

DESCRIPTION

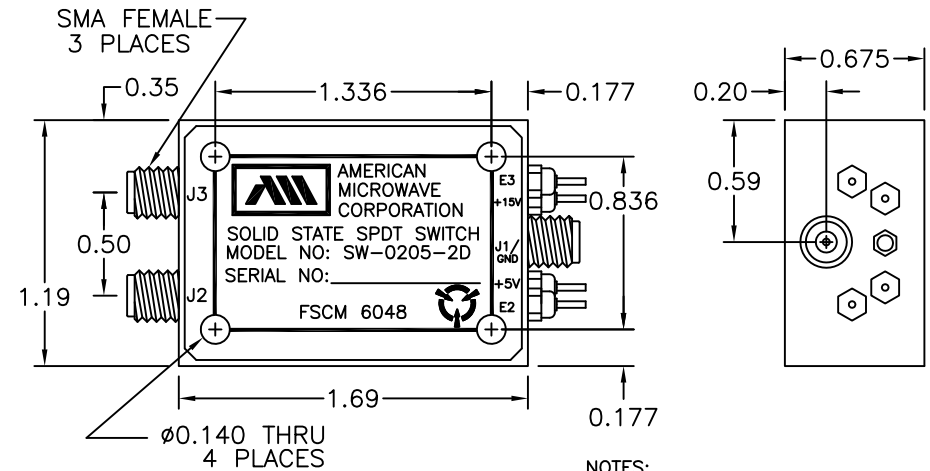
AMC MODEL SW-0205-2D IS A REFLECTIVE SPDT SWITCH MODULE WITH INTEGRAL TTL DRIVER, DESIGNED FOR HIGH RELIABILITY APPLICATIONS SUCH AS SHIPBOARD RADARS WHERE SWITCHING SPEED, ISOLATION AND SPECTRAL PURITY ARE OF EXTREME IMPORTANCE.

SPECIFICATIONS

- FREQUENCY RANGE 220-490 MHz MINIMUM
- INSERTION LOSS 0.6 ±0.2 dB
- INSERTION LOSS BALANCE 0.2 dB MAXIMUM
- INSERTION LOSS VARIATION OVER TEMPERATURE ±0.1 dB MAXIMUM OVER OPERATING TEMPERATURE RANGE
- INSERTION LOSS VARIATION OVER FREQUENCY ±0.1 dB MAXIMUM
- ISOLATION 45 dB MINIMUM
- VSWR (ON) 1.3:1 MAXIMUM
- RF POWER +16.2 dBm CW MAXIMUM
- SWITCHING TIME
 - RISE (10% RF TO 90% RF) 40 ns MAXIMUM
 - FALL (90% RF TO 10% RF) 40 ns MAXIMUM
 - ON (50% TTL TO 90% RF) 300 ns MAXIMUM
 - OFF (50% TTL TO 10% RF) 300 ns MAXIMUM
- SETTling TIME
 - ON (90% TO WITHIN ±0.25 dB OF INSERTION LOSS) 0.7 μs MAXIMUM
 - OFF (10% TO MINIMUM ISOLATION REQUIREMENT) 1.0 μs MAXIMUM
- VOLTAGE TRANSIENTS 1 Vpp MAXIMUM ACROSS 50Ω LOAD
- CONTROLS STANDARD TTL COMPATIBLE
2 INDIVIDUAL CONTROLS
LOGIC "0" = INSERTION LOSS
LOGIC "1" = ISOLATION
(SEE TRUTH TABLE)
- HARMONIC DISTORTION PRODUCTS 56 dBc MINIMUM
- SPURIOUS SIGNALS/SPECTRAL PURITY
(AM/PM SIDEBANDS IN OPERATING BAND) 90 dB BELOW THE OUTPUT SIGNAL LEVEL
- RF LEAKAGE
 - RADIATIVE -90 dBm/SQUARE FOOT,
1 FOOT DISTANCE APPROXIMATELY
 - CONDUCTIVE -90 dBm ON SUPPLY AND CONTROL LINES.
- RADIATION SUSCEPTIBILITY ≥ -76 dBm FOR RF INTERFERENCE FIELD OF
-20 dBm/SQUARE FOOT
- CONDUCTED SUSCEPTIBILITY ≥ -76 dBm FOR RF INTERFERENCE LEVEL
OF -20 dBm ON DC POWER LINES
- CONDUCTED SUSCEPTIBILITY (INTERMODULATION) ≥ -85 dBm FOR -20 dBm RF
INTERFERENCE LEVEL ON DC POWER LINES
- POWER SUPPLY +5VDC ±5% @ 90 mA MAXIMUM
+15VDC ±5% @ 40 mA MAXIMUM
(OVER VOLTAGE PROTECTED)
- CONNECTORS
 - RF INPUT/OUTPUT SMA FEMALE
 - POWER SOLDER PIN
 - CONTROL SOLDER PIN
- SIZE 1.69" x 1.19" x 0.675"

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE, JOB # 10358-4E	11/22/92	
	B	SEE ECN# 12-035	7/16/12	RA

MECHANICAL OUTLINE



TRUTH TABLE			
E3	E2	RF PATH	ON
1	0	J1-J2	
0	1	J1-J3	

NOTES:

- 1) DIMENSIONS ARE IN INCHES
- 2) TOLERANCES: X.XX ±0.020
X.XXX ±0.010
- 3) WEIGHT: APPROX. 3 OZ
- 4) MATERIALS PROCESS AND PARTS TO: MIL-T-19500, MIL-M-38510 CLASS B, MIL-F-18870 JANTX TYPE, ER COMPONENTS
- 5) REQUIREMENT MIL-STD-454 (5 AND 9), MIL-F-18870

ENVIRONMENTAL RATINGS

- TEMPERATURE 0°C TO +65°C (OPERATING)
-55°C TO +70°C (STORAGE)
- HUMIDITY MIL-STD-202, METHOD 103, CONDITION B
- SHOCK MIL-S-901 GRADE A, CLASS I OR II
- VIBRATION MIL-S-167, TYPE 1 VIBRATION, 0.1G SINUSOIDAL 25 Hz TO 2000 Hz
- MTBF 1 x 10⁶ HOURS, @ +50°C OPERATION

ENVIRONMENTAL STRESS SCREENING (ESS)

- TEMPERATURE CYCLES 10 CYCLES, 1/2 HOUR SOAK MINUTE, -55°C TO +85°C
- TEMPERATURE SHOCK 4 CYCLES, -55°C TO +85°C
- VIBRATION 10 G @ 60 Hz FOR 1 MINUTE, 3 AXIS
- BURN IN (OPERATING) MIL-STD-883 METHOD 1015.4 TEST CONDITION B,
160 HOURS @ 125°C JUNCTION TEMPERATURE (105°C AMBIENT)
- ESS (NEXT HIGHER ASSEMBLY)
 - THERMAL 5 CYCLES, 5°C PER MINUTE, -55°C TO +55°C.
 - RANDOM VIBRATION 20 TO 2000 Hz AND 6 G RMS, 10 MINUTES PER AXIS AT +55°C/-55°C.



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APPROVALS	DATE
DRAWN WJP	11/22/92
CHECKED	

PRODUCT FEATURE

SW-0205-2D

(B-BAND)

200-500 MHz, REFLECTIVE SOLID STATE SPDT SWITCH MODULE

SIZE A SHEET 1 OF 2 DWG. # 100-2908