

HC065F

WR-6.5 hybrid circulator



MicroHarmonics

Superior mm-Wave Components

Specifications

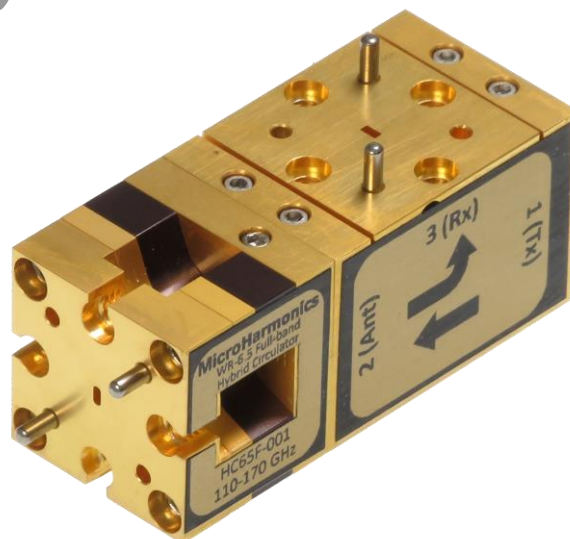
Flange	WR-6.5
Frequency (GHz)	110-170
Insertion Loss (dB, avg)	1.2
Insertion Loss (dB, max)	2.3
Isolation [S_{12}] (dB, typ min)	24
Isolation [S_{23}] (dB, typ min)	24
Isolation [S_{31}] (dB, typ min)	17
Return Loss (dB, typ min)	16
VSWR (typ max)	1.4:1
Maximum Power (W)	3

WR-6.5 Hybrid Circulator

The patent-pending hybrid circulator is designed for wideband millimeter wave applications. The hybrid circulator is an innovative technology, combining an orthomode transducer with a Faraday rotator to achieve a bandwidth of the full waveguide band. Every circulator is tested on a vector network analyzer to ensure conformity and the test data is provided to the customer.

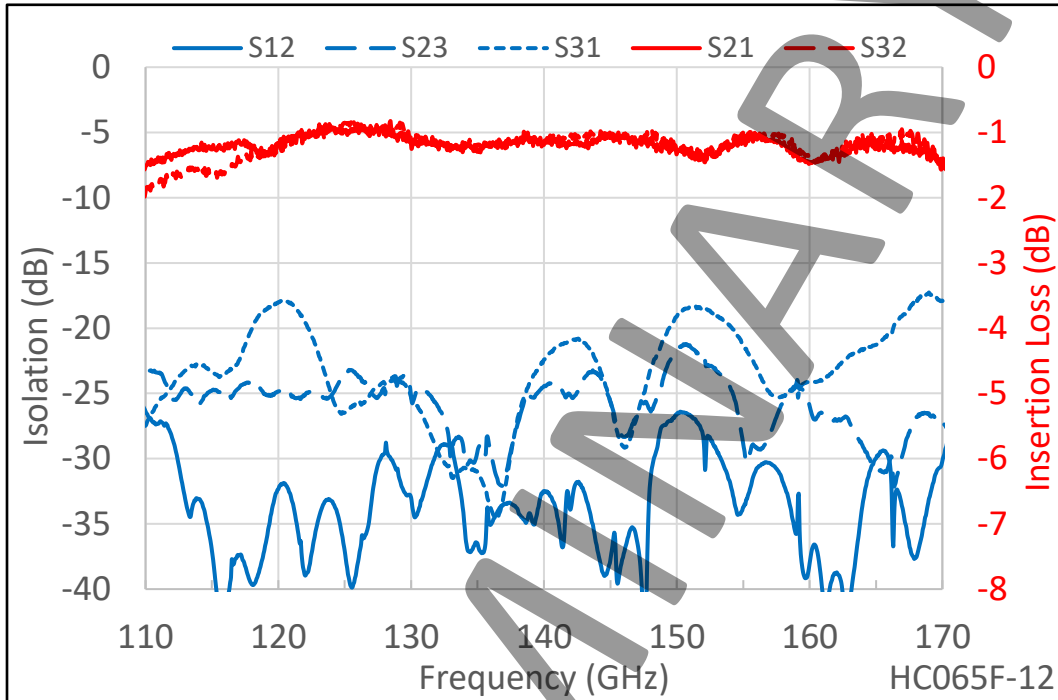
110-170 GHz Bandwidth

- ◆ Full waveguide bandwidth
- ◆ Internal waveguide screw access
- ◆ Anti-cocking waveguide flanges
- ◆ Resists stray magnetic fields
- ◆ Comprehensive test data
- ◆ Low insertion loss
- ◆ Diamond heatsink
- ◆ Patent pending

