

HC65

WR-6.5 hybrid circulator



MicroHarmonics

Superior mm-Wave Components

Specifications

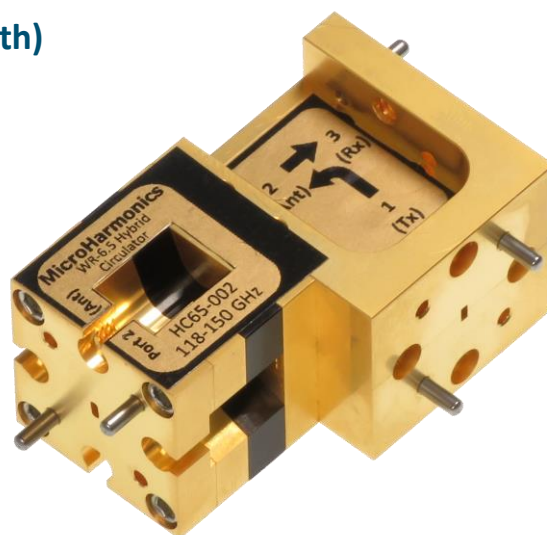
Flange	WR-6.5
Frequency (GHz)	118-150
Insertion Loss (dB, typ)	1.1
Insertion Loss (dB, max)	1.8
Isolation (dB, typ)	24
Return Loss (dB, typ)	21
VSWR (max)	1.5:1
Maximum Power (W)	3.0
Diamond Heatsink	Yes

WR-6.5 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 seven times 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.

