



**TEST REPORT**  
**ON**  
**50 TO 100 MHz**  
**SINGLE POLE TWO THROW**  
**ABSORPTIVE / NON-REFLECTIVE SWITCH MODULE**

**AMC MODEL No:**  
**MSNN-2DT-04T**  
**OPTION RLC, 50M01**

**Serial Numbers: 2MS810906 THRU 2MS810908**

**DESIGNED**  
**BY**  
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**TESTED**  
**BY**  
**C. Wendland**

**REPORTED**  
**BY**  
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**ISO9001 : 2000 CERTIFIED**

*Handwritten signatures and initials:*  
DRH  
OK  
JDT  
ESC  
SKM  
PB  
JH

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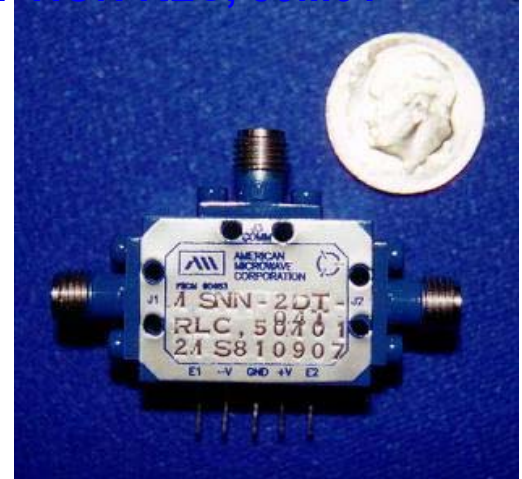
## SINGLE POLE TWO THROW ABSORPTIVE / NON-REFLECTIVE SWITCH MODULE AMC MODEL No: MSNN-2DT-04T OPTION RLC, 50M01

### FEATURES:

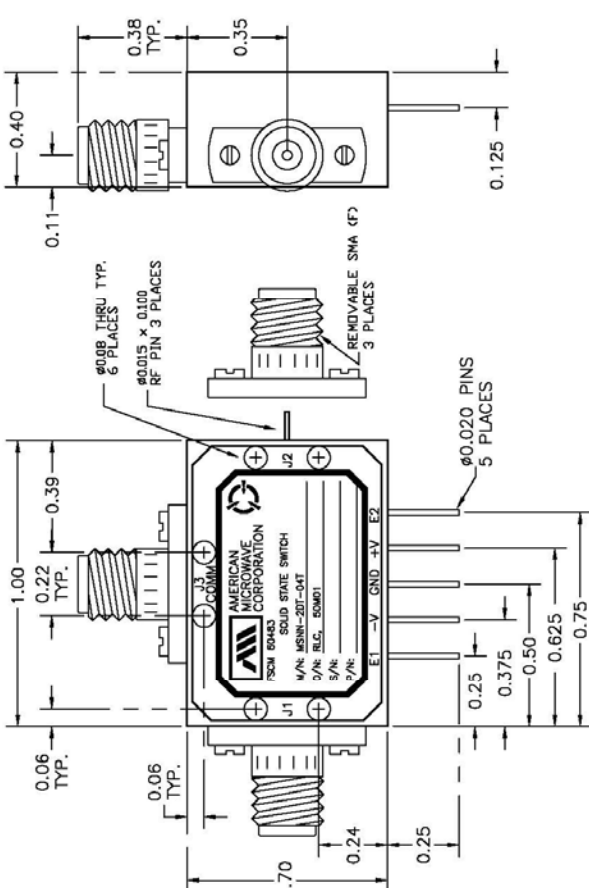
- 50 TO 100 MHz FREQUENCY RANGE
- LOW INSERTION LOSS
- HIGH ISOLATION
- MINIATURE SIZE

### SPECIFICATIONS:

- |                          |                            |
|--------------------------|----------------------------|
| ● FREQUENCY              | : 50 TO 100 MHz            |
| ● INSERTION LOSS         | : 1.5 dB MAXIMUM           |
| ● ISOLATION              | : 60 dB MINIMUM            |
| ● VSWR                   | : 1.5:1                    |
| ● SWITCHING SPEED        | : 150 nS MAXIMUM           |
| ● POWER HANDLING         | : +20 dBm MAXIMUM          |
| ● CONTROL                | : 2 LINE TTL               |
| ● POWER SUPPLY           | : +5V @ 150 mA MAXIMUM     |
|                          | : -5V @ 100 mA MAXIMUM     |
| ● RF CONNECTORS          | : SMA FEMALE (REMOVABLE)   |
| ● OPERATING TEMPERATURES | : -20°C TO +70°C           |
| ● IMPEDANCE              | : 50 OHMS                  |
| ● SIZE                   | : 1.0" x 0.7" x 0.4"       |
| ● WEIGHT                 | : APPROXIMATELY 1.5 OUNCES |



