



# RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

## RFHB14M05GVT

### Coaxial 50W 90° Hybrid Coupler 1.4 - 5.25GHz



#### Features

- High power handling up to 50W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss

#### Typical Applications

- Aerospace and military applications
- LMDS multi-carrier operation
- Test and Measurement

#### Electrical Specifications, $T_A=25^\circ\text{C}$

| Parameters                |         | Min.       | Typ.      | Max.      | Units  |
|---------------------------|---------|------------|-----------|-----------|--------|
| Frequency Range           |         | 1.4        |           | 5.25      | GHz    |
| Nominal Coupling          |         |            | 3         |           | dB     |
| Insertion Loss            |         |            | 0.4       | 0.6       | dB     |
| Isolation                 |         | 20         | 22        |           | dB     |
| Amplitude Imbalance       |         |            | $\pm 0.5$ | $\pm 0.7$ | dB     |
| Phase Imbalance           |         |            | $\pm 3$   | $\pm 5$   | deg    |
| VSWR                      |         |            | 1.2       | 1.3       | : 1    |
| Power Rating              | Average | 50         |           |           | W      |
|                           | Peak    | 0.5        |           |           | KW     |
| Impedance                 |         | 50         |           |           | Ohms   |
| Weight                    |         | 1.76       |           |           | Ounces |
| Input / Output Connectors |         | SMA-Female |           |           |        |
| Material                  |         | Aluminum   |           |           |        |
| Finish                    |         | Blue Paint |           |           |        |

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### Environmental Specifications and Test Standards

| Parameter                        | Standard      | Description                                                                                                                                                                                                     |
|----------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature          | MIL-STD-39016 | -45°C~+85°C                                                                                                                                                                                                     |
| Storage Temperature              |               | -55°C~+125°C                                                                                                                                                                                                    |
| Thermal Shock                    |               | 1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)                                                                                                                                                                       |
| Random Vibration                 |               | Acceleration Spectral Density 6 (m/s)<br>Total 92.6 RMS                                                                                                                                                         |
| Electrical & Temperature Burn In |               | Temperature +85°C for 72 Hours                                                                                                                                                                                  |
| Shock                            |               | 1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s<br>2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s<br>3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude                         | MIL-STD-883   | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)                                                                                             |
| Hermetically Sealed (Optional)   |               | MIL-STD-883 (For Hermetically Sealed Units)                                                                                                                                                                     |

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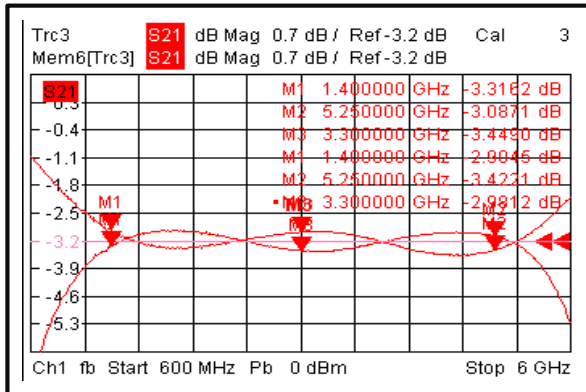
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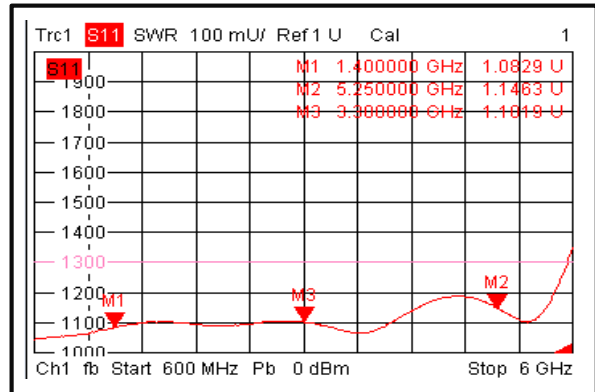
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### Typical Performance Plots

