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Digitally Controlled PIN Diode Quad-Phase (QPSK) Modulators

Frequency Ranges: From 500 MHz to 24 GHz any optimized bandwidth is available.

TTL Compatible Logic: 2 BIT Binary Logic as follows:

E1	E2	Output
0	0	0º Ref
1	0	+270º
1	1	+180º
0	1	+90º

High Switching Speed: Measured from 50% TTL to 10%/90% RF.

DC Power Consumption: +/-5 VDC @ +/-100 mA.

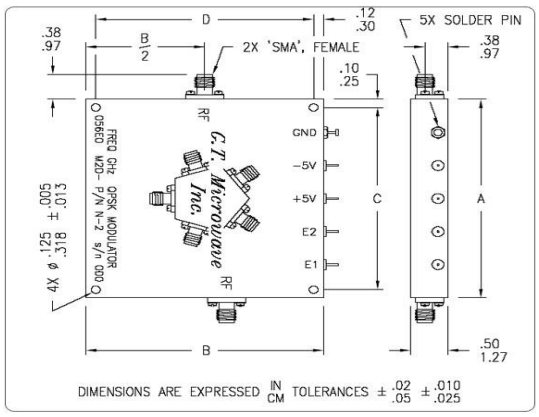
High RF Power Handling: For power levels greater than listed below, please consult the factory.

Standard Interfaces: RF port connectors are 'SMA', female per MIL-C-39012. DC/Logic Connections are solder terminals. Please consult the factory for additional connector options.

Matched Phase and Amplitude: Models listed are matched unit to unit. Please consult the factory for this option.

Electrical Specifications for QPSK Modulators

Model Number	Frequency Range (GHz)	Phase vs. Frequency	Amplitude Balance (dB)	Insertion Loss MAX (dB)	V.S.W.R. MAX	Switching Speed MAX (ηSec)	RF Power MAX (dBm/CW)	Outline Size
M2D-39A-2	0.5 – 2.0	±10.0º	±1.0	9.0	1.75:1	100	+27/37	1
M2D-38A-2	1.0 – 3.0	±10.0º	±1.0	9.0	1.75:1	100	+27/37	1
M2D-49A-2	1.0 – 4.0	±15.0º	±2.5	13.0	1.80:1	100	+27/37	6
M2D-48A-2	2.0 – 6.0	±10.0º	±1.0	9.0	1.75:1	100	+27/37	2
M2D-68A-2	6.0 – 18.0	±10.0º	±1.0	9.0	1.75:1	100	+27/37	3
M2D-69A-2	2.0 – 18.0	±20.0º	±2.0	11.0	2.0:1	100	+27/37	4
M2D-84A-2	16.0 – 24.0	±20.0º	±2.0	11.0	2.0:1	100	+27/37	5



Outline Sizes

Size	'A' Dimensions IN/CM	'B' Dimensions IN/CM	'C' Dimensions IN/CM	'D' Dimensions IN/CM
1	4.950/12.570	3.380/8.580	4.750/12.070	3.125/7.940
2	3.250/8.260	3.250/8.260	3.050/7.750	3.000/7.620
3	3.000/7.620	3.000/7.620	2.800/7.110	2.750/6.990
4	4.250/10.795	3.500/8.890	3.250/8.260	3.250/8.260
5	1.600/4.060	2.000/5.080	1.400/3.556	1.750/4.445
6	5.380/13.650	4.500/11.430	5.125/13.020	4.250/10.800