**PRODUCT FEATURE**

ZONE REV. DESCRIPTION DATE APPROVED	ORIGINAL RELEASE 5/1/98	 <p>       M/N=MODEL NUMBER        O/N=OPTION NUMBER        S/N=SERIAL NUMBER        P/N=PART NUMBER     </p> <p>       M/N=5043        O/N=MSNN-2DT-04T        S/N=REG. 50M01        P/N=     </p>	PART NO. APPROVALS DATE DRAWN CHECKED ISSUED	TITLE MSNN-2DT-04T RLC, 50M01 50 MHZ TO 100 MHZ NON-REFLECTIVE/ABSORPTIVE SOLID STATE SWITCH	SIZE FROM NO. A 60483 ENG NO. 100-4394-3 REV.	SCALE SHEET 1 of 1
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**REVISIONS**

**NOTE:**  
 DR=WITH DRIVER, REFLECTIVE  
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

**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 2040 COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 1070 COND. A

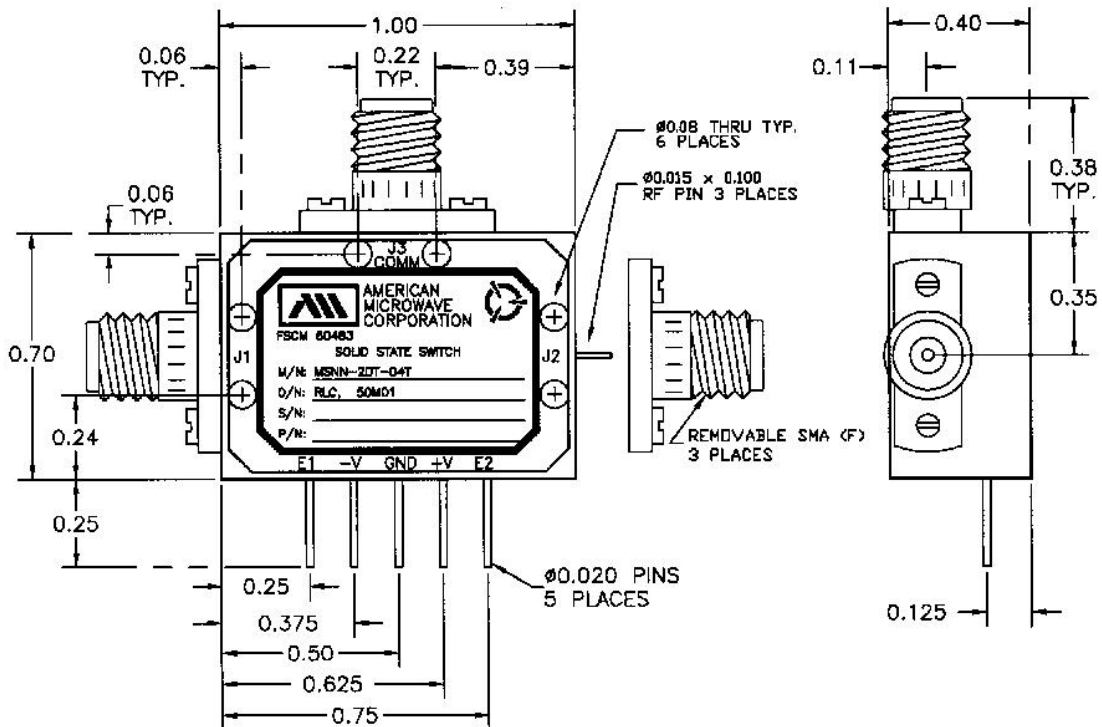
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**ALL DIMENSIONS ARE IN INCHES**  
 TOLERANCES:  
 X.XX ±0.020  
 X.XXX ±0.010

**SPECIFICATIONS:**

- FREQUENCY: 50 MHZ TO 100 MHZ
- INSERTION LOSS: 1.5dB MAXIMUM
- ISOLATION: 60dB MINIMUM
- VSWR: 1.5:1 MAXIMUM
- SWITCHING SPEED: 150 nS MAXIMUM
- POWER HANDLING: +20 dBm MAXIMUM
- CONTROL: 2 LINE TTL
- POWER SUPPLY: +5V @ 150 mA MAXIMUM  
 -15V @ 100 mA MAXIMUM
- RF CONNECTORS: SMA FEMALE (REMOVABLE)
- OPERATING TEMPERATURE: -20°C TO +70°C
- IMPEDANCE: 50 OHMS
- SIZE: 1.0" x 0.7" x 0.4"
- WEIGHT: APRX. 1.5 OUNCES

