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Coaxial Hybrids (90°)

0.5 to 18 GHz (Standard & Multi-Octave)

Features

- Miniature Size
- High isolation
- Low VSWR
- 0.5-18GHz
- Octave and Multi-Octave Bandwidth
- Operating temp. 105°C (125°C storage)
- Qualified to MIL environments
- RF shielded
- Stripline construction
- Delivery from stock

MIDISCO Series MDC 7200 coaxial hybrids are used for non reflective PIN attenuators, switching networks, digital phase shifters, bi-phase modulators, antenna feed networks, double port reflective gain amplifiers, mixers, paralleled amplifiers, power dividers, as well as combiners. When you apply a signal to one of the ports of a 90° hybrid, that signal is equally divided at the two opposite ports with a relative phase shift of 90°. Upon terminating the opposite ports, high isolation is obtained between the two adjacent ports. These characteristics display the versatility of the 90° Hybrid. Note the various applications shown in the diagrams below. All units have high isolation, low VSWR and meet MIL environments. Delivery is from stock.

Terminology

Coupling Loss - True loss measured from input port to 0° relative phase output port (Note: DC open circuit between input port and coupled output port).

Thru Loss - True loss measured from input port to -90° relative phase output port (Note: DC short circuit between input port and thru output port).

Isolation - Attenuation measured between two output ports when remaining ports are terminated in 50 ohms.

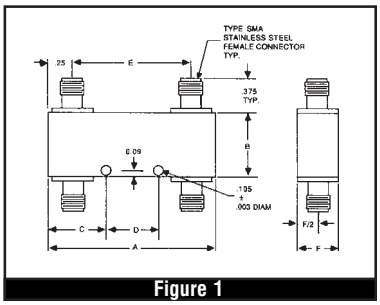


Figure 1

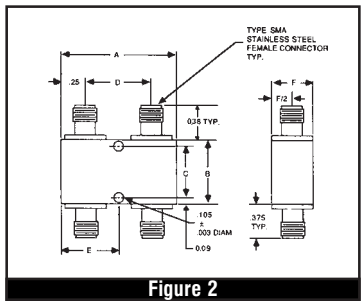
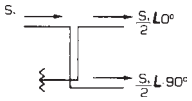
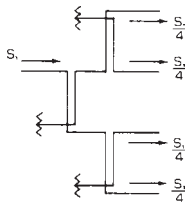


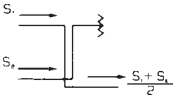
Figure 2



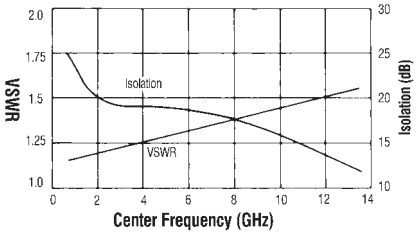
2 Way Power Divider

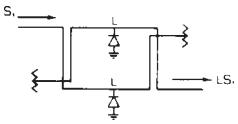


4 Way Power Divider

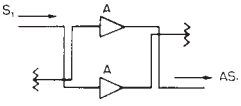


Signal Combiner
(3dB Loss)

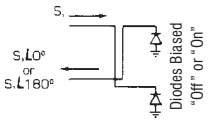




Non Reflective
Pin Attenuator



Paralled Amplifiers



Bi-Phase Modulator

Model Number	Freq. Range (GHz)	Coupling † or Thru Loss (dB)	Frequency Sensitivity (dB)	VSWR (max.)	Isolation (dB) min	Input Power Average (W)	Input Power Peak (kW)	Figure	A	B	C	D	E	F
Octave Models														
MDC7223	0.5-1	3.1 ±0.6	±0.5	1.10	28	50	3	1	3.060	0.500	0.840	1.370	2.560	0.380
MDC7224	1-2	3.1 ±0.6	±0.5	1.10	28	50	3	1	1.780	0.500	0.640	0.500	1.280	0.380
MDC7225	2-4	3.1 ±0.6	±0.5	1.20	22	50	3	2	1.150	0.500	0.314	0.580	0.660	0.380
MDC7266	2.6-5.2	3.1 ±0.6	±0.5	1.25	20	50	3	2	1.000	0.500	0.314	0.500	0.500	0.380
MDC7226	4-8	3.2 ±0.7	±0.5	1.30	18	50	3	2	1.000	0.500	0.314	0.500	0.500	0.380
MDC7227	6-12.4	3.2 ±0.7	±0.5	1.35	18	50	3	2	1.000	0.500	0.314	0.500	0.500	0.380
MDC7288	7.5-16	3.4 ±0.9	±0.6	1.45	15	40	2	2	1.000	0.580	0.392	0.500	0.500	0.380
MDC7228	12-18	3.4 ±1.0	±0.7	1.50	15	40	1	2	1.000	0.580	0.392	0.500	0.500	0.380
Multi-Octave Models														
MDC7267	2-8	3.3 ±0.80	±0.40	1.30	17	30	3	1	2.600	0.750	0.670	1.260	2.030	0.440
MDC7277	4-12.4	3.3 ±0.80	±0.40	1.40	15	20	2	1	1.720	0.600	0.610	0.500	1.220	0.380
MDC7278	7-18	3.5 ±1.25	±0.75	1.50	13	20	1	2	1.000	0.580	0.392	0.500	0.500	0.380

† *Includes frequency sensitivity.*

Dimensions are in inches

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