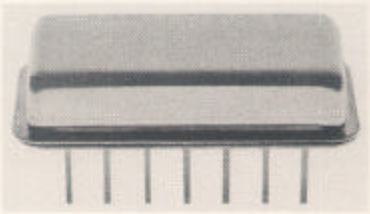
VS-20 High Isolation RF Switch 5-500 MHz SP2T

VARIL



DESCRIPTION

VS-20 is a miniature high performance RF hybrid PIN diode switch with internal driver and internal 50 ohm terminations.

This switch exhibits high on/off isolation between ports, low insertion loss, and low power consumption. The sturdy construction and sealed package will withstand harsh environmental conditions.

TTL compatible Welded package

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

Overall Frequency Range:

5-500 MHz

Frequency Bands in MHz:

	5-100	100-500
Insertion Loss (dB)	0.7	0.9
Isolation (dB)	65	59
VSWR (on)	1.25	1.25

NOTE: Good case and lead ground contact is essential for optimum performance of this unit.

Absolute Maximum Ratings:

Operating Temperature −54°C to +100°C:
Total RF input power 1W @ +25°C.
Maximum DC supply voltage, +18V
Switching (control) voltage: not to exceed supply voltage

Normal Operating Ratings:

RF input power +10 dbm
DC supply current 25 mA @ 15V
Switching (control) voltage +5V

ENVIRONMENTAL CONDITIONS

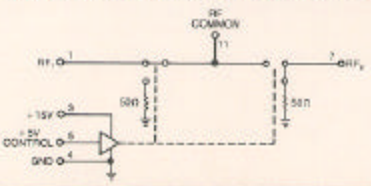
Guaranteed Environmental Performance:

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	Test Method	Condition
Thermal Shock	107D	B
Altitude	105C	G
H.F. Vibration	204C	D
Mechanical Shock	213B	C
Random Vibration (15 minutes per axis)	214	11F
Solderability	208C	
Terminal Strength	211A	C
Resistance to Soldering Heat	210A	B

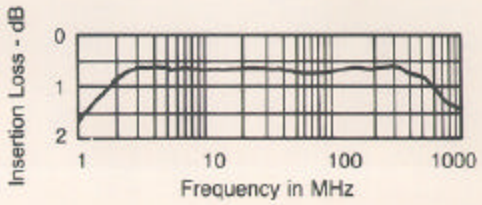
These hermetically sealed units meet the requirements of method 5008 of MIL-STD-883B seal leak test procedures (5 x 10^{-7} atm-cc/sec limit).

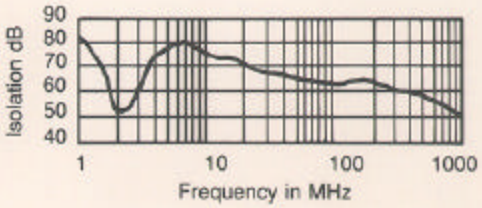
FUNCTIONAL SCHEMATIC

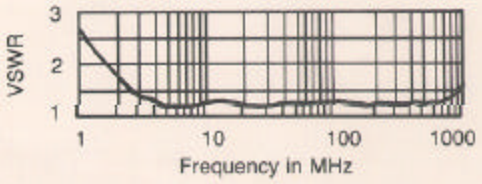


TYPICAL PERFORMANCE

Impedance: 50 ohms
3rd Order Intercept Point: +35 dBm min. (on condition)
Switching speed (50% of control signal to 90% RF for turn on, 10% RF for turn off): 5 μ S MAX 1 μ S TYP.





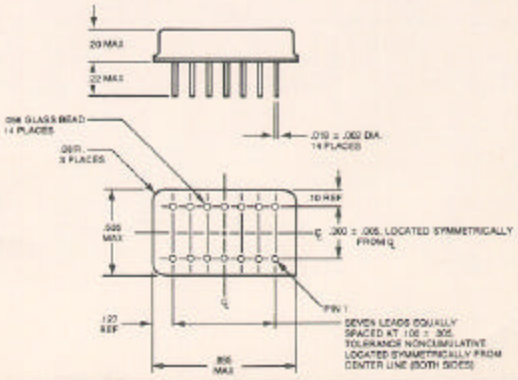


Package: Kovar per MIL-STD-1276, Type K, gold plated per MIL-G-45204, Type I, Class I.

Cover: Cold rolled steel per QQS-698, nickel plated per QQN-290, Class II.

Leads: Kovar per MIL-STD-1276, Type K, gold plated per MIL-G-45204, Type II, Class I.

Soldering of leads should be limited to 5 seconds at 500°F.



SWITCHES