

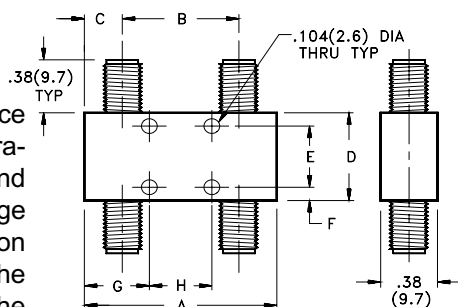
# Couplers

## 3 dB 90° Hybrids - Crossover Type

### 250 MHz - 18.0 GHz High Performance

- Low VSWR - High Isolation
- 90° Quadrature Phase
- Small Size, Light Weight
- Meets MIL-E-5400 and MIL-E-16400

Midwest Microwave's series of high performance 90° Crossover Hybrid Couplers provide temperature stable, low VSWR, high isolation, broadband performance in a compact light weight package size. All models use rugged stripline construction with a variety of stainless steel connectors. The crossover feature, putting both outputs on the same side of the unit is convenient for most systems where space and weight is a premium.



### ELECTRICAL SPECIFICATIONS

FREQUENCY RANGE (GHz)	CASE STYLE	MODEL NUMBER	AMPLITUDE BALANCE (dB)	INSERTION LOSS (dB) max	ISOLATION (dB) min	VSWR max	POWER (In) Avg (W)	Peak (kW)
<b>OCTAVE BANDWIDTH TYPES</b>								
.25-0.5	3	<a href="#">HYB-5309-X3-SMA-79</a>	+ 0.5	0.20	25	1.15	50	3
.50-1.0	3	<a href="#">HYB-5310-X3-SMA-79</a>	+ 0.5	0.20	25	1.15	50	3
1.0-2.0	2	<a href="#">HYB-5311-X3-SMA-79</a>	+ 0.5	0.20	22	1.15	50	3
2.0-4.0	1	<a href="#">HYB-5312-X3-SMA-79</a>	+ 0.5	0.25	22	1.25	50	3
2.6-5.2	1	<a href="#">HYB-5313-X3-SMA-79</a>	+ 0.5	0.25	20	1.25	50	3
4.0-8.0	1	<a href="#">HYB-5314-X3-SMA-79</a>	+ 0.5	0.30	20	1.25	50	3
7.0-12.4	1	<a href="#">HYB-5315-X3-SMA-79</a>	+ 0.5	0.50	18	1.45	50	3
12.4-18.0	1	<a href="#">HYB-5317-X3-SMA-79</a>	+ 0.5	0.50	15	1.45	50	3
<b>MULTI-OCTAVE BANDWIDTH TYPES</b>								
.50-2.0	7	<a href="#">HYB-5320-X3-SMA-79</a>	+ 0.5	0.60	24	1.30	30	3
.50-8.0	6	<a href="#">HYB-5321-X3-SMA-79</a>	+ 0.5	1.00	20	1.50	30	3
2.0-8.0	5	<a href="#">HYB-5322-X3-SMA-79</a>	+ 0.5	0.75	17	1.30	30	3
2.0-12.4	4	<a href="#">HYB-5325-X3-SMA-79</a>	+ 0.5	0.80	17	1.45	50	3
6.0-18.0	1	<a href="#">HYB-5326-X3-SMA-79</a>	+ 0.5	0.60	15	1.45	50	3
2.0-18.0	4	<a href="#">HYB-5332-X3-SMA-79</a>	+ .75	1.00	17	1.50	30	3

### MECHANICAL SPECIFICATIONS - INCHES (mm)

CASE STYLE	A	B	C	D	E	F	G	H	WEIGHT	
									Oz	Gr
1	1.00 (25.4)	0.50 (12.7)	0.25 (6.3)	0.50 (12.7)	0.312 (7.9)	0.093 (2.4)	0.50 (12.7)	N/A	0.60	17
2	2.00 (50.8)	1.50 (38.1)	0.25 (6.3)	0.50 (12.7)	0.312 (7.9)	0.093 (2.4)	1.00 (25.4)	N/A	0.64	18
3	2.00 (50.8)	1.50 (38.1)	0.25 (6.3)	1.00 (25.4)	0.812 (22.1)	0.093 (2.4)	1.00 (25.4)	N/A	0.82	23
4	2.70 (68.6)	2.20 (55.9)	0.25 (6.3)	1.06 (26.9)	0.86 (21.8)	0.10 (2.54)	0.84 (21.3)	1.030 (26.2)	2.30	65
5	2.70 (68.6)	2.20 (55.9)	0.25 (6.3)	0.86 (21.8)	N/A	0.43 (10.9)	0.58 (14.7)	1.560 (39.6)	2.70	75
6	7.00 (177.8)	6.10 (155.0)	0.45 (11.4)	1.50 (38.1)	1.180 (30.0)	0.16 (4.1)	2.25 (57.2)	2.500 (63.5)	8.00	227
7	5.58 (141.7)	5.00 (127.0)	0.29 (7.4)	0.70 (17.8)	N/A	0.35 (8.9)	0.08 (2.0)	5.420(137.7)	2.35	67

Note: TNC or Type N output connectors are available by substituting "TNC" or "NNN" for "SMA" in the Model Number.