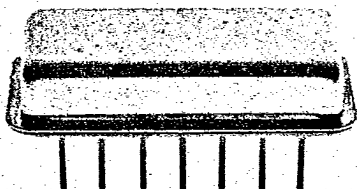


VS-22  
High  
Isolation  
RF Switch  
5-500 MHz  
SP2T

# VARI-L



## DESCRIPTION

VS-22 is a miniature high performance RF hybrid PIN diode switch with internal CMOS 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)	0.8	1.0
Isolation (dB)	62	50
VSWR (on)	1.25	1.30

**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 DC supply voltage

### Normal Operating Ratings:

RF input power +10 dbm  
DC supply current 11 mA @ 5V  
Switching (control) voltage: +5V

## ENVIRONMENTAL CONDITIONS

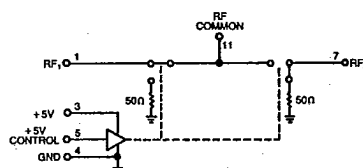
### Guaranteed Environmental Performance:

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	Method	Test Condition
Thermal Shock	107D	B
Altitude	105C	G
H.F. Vibration	204C	D
Mechanical Shock	213B	C
Random Vibration	214	11F
(15 minutes per axis)		
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 ( $5 \times 10^{-7}$  atm-cc/sec limit).

## FUNCTIONAL SCHEMATIC

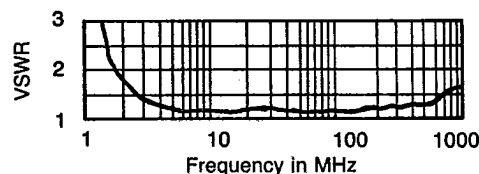
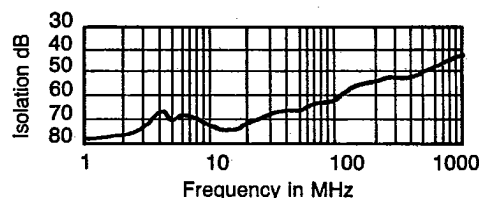
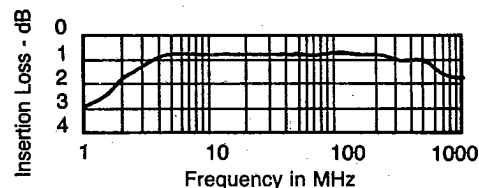


## TYPICAL PERFORMANCE

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  $\mu$ s MAX 1  $\mu$ s TYP.

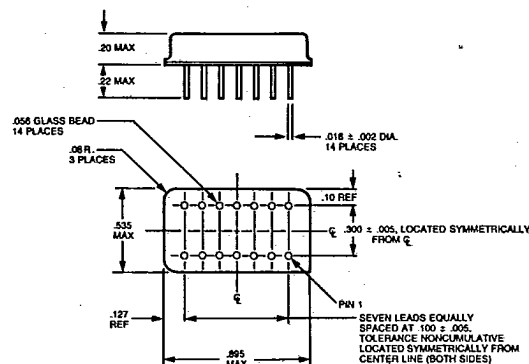


Package: Kovar per MIL-STD-1276, Type K, gold plated per MIL-G-45204, Type I, Class I.

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.



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