

HC100

WR-10 hybrid circulator



MicroHarmonics

Superior mm-Wave Components

Specifications

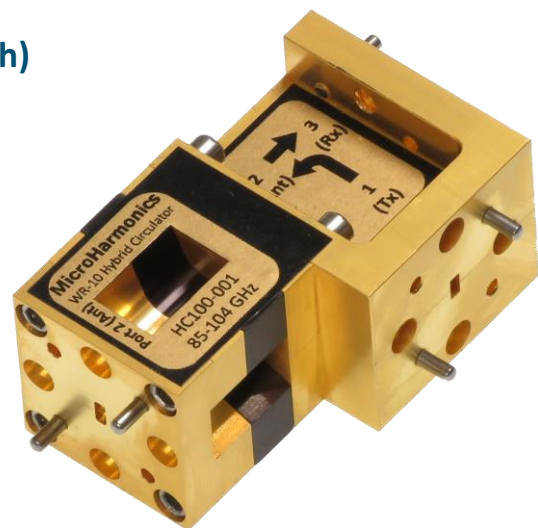
Flange	WR-10
Frequency (GHz)	85-104
Insertion Loss (dB, typ)	0.7
Insertion Loss (dB, max)	1.5
Isolation (dB, typ)	23
Return Loss (dB, typ)	21
VSWR (max)	1.4:1
Maximum Power (W)	2.3
Diamond Heatsink	Yes

WR-10 Hybrid Circulator

The patent-pending hybrid circulator is designed for wideband millimeter wave transmit/receive systems. The hybrid circulator is an innovative technology, combining an orthomode transducer with a Faraday rotator to achieve more than triple the bandwidth of the traditional Y-junction design. Every circulator is tested on a vector network analyzer to ensure conformity and the test data is provided to the customer.

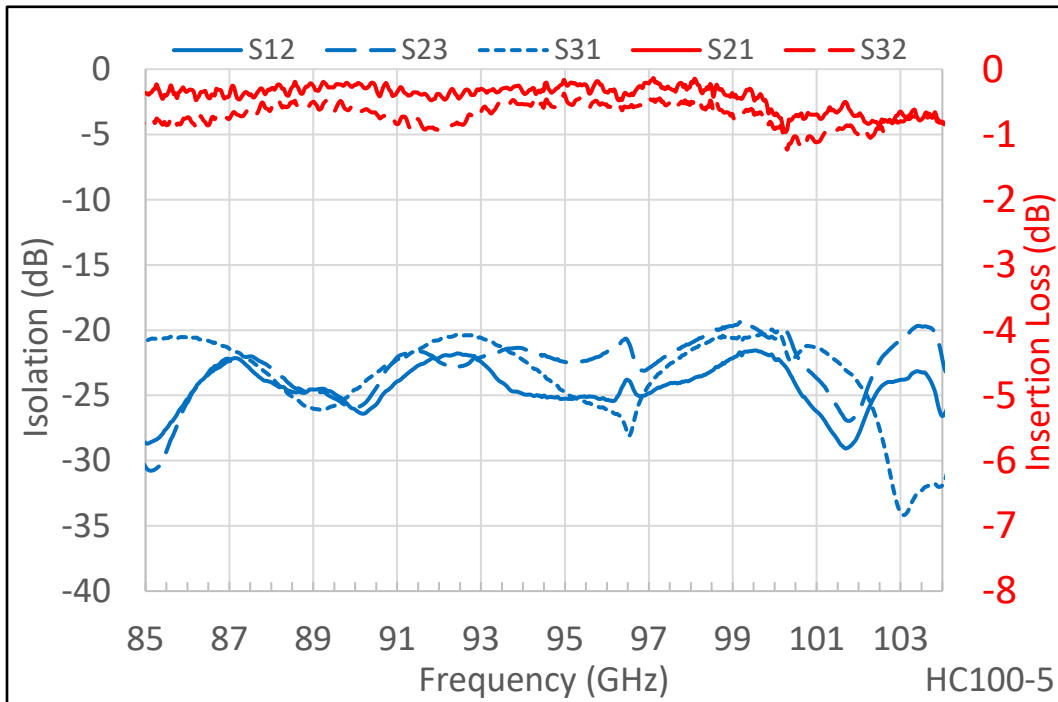
85-104 GHz Bandwidth

- ◆ Wideband (24% fractional bandwidth)
- ◆ Internal waveguide screw access
- ◆ Anti-cocking waveguide flanges
- ◆ Resists stray magnetic fields
- ◆ Comprehensive test data
- ◆ Low insertion loss
- ◆ Patent pending

