



**PRINCIPAL SPECIFICATIONS**

Model Number	Frequency Range, GHz	Nominal Coupling, dB	Frequency Sensitivity, dB, Max.	Directivity, dB, Min.	*Insertion Loss, dB, Max.	VSWR, Max.		Outline Ref.
						Main Line	Coupled Lines	
CDM-10M-.75G	0.5 - 1.0	10 ±1.25	± 0.8	22	1.50	1.15:1	1.10:1	1
CDM-20M-.75G		20 ±1.25			0.50			1
CDM-30M-.75G		30 ±1.25			0.40			2
CDM-10M-1.5G	1.0 - 2.0	10 ±1.25	± 0.8	22	1.50	1.15:1	1.10:1	3
CDM-20M-1.5G		20 ±1.25			0.50			3
CDM-30M-1.5G		30 ±1.25			0.40			4
CDM-10M-3G	2.0 - 4.0	10 ±1.25	± 0.8	20	1.50	1.20:1	1.15:1	5
CDM-20M-3G		20 ±1.25			0.50			5
CDM-30M-3G		30 ±1.25			0.40			6
CDM-10M-4G	2.6 - 5.2	10 ±1.25	± 0.8	18	1.50	1.30:1	1.25:1	7
CDM-20M-4G		20 ±1.25			0.50			7
CDM-30M-4G		30 ±1.25			0.40			8
CDM-10M-6G	4.0 - 8.0	10 ±1.25	± 0.8	18	1.70	1.35:1	1.25:1	7
CDM-20M-6G		20 ±1.25			0.50			7
CDM-30M-6G		30 ±1.25			0.40			8
CDM-10M-10G	7.0 - 12.4	10 ±1.25	± 0.6	16	1.90	1.35:1	1.30:1	7
CDM-20M-10G		20 ±1.25			0.70			7
CDM-30M-10G		30 ±1.25			0.60			8
CDM-10M-12G	8.0 - 16.0	10 ±1.25	± 0.8	15	2.20	1.40:1	1.40:1	7
CDM-20M-12G		20 ±1.25			1.00			9
CDM-30M-12G		30 ±1.25			1.00			9
CDM-20M-15G	12.4 - 18.0	20 ±1.25	± 0.6	15	1.00	1.40:1	1.40:1	9
CDM-30M-15G		30 ±1.25			1.00			9

▣Coupling is referenced to the **input** and includes frequency sensitivity

\* Insertion Loss **including** Coupling Loss

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**POWER SPECIFICATIONS**

Coupled Power "Loss":	
10 dB section:	0.46 dB
20 dB section:	0.044 dB
30 dB section:	0.004 dB
Peak Power:	CDM-M-12G: 2 kW max.
	CDM-M-15G: 1 kW max.
	All Others: 3 kW max.
Input Power (Forward):	50 Watts max.

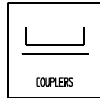
**GENERAL SPECIFICATIONS**

Impedance:	50 Ω nom.
Operating Temperature:	- 55° to +85°C
SMA Connectors:	Female, to meet the interface rqts. of MIL-C-39012.
N type connectors:	see CDN-M series
Other frequency bands:	Available option

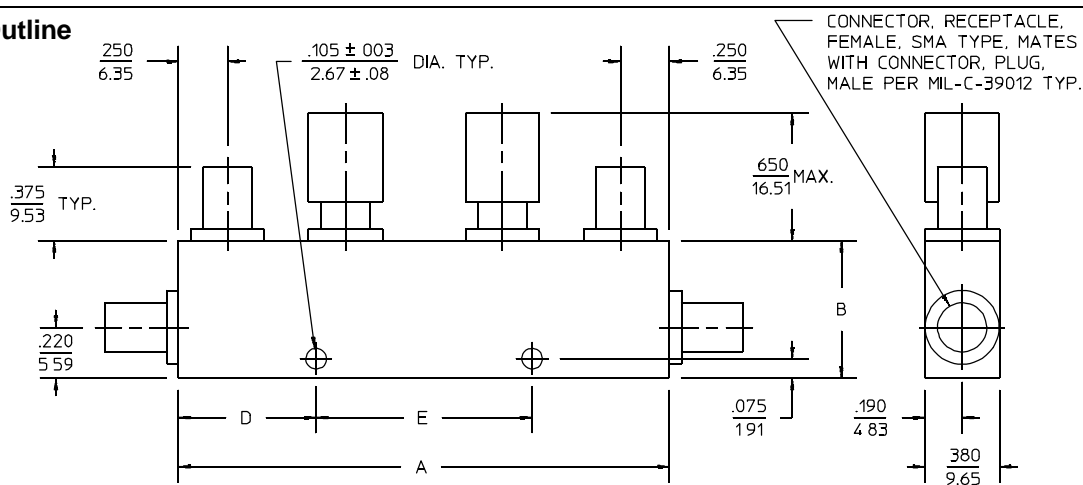
**CDM-M-G Series**

**DUAL DIRECTIONAL COUPLERS**

500 MHz to 18 GHz / Stripline Octave Bandwidths / 10, 20, 30 dB Coupling / 50 W / Low Cost / SMA



**Package Outline**



OUTLINE	A	B	D	E	WT. OZ. (G)
1	6.300 160.02	.500 12.70	.800 20.32	4.700 119.38	2.29 (65)
2	6.300 160.02	.550 13.97	.800 20.32	4.700 119.38	2.47 (70)
3	3.680 93.47	.500 12.70	.420 10.67	2.820 71.63	1.59 (45)
4	3.680 93.47	.550 13.97	.420 10.67	2.820 71.63	1.73 (49)
5	2.420 61.47	.500 12.70	.410 10.41	1.600 40.64	1.20 (34)
6	2.420 61.47	.550 13.97	.410 10.41	1.600 40.64	1.27 (36)
7	2.100 53.34	.500 12.70	.500 12.70	1.100 27.94	1.13 (32)
8	2.100 53.34	.550 13.97	.500 12.70	1.100 27.94	1.20 (34)
9	2.100 53.34	.600 15.24	.500 12.70	1.100 27.94	1.27 (36)

NOTES:  
 1. Tolerance on 3 place decimals ±.020(.51) except as noted.  
 2. Dimensions in inches over millimeters.  
 3. Weights are nominal on all outlines.

**General Notes:**

- Units in the CDM series of dual directional couplers comprise two directional couplers back-to-back designed to monitor both forward and reflected power with minimal perturbation to the main line signal.
- Each miniature coupler is a multi section quarter wave coupler utilizing stripline technology designed to cover an octave band of frequencies.
- Dual directional couplers with unequal coupling values or dual in-line configuration may be custom ordered with coupling values up to 30 dB and with coverage extending over selected frequency bands up to 18 GHz.
- Merrimac directional couplers comply with MIL-C-15370 and may be supplied screened for compliance with additional specifications you designate for military and aerospace applications requiring higher reliability

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