## MECHANICAL OUTLINE



## FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

**MSNN-2DT-04T**  
**OPTION RLC, 50M01**

Serial Numbers:

**2MS801906 THRU 2MS801908**

**FINAL TEST DATA**

AMC MODEL NO: MSNN-2DT-04T OPTION RLC, 50M01, SERIAL NUMBER: 2MS801906

FORM: SW-01/0698



DATE: 12-7-98

**MICROWAVE SWITCH FINAL TEST DATA**

JOB NO: 80470-1E MODEL NO: MSNN-2DT-04T SERIAL NO: 2MS810906  
 CUSTOMER: Ring Line Corp. TECHNICIAN: C. Wendland  
 SPECIFICATION: RLC, 50M01 (option(s)) FREQUENCY RANGE: 0.05 - 0.10 GHz  
 +5VDC @ 45mA  
 -15VDC @ 45mA

RETURN LOSS						
INSERTION LOSS	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J3-J2 1.26 dB	12.71	1.60 : 1	12.82	1.59 : 1	18.14	1.28 : 1
J3-J1 1.30 dB	12.88	1.58 : 1	11.85	1.69 : 1	16.84	1.33 : 1

SWITCHING SPEED				
ISOLATION	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J3-J2 > 60 dB	< 150 nS	X	< 150 nS	X
J3-J1 > 60 dB	< 150 nS	X	< 150 nS	X

NOTE: Any additional Test Data on Back

TESTED ON: 8757A (HP) / 8350B (HP)

TEST:   E #29  
 QA/QC: Q2 RME  
 DATE: 12-7-98



**FINAL TEST DATA**

AMC MODEL NO: MSNN-2DT-04T OPTION RLC, 50M01, SERIAL NUMBER: 2MS801907

FORM: SW-01/0698



DATE: 12-7-98

**MICROWAVE SWITCH FINAL TEST DATA**

JOB NO: 80470-1E MODEL NO: MSNN-2DT-04T SERIAL NO: 2MS810907  
 CUSTOMER: Ring Line Corp. TECHNICIAN: C. Wendland  
 SPECIFICATION: RLC, 50M01 (option(s)) FREQUENCY RANGE: 0.05 - 0.10 GHz  
 +5VDC @ 45mA  
 -15VDC @ 45mA

INSERTION LOSS	RETURN LOSS					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J3-J2 1.28 dB	12.87	1.59 : 1	12.28	1.64 : 1	17.29	1.31 : 1
J3-J1 1.31 dB	12.46	1.62 : 1	12.54	1.61 : 1	16.84	1.33 : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J3-J2 > 60 dB	< 150 nS	X	< 150 nS	X
J3-J1 > 60 dB	< 150 nS	X	< 150 nS	X

NOTE: Any additional Test Data on Back

TESTED ON: 8757A (HP) / 8350B (HP)

TEST:   E #29  
 QA/QC: Q2 RMC  
 DATE: 12-7-98





**FINAL TEST DATA**

AMC MODEL NO: MSNN-2DT-04T OPTION RLC, 50M01, SERIAL NUMBER: 2MS801908

FORM: SW-01/0698



DATE: 12-7-98

**MICROWAVE SWITCH FINAL TEST DATA**

JOB NO: 80470-1E MODEL NO: MSNN-2DT-04T SERIAL NO: 2MS810908  
 CUSTOMER: Ring Line Corp. TECHNICIAN: C. Wendland  
 SPECIFICATION: RLC, 50M01 (option(s)) FREQUENCY RANGE: 0.05 - 0.10 GHz  
+5 VDC @ 45 mA  
-15 VDC @ 45 mA

INSERTION LOSS		RETURN LOSS					
		INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J3-J2	1.37 dB	12.68	1.60:1	12.10	1.66:1	16.98	1.32:1
J3-J1	1.36 dB	12.18	1.65:1	12.15	1.85:1	17.53	1.30:1

ISOLATION		SWITCHING SPEED			
		DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J3-J2	> 60 dB	< 150 ns	X	< 150 ns	X
J3-J1	> 60 dB	< 150 ns	X	< 150 ns	X

NOTE: Any additional Test Data on Back

TESTED ON: 8757A (HP) / 8350B (HP)

TEST: CW E #29  
 QA/QC: R2 RMC  
 DATE: 12-7-98