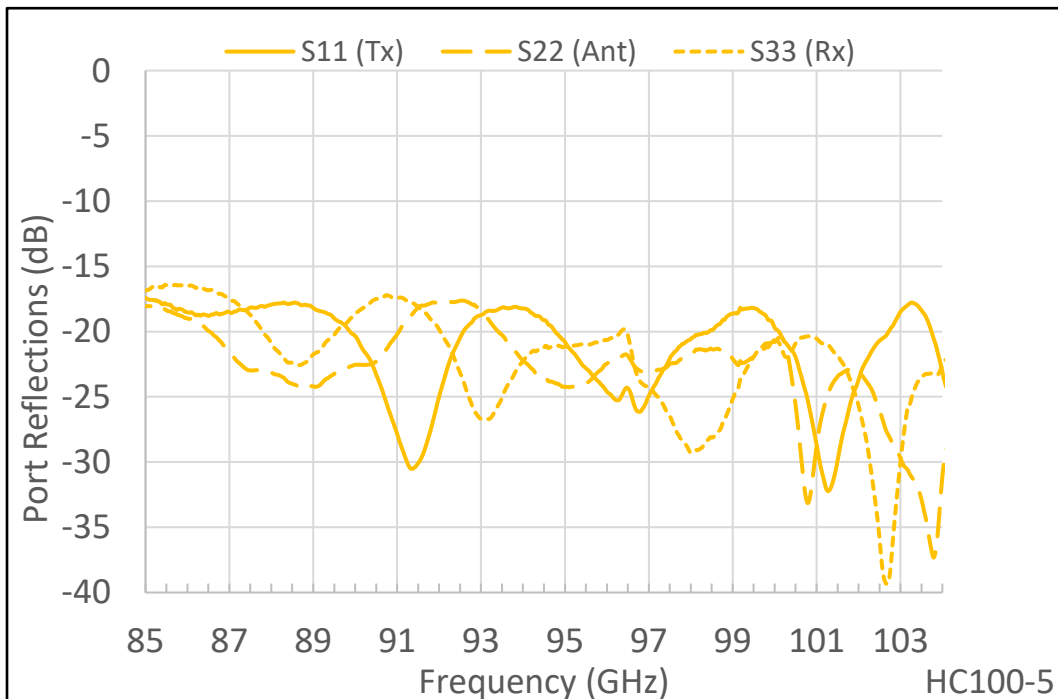




Insertion Loss and Isolation



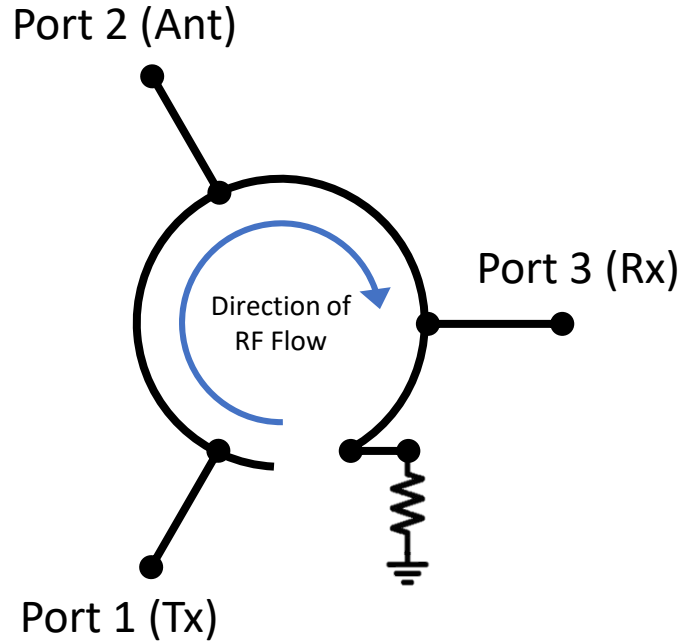
Port Reflections



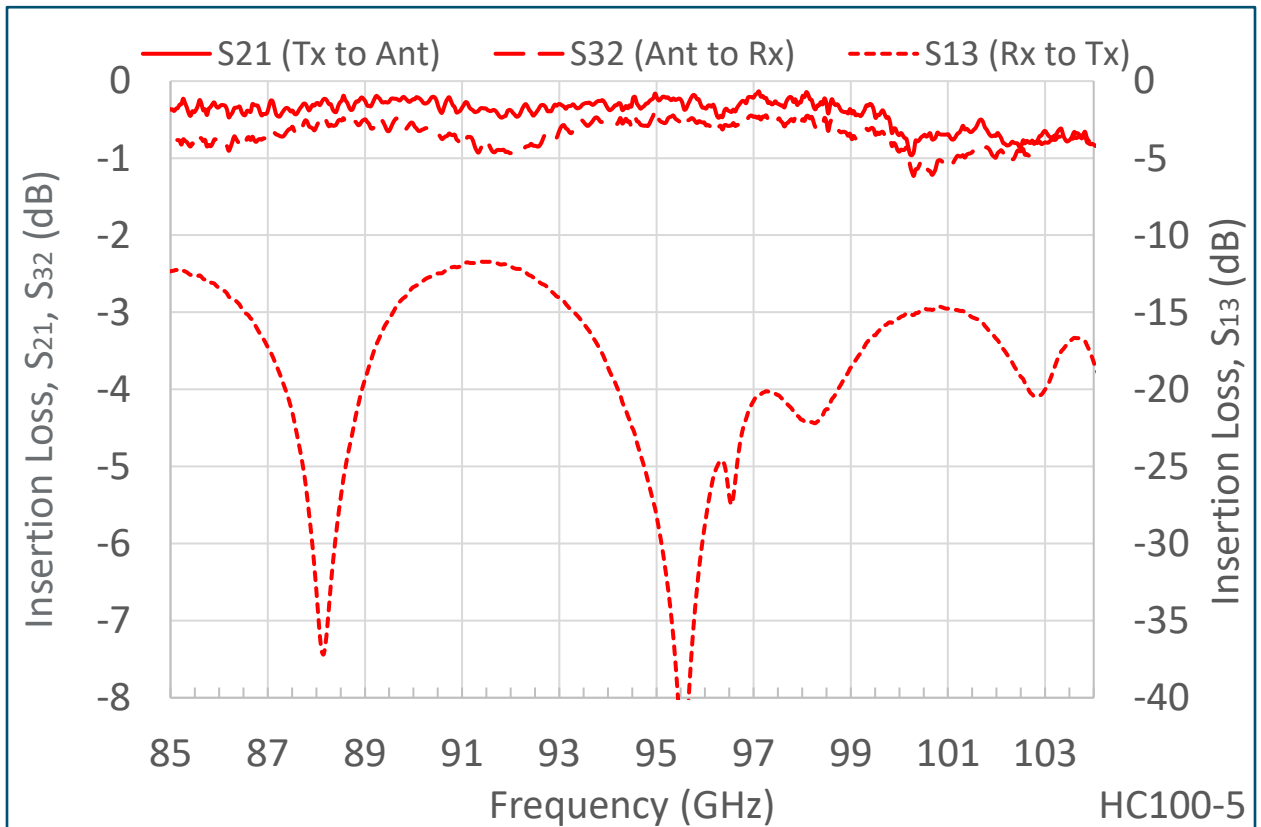


Asymmetry

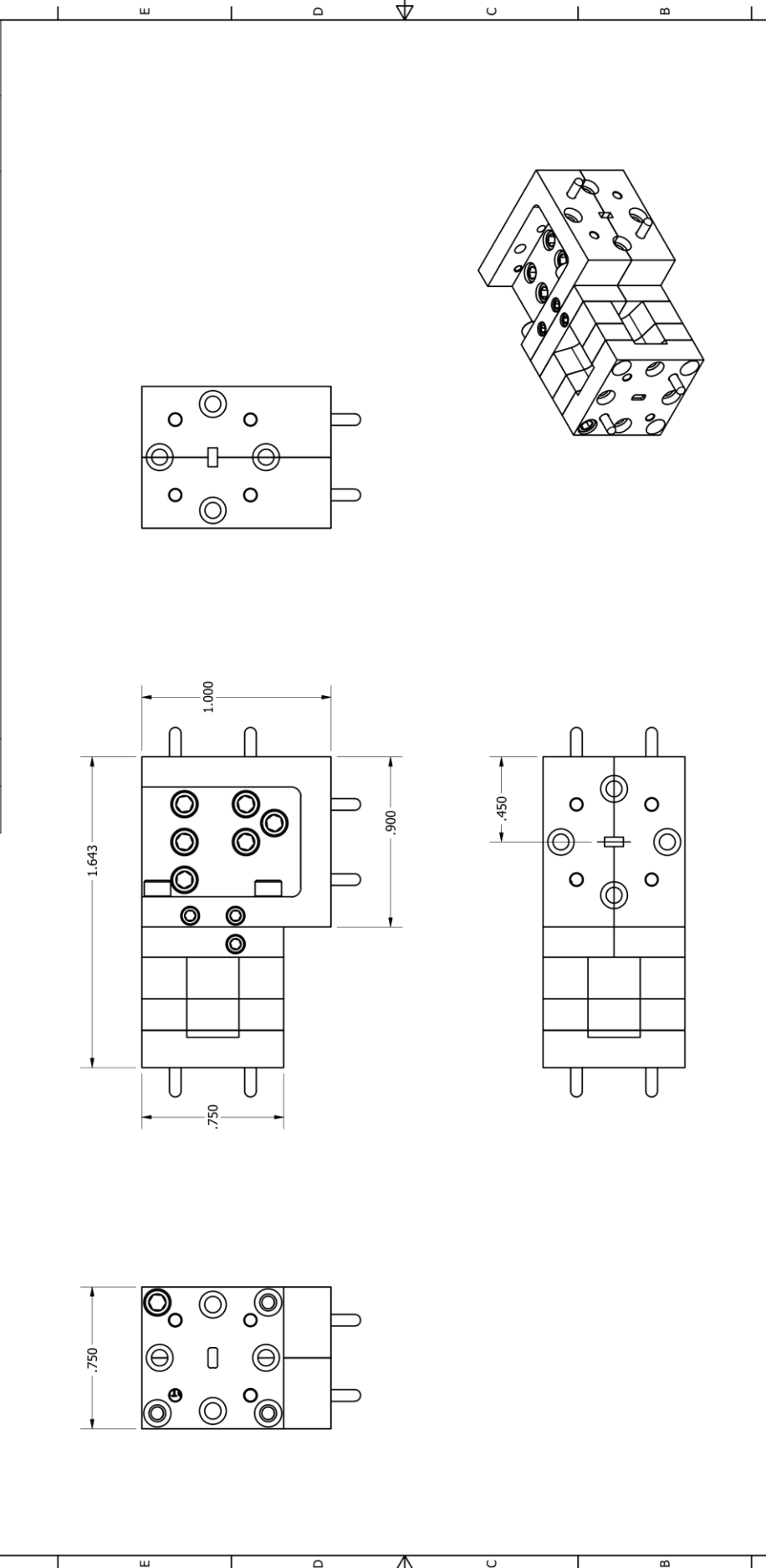
Unlike the Y-junction circulator, the hybrid circulator is asymmetric. The path from port 3 to port 1 is internally terminated as shown in the schematic to the right and verified by the S_{13} trace in the measured data below. On request, the hybrid circulator can be assembled in a way that restores the symmetry if needed.



Asymmetric Insertion Loss



Micro Harmonics	Proprietary - Micro Harmonics Corporation		REVISION HISTORY		1
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PART NUMBER - DESCRIPTION		MATERIAL & FINISH:		1
HC100 Dimension Drawing		HC100		
FLANGES:	UG-383/U	DWG. UNITS:	INCHES	2
DRAWN BY:	SCS	SIZE:	B	3
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Micro Harmonics Corporation
 20 S Roanoke St. Ste 202
 Fincastle, VA 24090
 ph. 540.473.9983
 fax 844.449.1561
 REV: -