

Coaxial 20W 180° Hybrid Coupler 18GHz-40GHz



Features

- High power handling up to 20W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss

Product Description

RFHB26G40GPI is a coaxial hybrid coupler with a frequency range of 18 to 40GHz.

The power handling of this hybrid coupler is 20W. The insertion loss is 2.5dB with a typical isolation of 16dB.

The working temperature of this product is between - 40°C and + 85°C.

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications, TA = +25°C

Parameter		Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		18		26.5	26.5		40	GHz
Nominal Coupling			3			3		dB
Insertion Loss			1.8	2.5		2.5	3.0	dB
Isolation		15	18		12	16		dB
Amplitude Unbalance			0.6	0.8		0.7	1.0	dB
Phase Unbalance			6	10		8	12	deg
VSWR			1.5	1.6		1.6	1.8	:1
Power Rating	Average	20						W
	Peak	300 (10% Duty Cycle, 1 us Pulse Width)						W
Weight		0.08Max.						lbs
Impedance		50						Ω
Input / Output Connectors		2.92mm-Female(Input) – 2.92mm-Female(Output)						
Package	Epoxy Sealed (Standard)							
	Hermetically Sealed (Optional)							

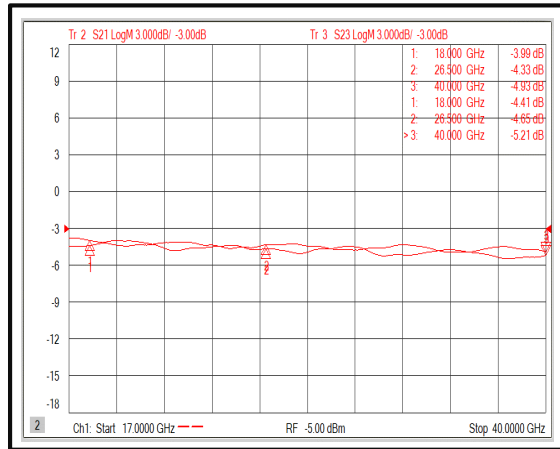
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
*Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

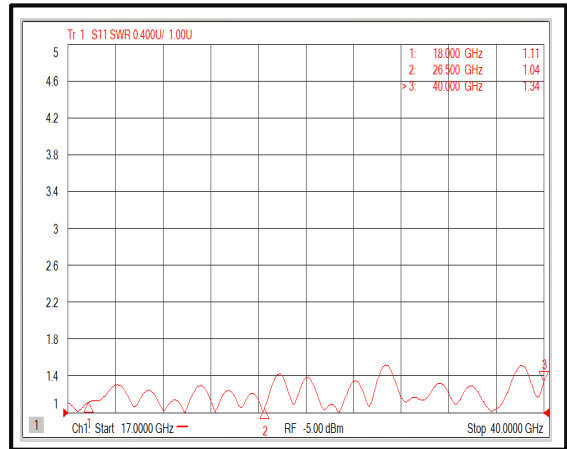
*For vibration testing details please see additional information section.

