SS-50 SPST High Isolation RF Switch 1-200 MHz

VARIL

DESCRIPTION

SS-50 is a high performance, moderately priced RF switch intended for signal switching at lower to medium IF frequencies. High ON/OFF ratio and excellent isolation of switching signal transients makes this switch suitable for use as an RF/IF gate and in noise blanker circuits.

The circuitry, consisting of two balanced transformers and 8 matched Schottky diodes are encapsulated to withstand severe environments in a sealed enclosure.

Each SS-50 is individually tested to Vari-L's demanding quality and performance specifications.

LIMITED WARRANTY

Vari-L Company, Inc. warrants its products against defects in parts and workmanship for a period of one year.

GUARANTEED MINIMUM PERFORMANCE DATA

TEST CONDITION

"On": Input power +6 dBm
+20 mA bias
"Off": Input power +6 dBm
−20 mA bias

Switching port driven by a 20 mA constant current source.

OVERALL FREQUENCY RANGE:

1-200 MHz

FREQUENCY BANDS IN MHZ:

	1-10	10-60	60-200
Insertion loss (dB)	2.0	2.0	2.5
Isolation (dB)	70	60	50
VSWR (on)	1.5	1.3	1.5

ABSOLUTE MAXIMUM RATINGS:

Operating Temperature −54°C to +100°C
Total RF input power 100 mW @ +25°C
Derate linearly to 50 mW @ + 100°C
Max. DC bais current 50 mA

ENVIRONMENTAL CONDITIONS

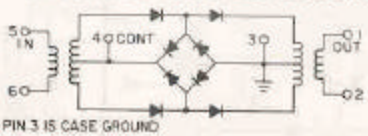
GUARANTEED ENVIRONMENTAL PERFORMANCE:

All units are designed to meet their specifications over −54°C to +100°C and after exposure to any or all of the following tests per MIL-STD-202E.

Exposure	Method	Test Condition
Thermal Shock	107D	B
Altitude	105C	G
H.F. Vibration	204C	D
Mechanical Shock	213B	C
Random Vibration (15 minutes per axis)	214	IIF
Solderability	208C	
Terminal Strength	211A	C
Resistance to Soldering Heat	210A	B

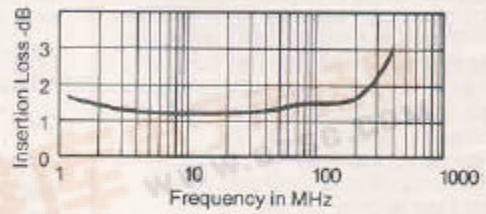
Sealed units, meet the requirements of Method 106D of MIL-STD-202E when exposed to humidity.

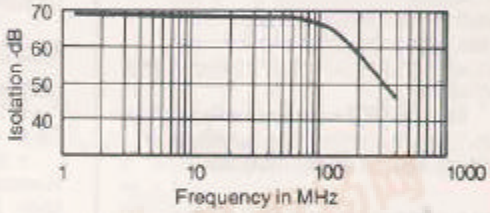
FUNCTIONAL SCHEMATIC

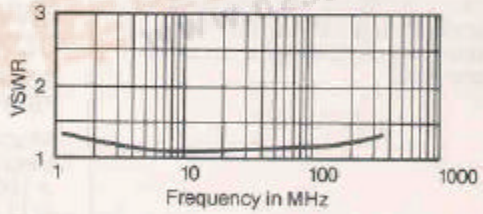


TYPICAL PERFORMANCE

Impedance: 50 ohms
3rd Order Intercept Point: +32 dBm (on condition)
Switching Signal Rejection: 30 dB
Rise and Fall Time: 10 nS
Signal Power up to +10 dBm
On Off Current up to ±37 mA







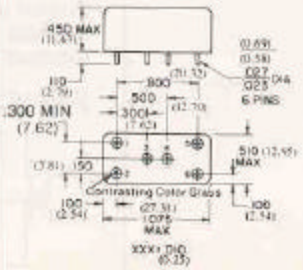
PACKAGE

MATERIAL:

Header: SAE 1008 or equivalent
Cover: CRS QQ-S-698
Pins: Type D or F per MIL-STD-1276
Glass: Corning type 9010 or equivalent

FINISH:

Header and Pins: tin per MIL-T-10727, Type II
Cover: Tin per MIL-T-10727, Type II



SWITCHES