

Coaxial 20W 90° Hybrid Coupler 5GHz-26.5GHz



Product Description

RFHB05G26GVK is a coaxial hybrid coupler with a frequency range of 5 to 26.5GHz.

The power handling of this hybrid coupler is 20W. The insertion loss is 0.8dB with a typical isolation of 16dB.

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

Features

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

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	5		18	18		26.5	GHz
Nominal Coupling		3			3		dB
Insertion Loss		0.8	1.0		0.9	1.3	dB
Isolation	16	18		14	16		dB
Amplitude Imbalance		±0.5	±0.6		±0.4	±0.6	dB
Phase Imbalance		±4	±6		±5	±7	deg
VSWR		1.4	1.6		1.5	1.7	: 1
Power Rating	Average		20				W
	Peak		200				W
			(10% Duty Cycle, 1 us Pulse Width)				
Weight			0.065 Max.				lbs
Impedance			50				Ω
Input / Output Connectors			2.92mm-Female(Input) – 2.92mm-Female(Output)				
Package			Epoxy Sealed (Standard)				
			Hermetically Sealed (Optional)				

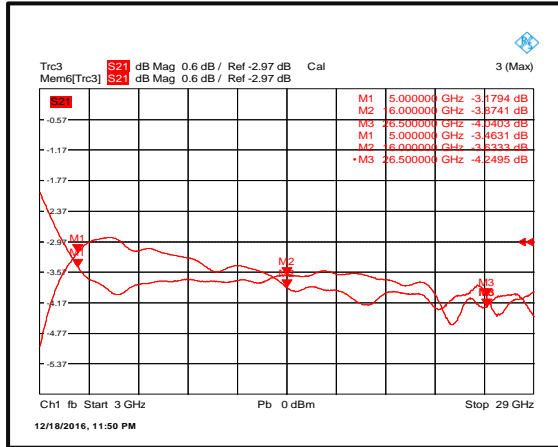
Environmental Specifications and Test Standards

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)

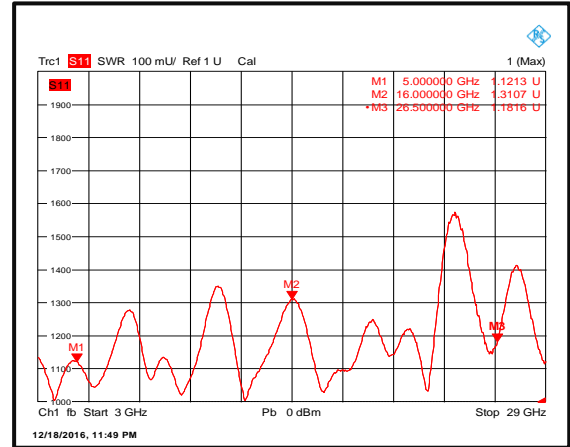
*For vibration testing details please see additional information section.

