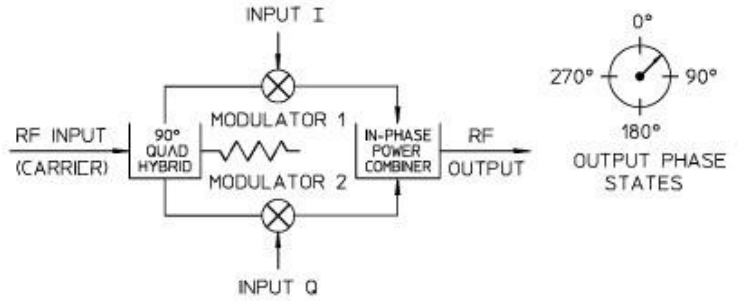


VMM-2D SERIES – VECTOR I&Q MODULATOR

TECHNICAL FEATURE

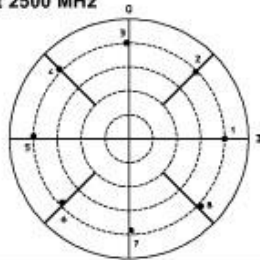
FEATURES

- 2.5 to 6.5 GHz
- High Rate Analog QPSK for MSK Systems
- Excellent Phase & Amplitude Balance
- SMA



Typical Magnitude/Phase Plot at 2500 MHz

State	Data Input (mA)		Ins. Loss		Phase
	I	Q	dB	Abs	
1	4.5	0	-9.2	0	0
2	3.18	3.18	-9.3	45.2	0.2
3	0	4.5	-9.3	91.3	1.3
4	-3.18	3.18	-8.8	134.5	0.5
5	-4.5	0	-9.3	177.8	2.2
6	-3.18	-3.18	-9.6	-135.8	0.8
7	0	-4.5	-9.6	-88.4	1.6
8	3.18	-3.18	-9.0	-43.7	1.3

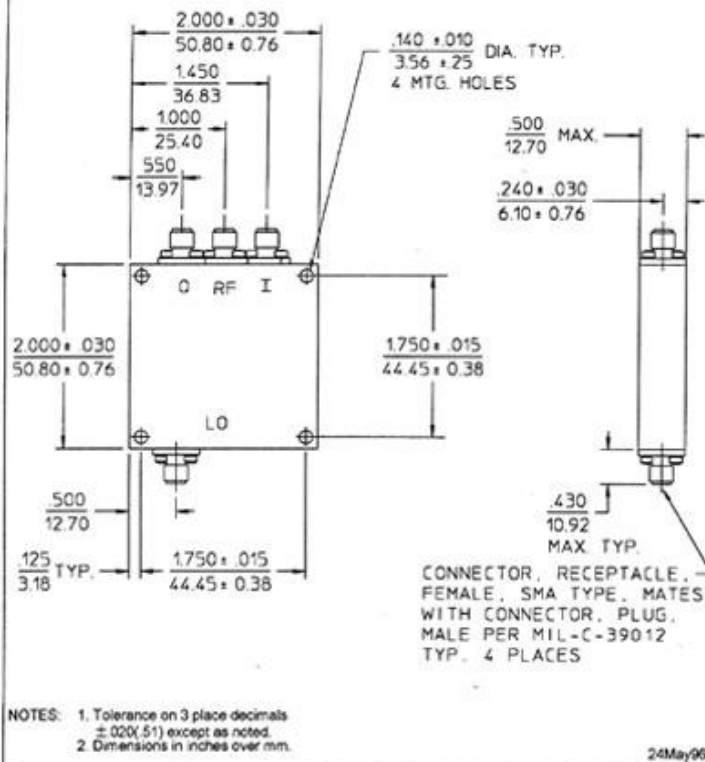


PRINCIPAL SPECIFICATIONS

Model Number	RF/LO Center Freq., f_0 , GHz	RF/LO Bandwidth, MHz
VMM-2D-****B	2.5 to 6.5	10% of f_0

For complete Model Number replace **** with desired center frequency, f_0 in MHz

D-Package Outline



GENERAL SPECIFICATIONS

- RF Input: +10 dBm nom.
- Modulation Inputs: 0 dBm max.
- VSWR: 2.0:1 max.
- Impedance: 50 Ω nom.
- Insertion Loss (Below modulation Input): 12 dB max.
- Modulation Accuracy (measured @ 4 quadrants, 0 dBm input)
- Amplitude Balance: 1 dB
- Phase Balance: $\pm 5^\circ$
- Weight, nominal: 3 oz (84 g)
- Operating Temp: -55° to $+85^\circ\text{C}$

General Notes:

1. A vector modulator is used to phase modulate an RF carrier with complex analog signals.
2. Merrimac Vector Modulators consist of a quadrature hybrid and an in-phase power divider.
3. Units in the VMM-2D series are capable of modulating the carrier at up to 10% of the RF bandwidth.
4. These units comply with relevant sections of MIL-M-28837 and may be supplied screened for compliance with additional specifications for military and space applications requiring the highest reliability.