2DT-05-STANDARD
OPTION 70M07

Serial Numbers:

2MS909705 THRU 2MS909708

FINAL TEST DATA

AMC MODEL NO: MSN-2DT-05-STANDARD OPTION 70M07 SERIAL NUMBER: 2MS909705

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

DATE: 11/30/99

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: <u>TELEHUS</u>	TECHNICIAN: <u>PA</u>
JOB NO: <u>907133E-6</u>	
MODEL NO: <u>MSN-2DT-05-STD</u>	OPTION NO: <u>70M07</u>
SERIAL NO: <u>2MS909705</u>	SPECIFICATION: _____
CURRENT DRAW: <u>±5 VDC @ _____ mA; -5 VDC @ _____ mA</u>	FREQUENCY RANGE: _____

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
<u>J3-J1 1.11 dB</u>	<u>27.06 dB</u>	<u>1.09 : 1</u>	<u>25.04 dB</u>	<u>1.12 : 1</u>	<u>30.56 dB</u>	<u>1.06 : 1</u>
<u>J3-J2 1.12 dB</u>	<u>27.43 dB</u>	<u>1.09 : 1</u>	<u>24.97 dB</u>	<u>1.12 : 1</u>	<u>30.81 dB</u>	<u>1.06 : 1</u>
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1
dB	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
<u>J3-J1 > 60 dB</u>	<u>58 nS</u>	<u>10 nS</u>	<u>52 nS</u>	<u>10 nS</u>
<u>J3-J2 > 60 dB</u>	<u>45 nS</u>	<u>8 nS</u>	<u>68 nS</u>	<u>6 nS</u>
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS
dB	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: Wiltron 37347A

QA/QC APPROVAL: PA

DATED: DEC 07 1999