Typical Performance Plots

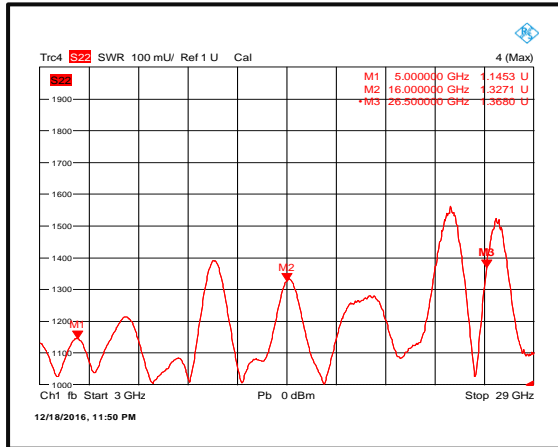
Loss & Amplitude Imbalance



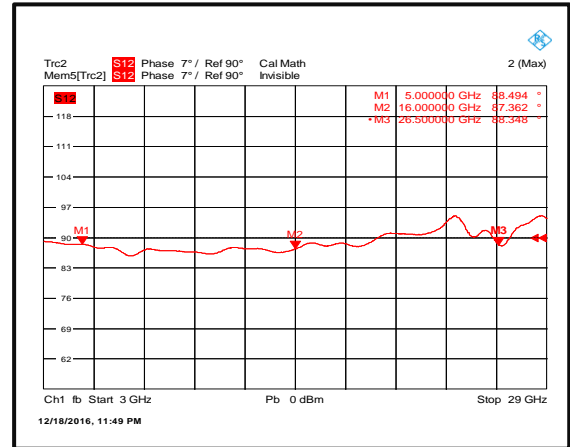
Input VSWR



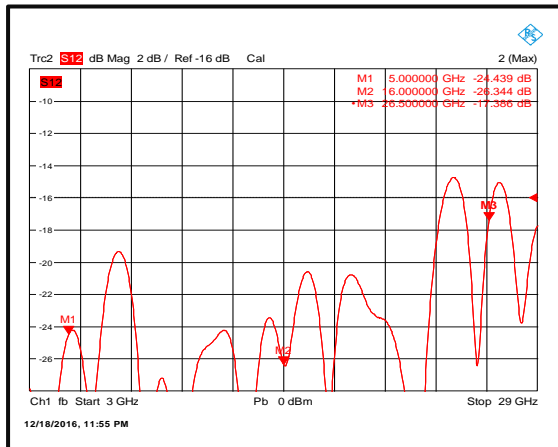
Output VSWR



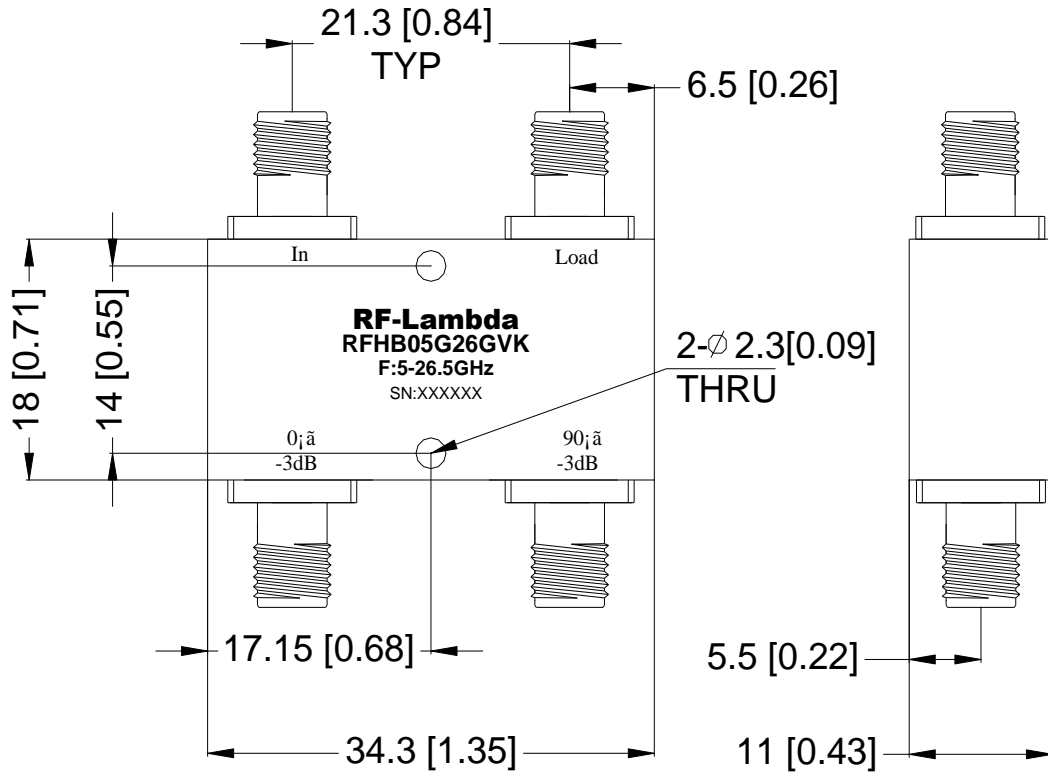
Phase Imbalance



Isolation

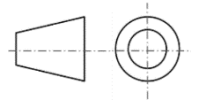


Outline Drawing



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	Webpage
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

Ordering Information

Part Number	Modification	Description
RFHB05G26GVK	Connectors 2.92mm-Female	5GHz-26.5GHz Hybrid Coupler

Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information.

RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.