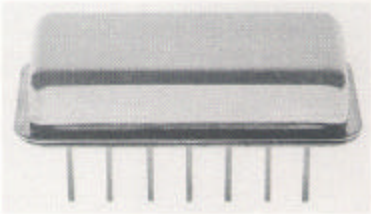
VARIL

VS-25 High Isolation RF Switch 50-500 MHz SP2T



DESCRIPTION

VS-25 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.

CMOS compatible (or open collector TTL) 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:

50-500 MHz

Frequency Bands in MHz:

	50-100	100-500
Insertion Loss (dB)	0.8	1.0
Isolation (dB)	65	55
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, +15V
DC supply, +15V @ 35 mA

ENVIRONMENTAL CONDITIONS

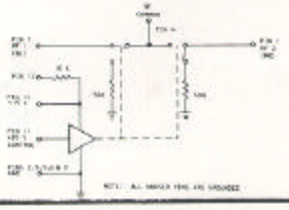
Guaranteed Environmental Performance:

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	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 (5×10^{-7} atm-cc/sec limit).

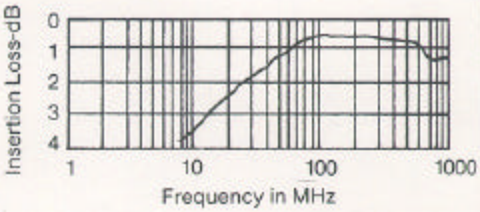
FUNCTIONAL SCHEMATIC

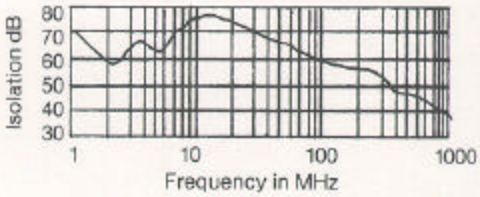


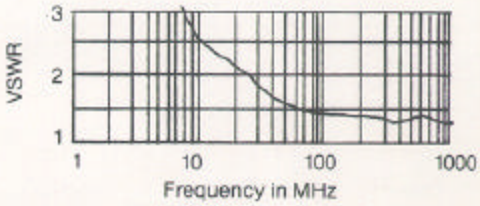
TYPICAL PERFORMANCE

Impedence: 50 ohms
3rd Order Intercept Point: +40dBm min. (on condition)

Switching speed (50% of control signal to 90% RF for turn on, 10% RF for turn off): 1.5 μS MAX 1 μS TYP.





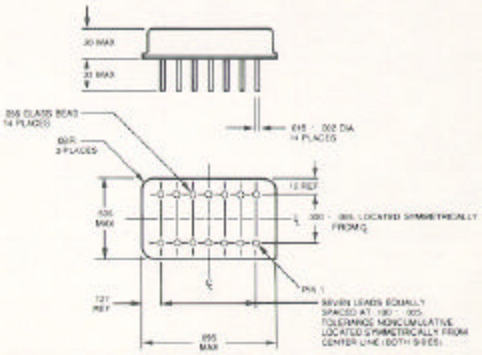


Package: Kovar per MIL-STD-1276, Type K, gold plated per MIL-G-45204, Type I, Class I.

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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