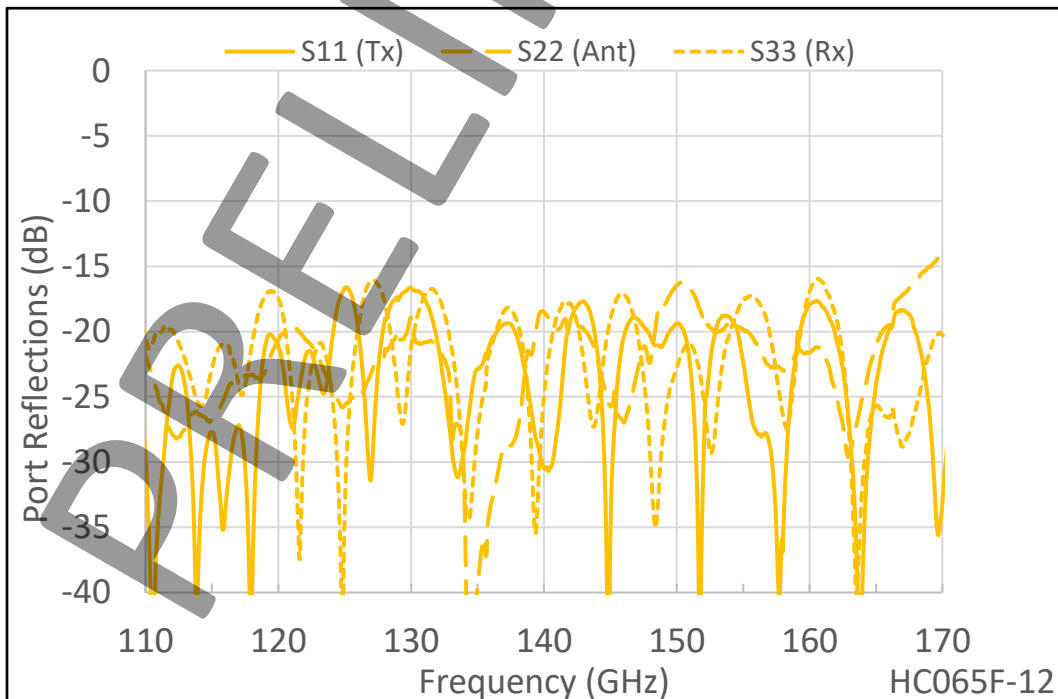




Insertion Loss and Isolation



Port Reflections



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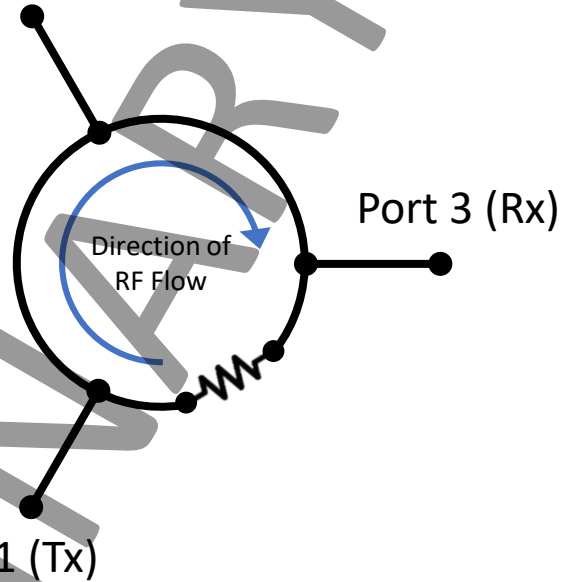
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