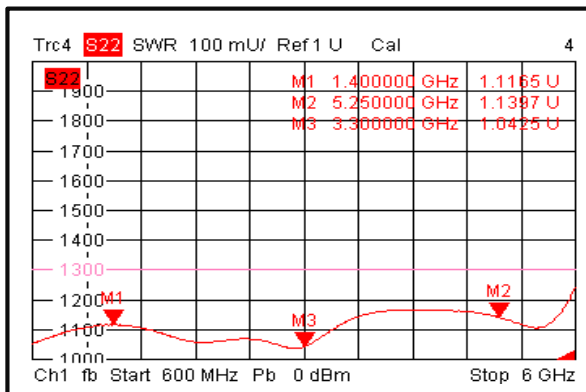
#### Loss & Amplitude Imbalance



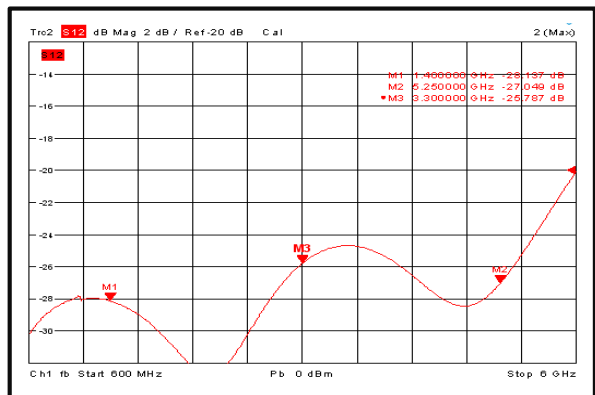
#### Input VSWR



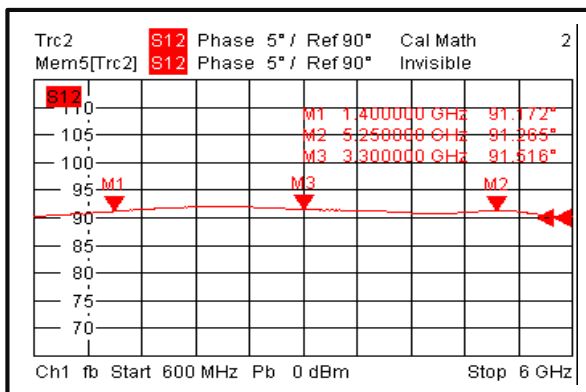
#### Output VSWR



#### Isolation



#### Phase Imbalance



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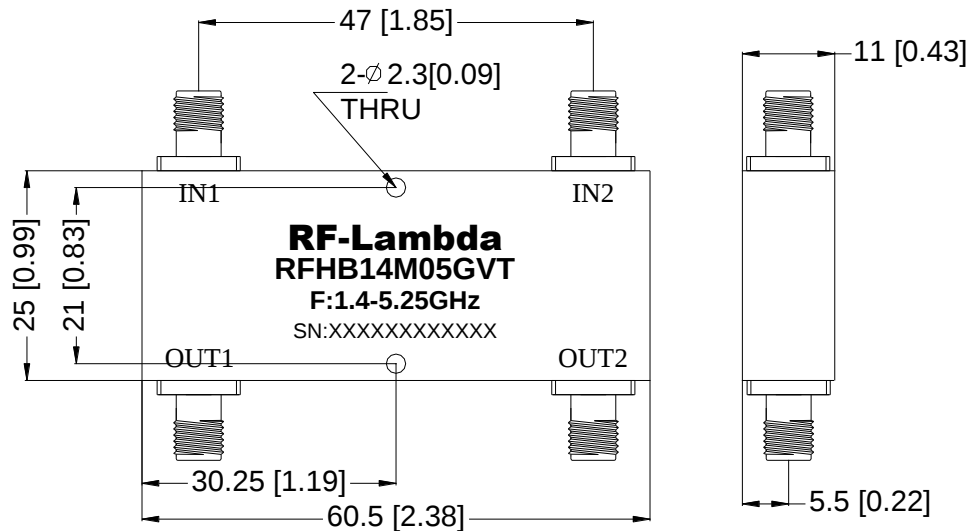
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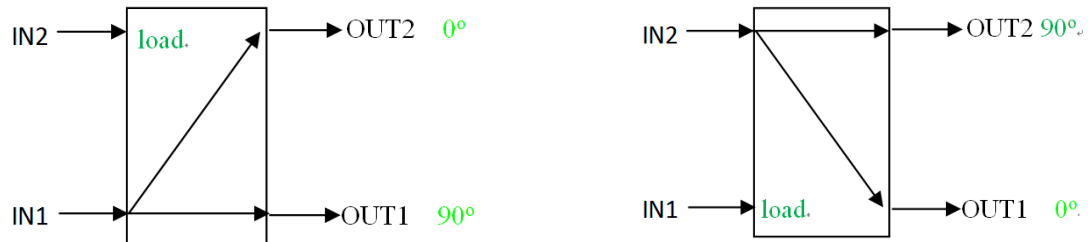
### Outline Drawing:

All Dimensions in mm [inches]

Tolerance  $\pm 0.25$  [0.01]



### Schematic:



### Important Notice

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