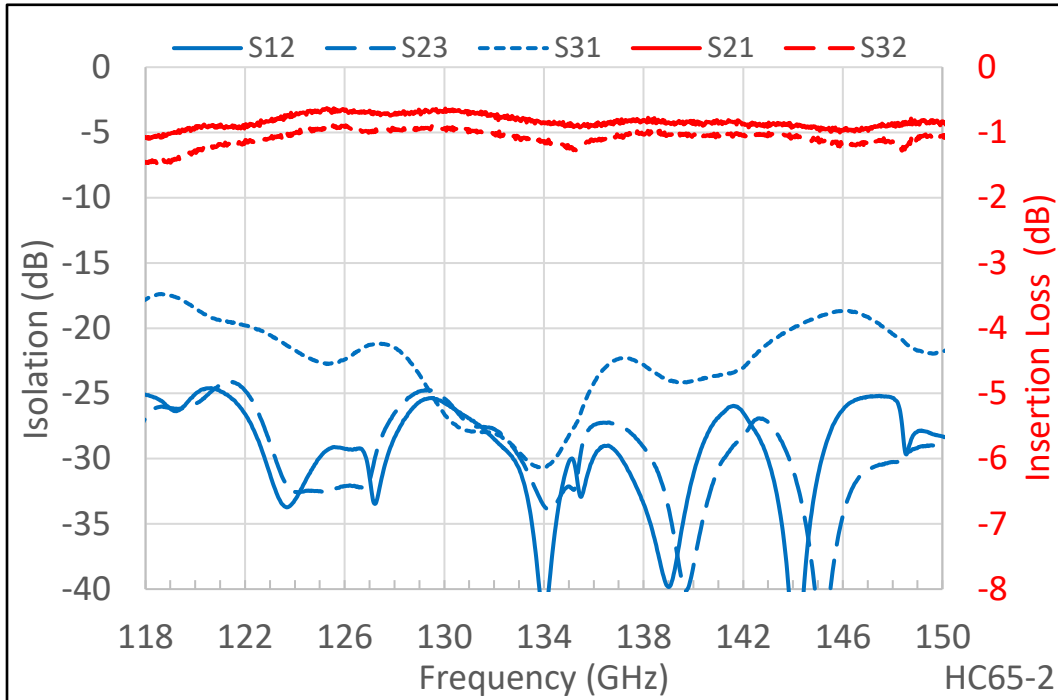
118-150 GHz Bandwidth

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

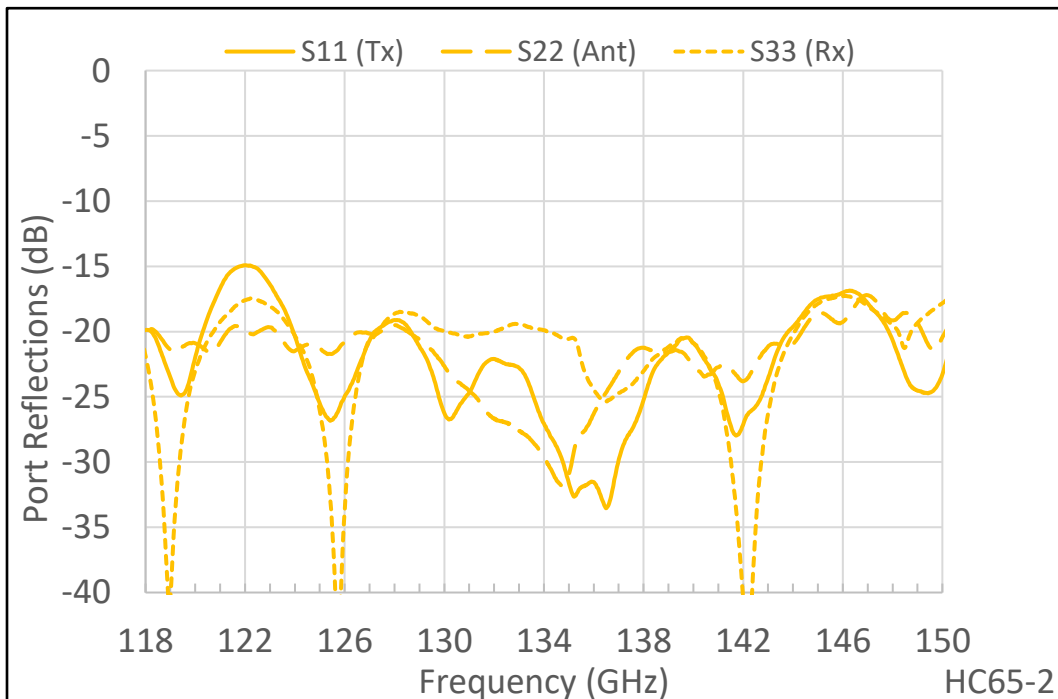




Insertion Loss and Isolation



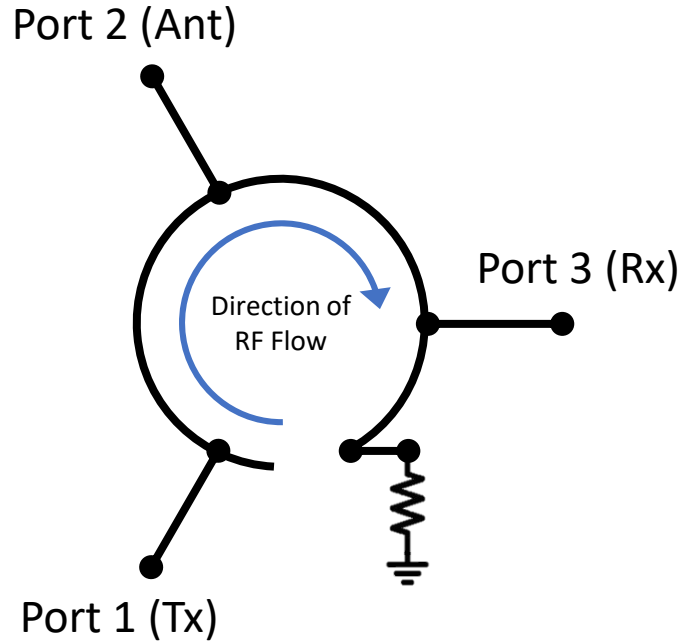
Port Reflections



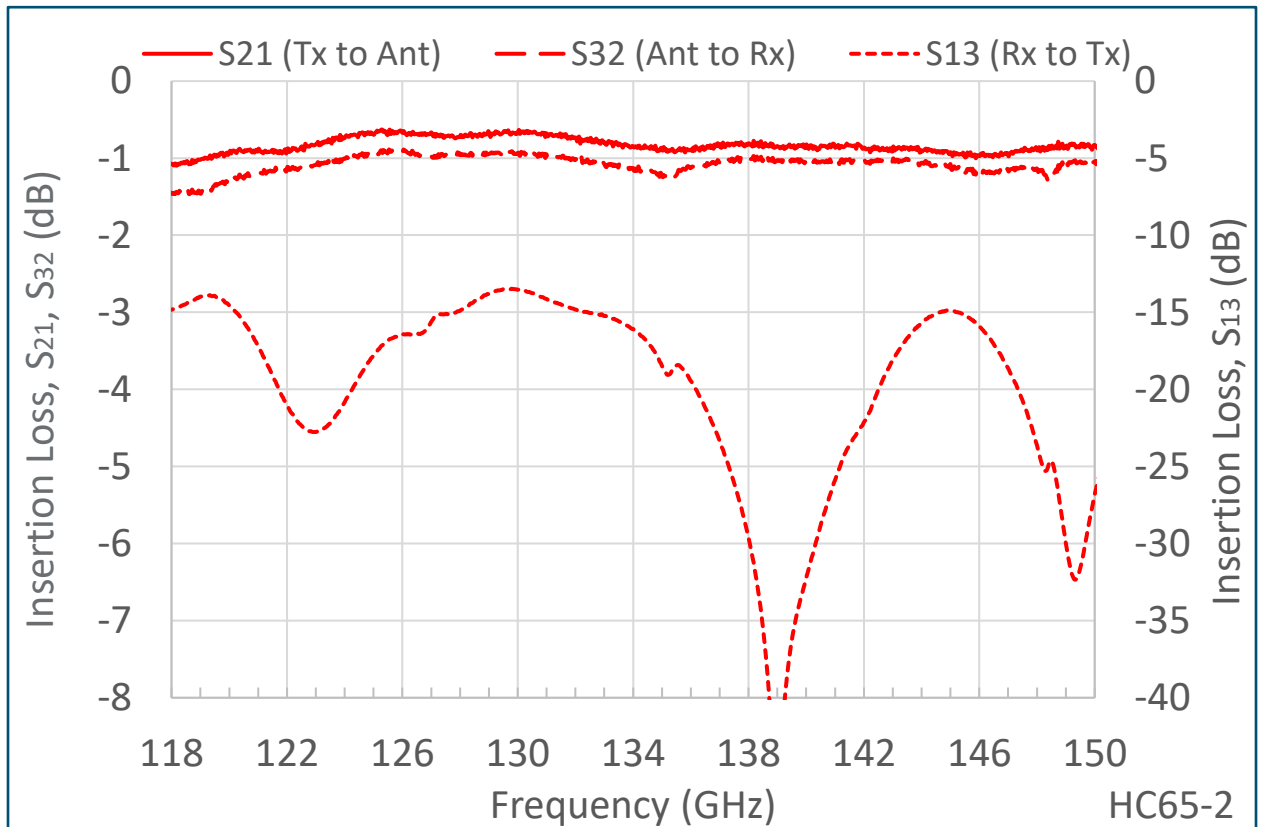


Asymmetry

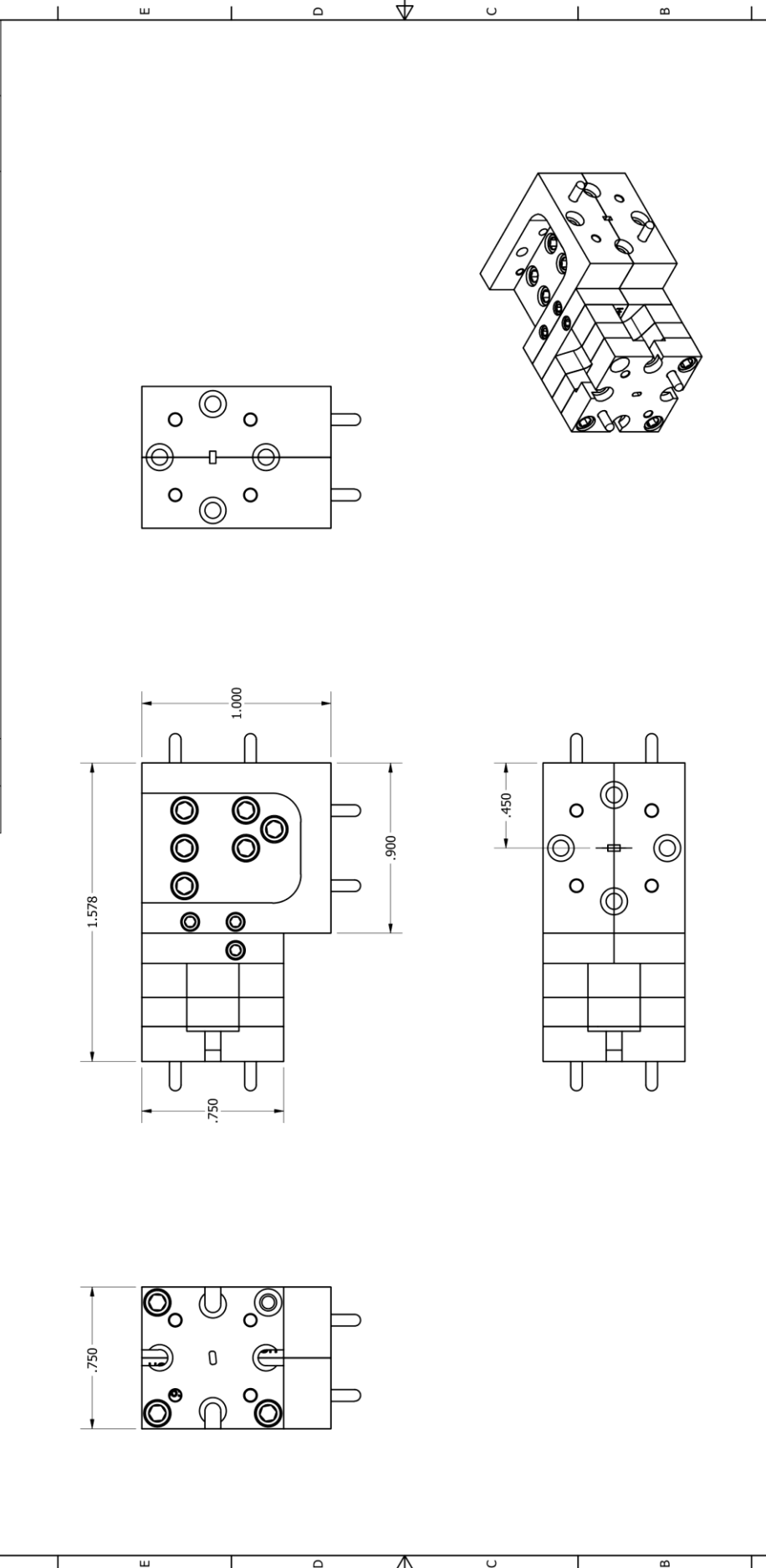
Unlike the Y-junction circulator, the hybrid circulator is asymmetric. The path from port 3 to port 1 is internally terminated as shown in the schematic to the right and verified by the S_{13} trace in the measured data below. On request, the hybrid circulator can be assembled in a way that restores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



Asymmetric Insertion Loss



Micro Harmonics	Proprietary - Micro Harmonics Corporation		REVISION HISTORY		1		
	Date	4/21/2023	ZONE	REV		DESCRIPTION	DATE
					3	4/21/2023	SCS
					4		
					5		
					6		
					7		
					8		



PART NUMBER - DESCRIPTION		MATERIAL & FINISH:		1
HC65 Dimension Drawing		HC65		
FLANGES:	UG-383/U	DWG. UNITS:	INCHES	2
		DRAWN BY:	SCS	
		SIZE:	B	3
		PAGE NUMBER:	1 of 1	
		APPROVAL:	JTK - 4/21/2023	4
				5
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