Typical Performance Plots

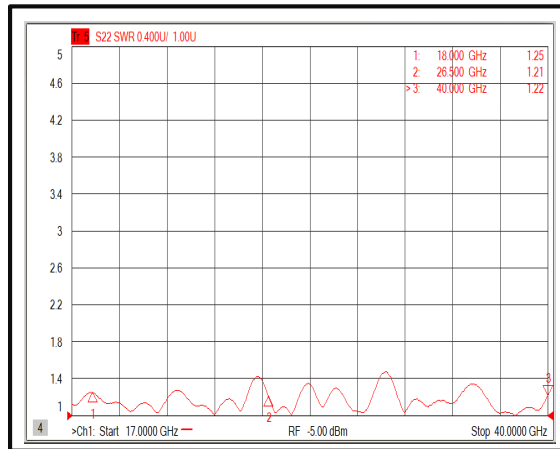
Loss & Amplitude Imbalance



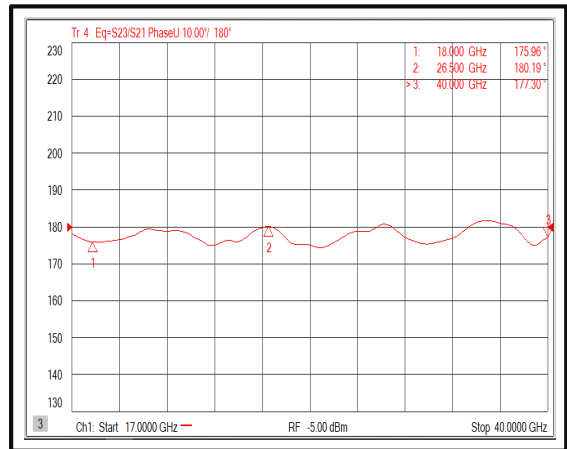
Input VSWR



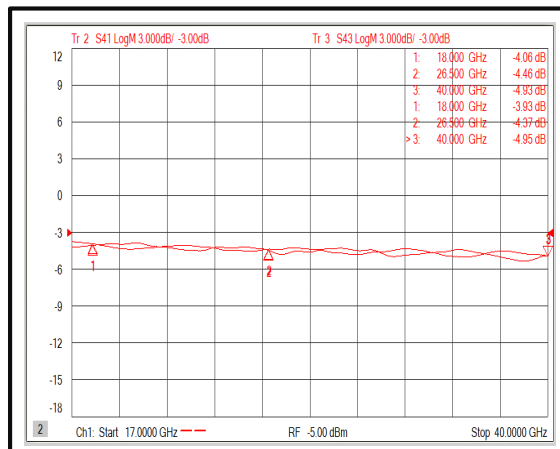
Output VSWR



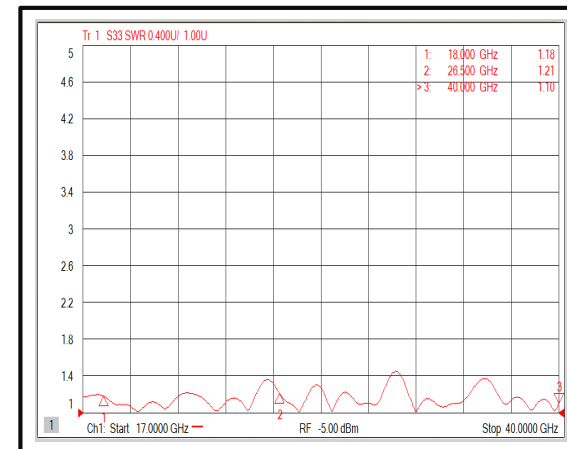
Phase Imbalance



Loss & Amplitude Imbalance

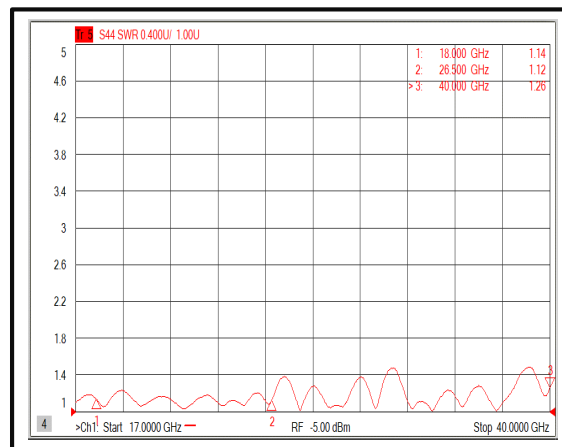


Input VSWR

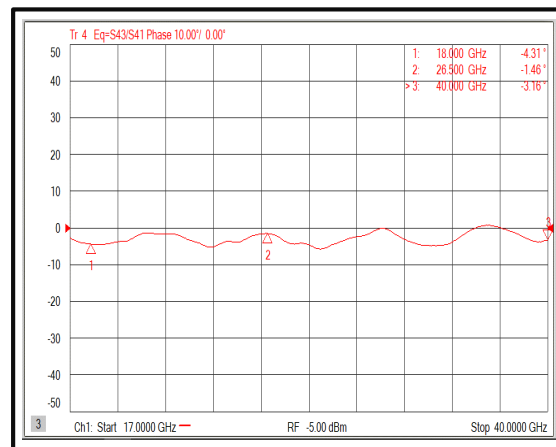


Typical Performance Plots

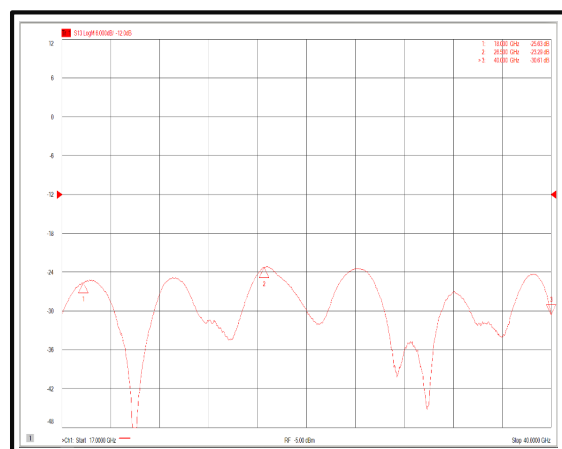
Output VSWR



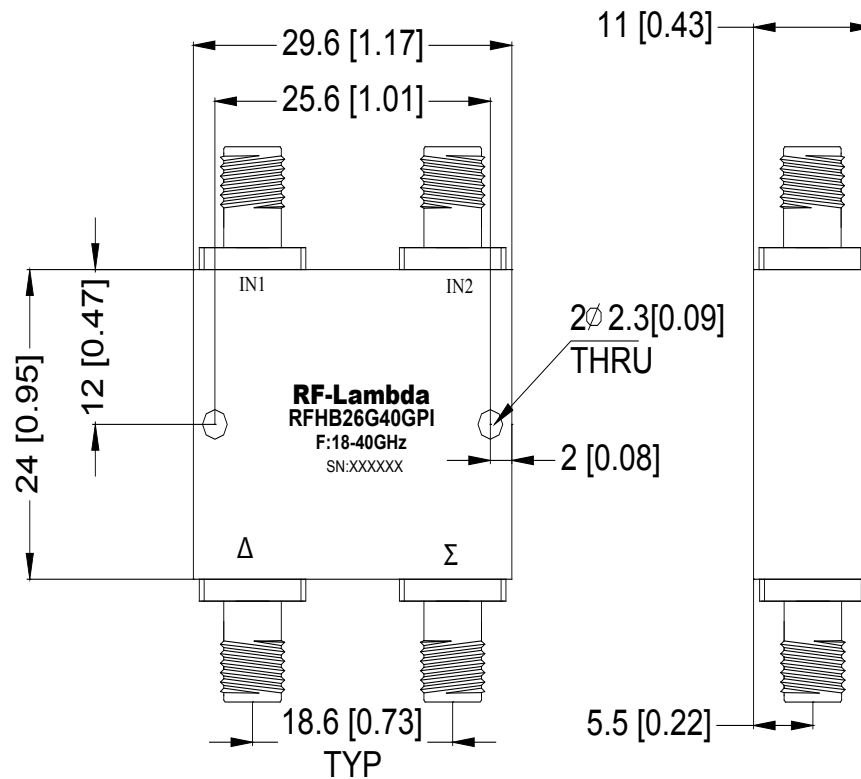
Phase Imbalance



Isolation

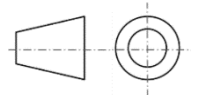


Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Blue Paint
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 0.2 [0.008] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.



Additional Information

Documentation

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Webpage

Ordering Information

Part Number	Modification	Description
RFHB26G40GPI	Connectors 2.92mm-Female	18GHz-40GHz Hybrid Coupler

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