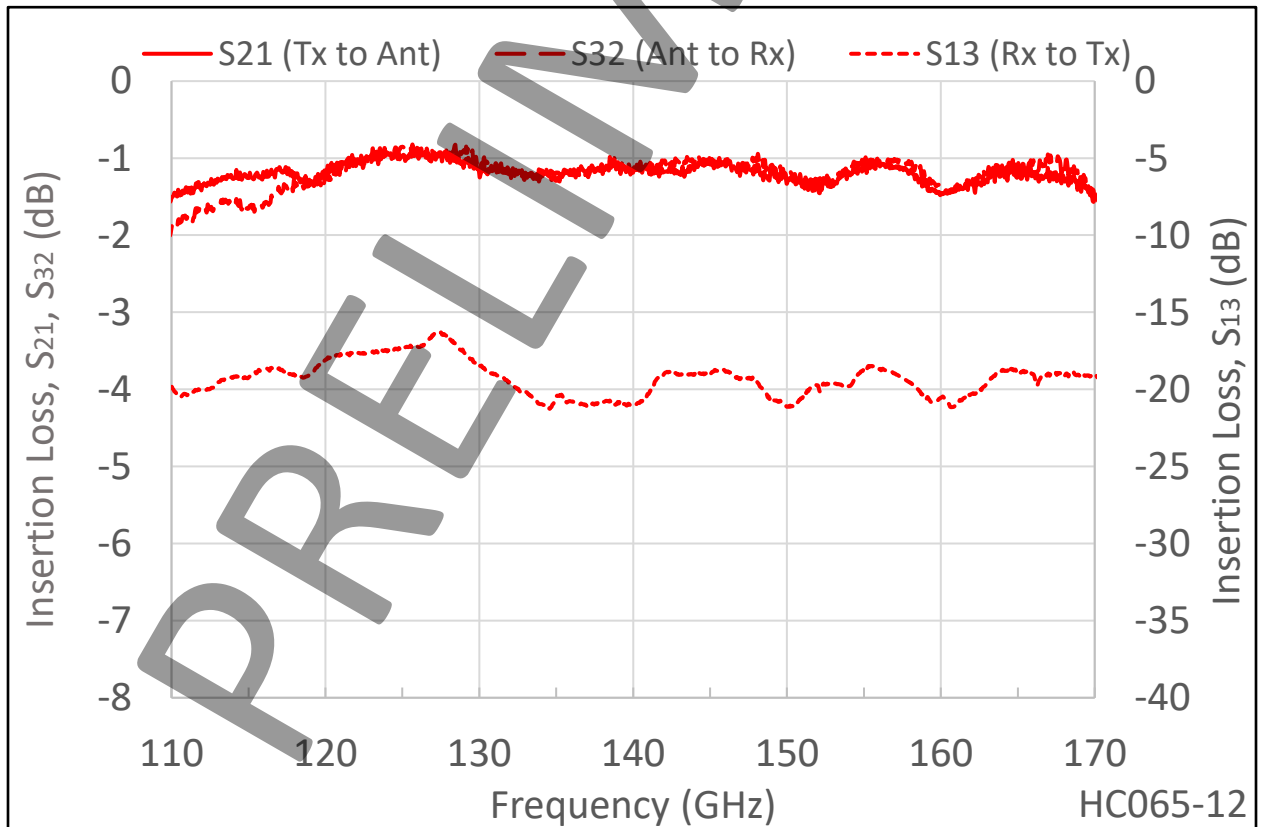
Asymmetry

Unlike the Y-junction circulator, the hybrid circulator is asymmetric. The path from port 3 to port 1 is internally attenuated 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.

