

VARI-L

SS-91
SPST
Flatpack
RF Switch
10-500 MHz



DESCRIPTION

SS-91 is a miniature high performance RF switch intended for advanced receiver applications.

The SS-91 is an ideal choice in RF gate and noise blanker circuits due to its high ON/OFF ratio, low loss and excellent isolation of switching signal transients. The flatpack's low volume and formfactor facilitate easy installation on high density RF boards. The circuitry, consisting of two balanced transformers and eight matched Schottky diodes, is packaged to withstand severe environments and is sealed in the enclosure.

Each SS-91 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:

10-500 MHz

FREQUENCY BANDS IN MHZ:

	10-100	100-250	250-500
Insertion loss (dB)	2.5	2.65	3.5
Isolation (dB)	60	55	40
VSWR (on)	1.3	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 bias current 50 mA

ENVIRONMENTAL CONDITIONS

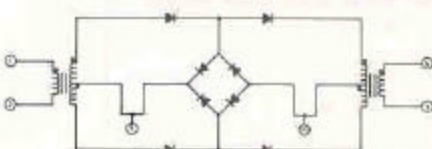
GUARANTEED ENVIRONMENTAL PERFORMANCE:

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

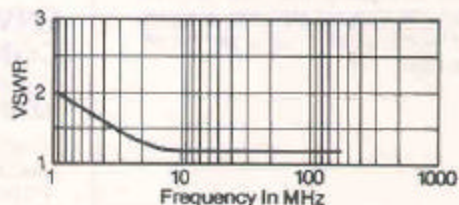
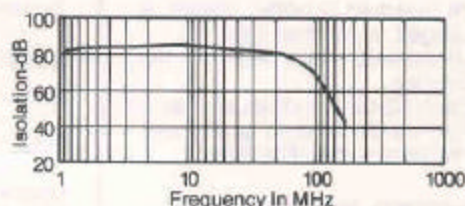
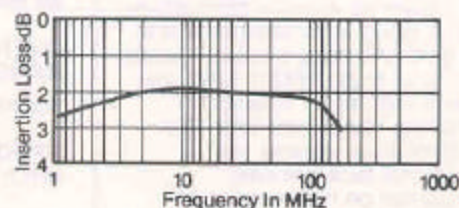
Sealed units, meet the requirements of Method 106D of MIL-STD-202E when exposed to humidity.

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

MATERIAL:

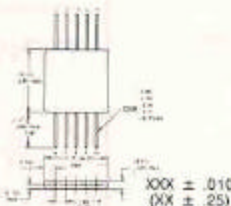
Case and Cover: Nickel Iron Alloy per MIL-I-23011, Class I
Leads: Kovar per MIL-STD-1276, Type K
Glass Seals: Corning 7052 or equivalent

FINISH:

Case and Cover: Electroless Nickel Plate per MIL-C-26074, Class I
Leads: Hot dip solder over Nickel Sn40 to Sn60 (per QQ-S-571)

LEADS:

Kovar per MIL-STD-1276, Type K



SWITCHES