SS-80
SPST
Flatpack
RF Switch
1-300 MHz

VARIL



DESCRIPTION

SS-80 is a miniature high performance RF switch intended for advanced receiver applications.

The high ON/OFF ratio, low loss and excellent isolation of switching signal transients makes this switch an ideal choice in RF gate and noise blanker circuits. The flatpack's low volume and form factor facilitates easy installation on high density RF boards. The circuitry, consisting of two balanced transformers and eight matched Schottky diodes are packaged to withstand severe environments and are sealed in the enclosure.

Each SS-80 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 +10 dBm
+25 mA bias
"Off": Input power +10 dBm
−25 mA bias

Switching port driven by a 25 mA constant current source.

OVERALL FREQUENCY RANGE:

1-300 MHz

FREQUENCY BANDS IN MHZ:

	1-10	10-75	75-300
Insertion loss (dB)	2.5	2.0	4.0
Isolation (dB)	80	60	40
VSWR (on)	1.5	1.3	1.75

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

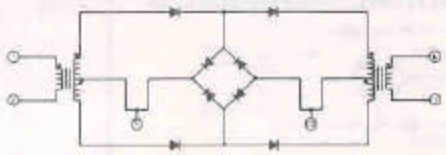
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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

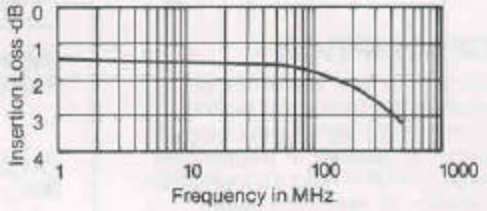
Sealed units, meet the requirements of Method 106D of MIL-STD-202E when exposed to humidity.

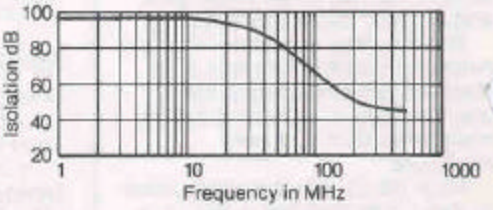
FUNCTIONAL SCHEMATIC

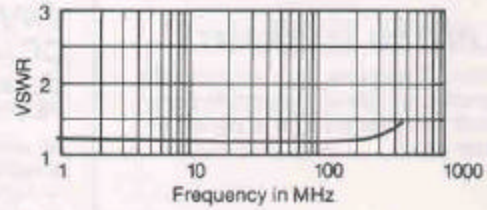


TYPICAL PERFORMANCE

Impedance: 50 ohms
3rd Order Intercept Point: +30 dBm (on condition)
Switching Signal Rejection: 60 dB
Rise and Fall Time: 10 nS
Signal Power up to +17 dBm
On Off Current up to ±37 mA







PACKAGE

CASE MATERIAL:

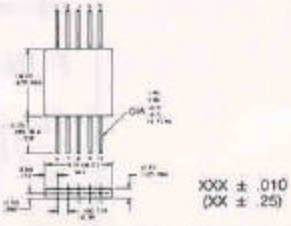
F15 Kovar per ASTM Standard F15-68, (Chemical composition per MIL-STD-1276, Type K)

FINISH:

Plating, all metal parts: gold per MIL-G-45204, Type I, Grade A, Class 1, over nickel per MIL-C-26074, Class 1

LEADS:

Kovar per MIL-STD-1276, Type K



SWITCHES