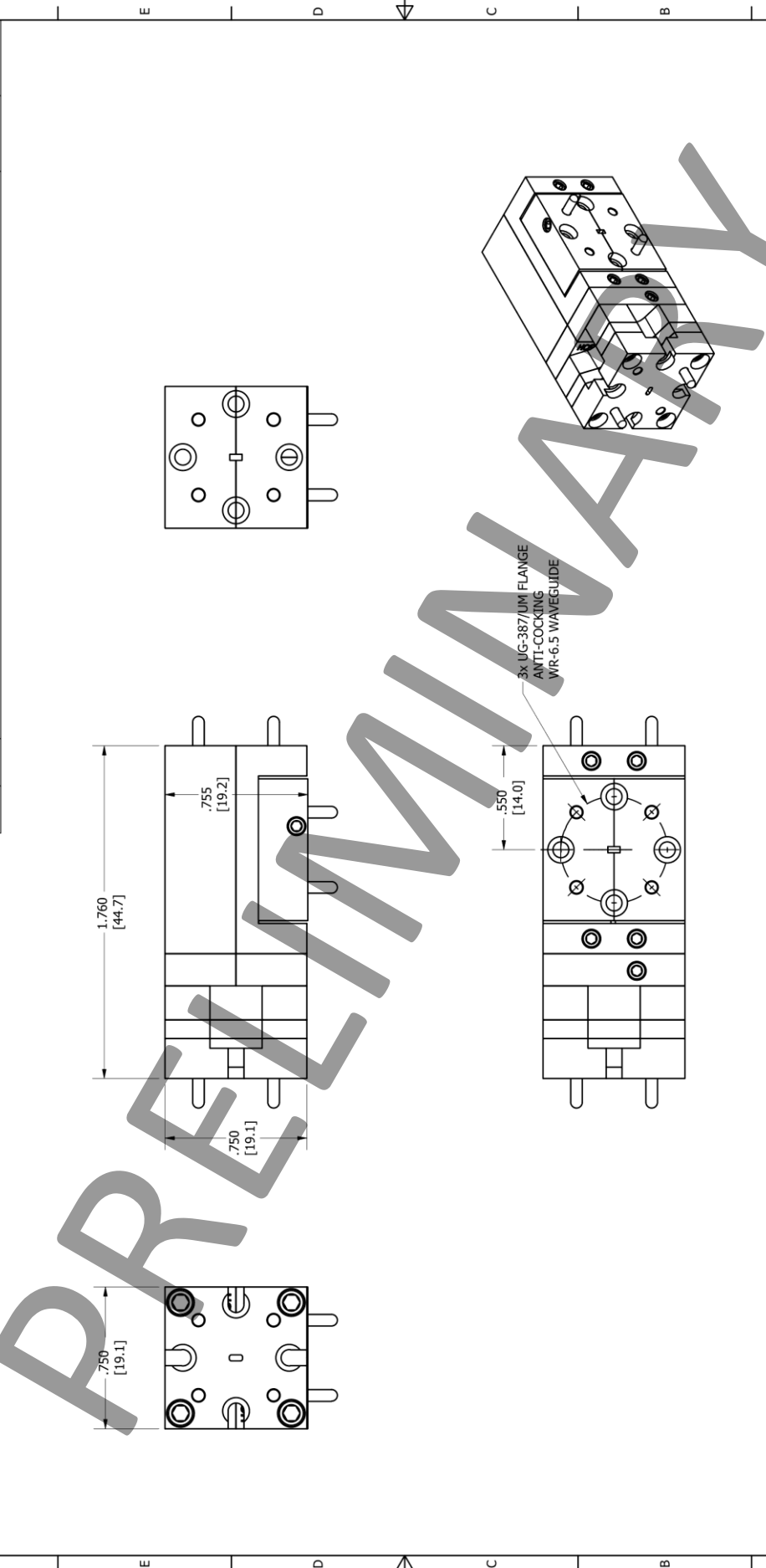
Port 2 (Ant)



Asymmetric Insertion Loss



Micro Harmonics	Proprietary - Micro Harmonics Corporation		REVISION HISTORY		1		
	Date	4/17/2024	ZONE	REV		DESCRIPTION	DATE
					RELEASE FOR CUSTOMER	4/17/2024	SCS



PART NUMBER - DESCRIPTION		Micro Harmonics Corporation	
HC06SF Dimension Drawing		20 S Roanoke St. Ste 202	
DEVICE:	HC65	DRAWN BY:	SCS
DWG. UNITS:	INCHES	SIZE:	B
PAGE NUMBER:		1 of 1	
APPROVAL:		JTK - 5/23/2024	
REV:		-	
REV:		-	