



### Coaxial 50W 10dB Directional Coupler 2 - 8GHz



#### Features

- High power handling up to 50 W
- Ultra Wide band operation
- High directivity within operational band
- Low Insertion Loss
- Stable performance over temperature

#### Typical Applications

- Wireless Infrastructure
- Aerospace and military applications
- Test and Measurement

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

| Parameter                       | Min.                               | Typ.      | Max.      | Units  |
|---------------------------------|------------------------------------|-----------|-----------|--------|
| Frequency Range                 | 2                                  |           | 8         | GHz    |
| Nominal Coupling                | 9                                  | 10        | 11        | dB     |
| Frequency Sensitivity           |                                    | $\pm 0.7$ | $\pm 1.0$ | dB     |
| Directivity                     | 18                                 | 20        |           | dB     |
| Insertion Loss (Excl. Coupling) |                                    |           | 0.7       | dB     |
| Insertion Loss (True)           |                                    | 0.9       | 1.1       | dB     |
| VSWR Primary                    |                                    | 1.25      | 1.35      | : 1    |
| VSWR Secondary                  |                                    | 1.25      | 1.35      | : 1    |
| Power Rating                    | Average                            | 50        |           | W      |
|                                 | Peak                               | 1         |           | KW     |
| Impedance                       |                                    | 50        |           | Ohms   |
| Weight                          |                                    | 1.41      |           | ounces |
| Input / Output Connectors       | SMA-Female                         |           |           |        |
| Material                        | Aluminum                           |           |           |        |
| Sealing                         | Hermetically Sealed (Laser Welded) |           |           |        |
| Finish                          | Blue Paint                         |           |           |        |

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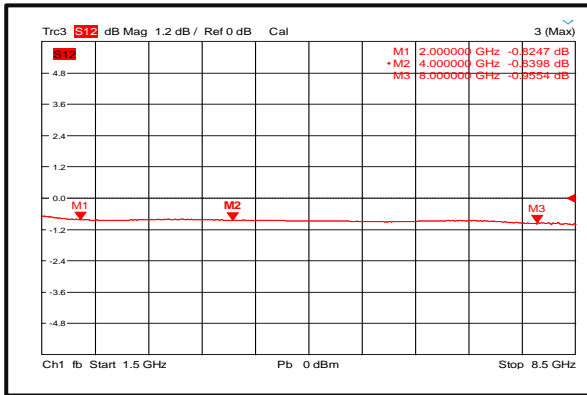
**Environmental Specifications and Test Standards**

| 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                         |               | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)   |
| Hermetically Sealed              | MIL-STD-883   | MIL-STD-883 (For Hermetically Sealed Units)   |

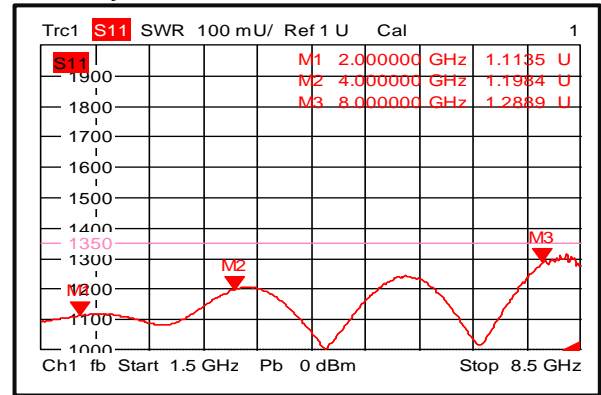


**Typical Performance Plots**

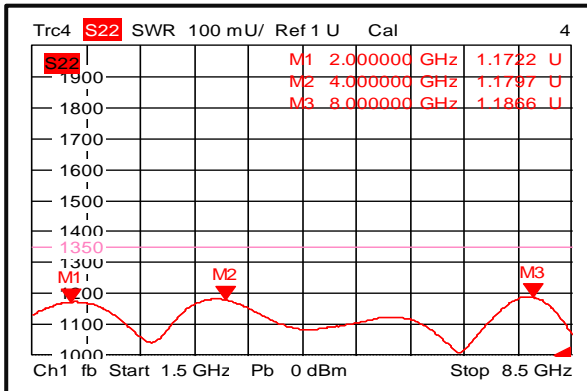
**Insertion Loss**



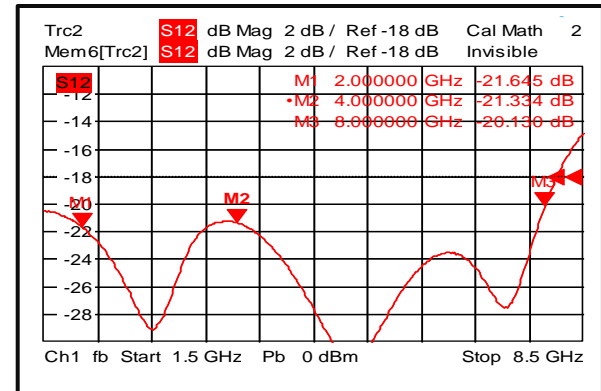
**Primary VSWR**



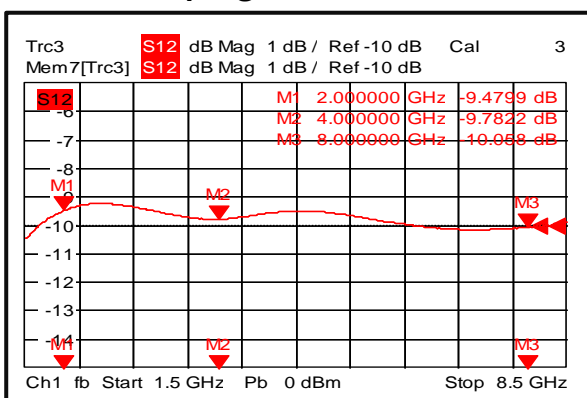
**Secondary VSWR**



**Directivity**



**Nominal Coupling**



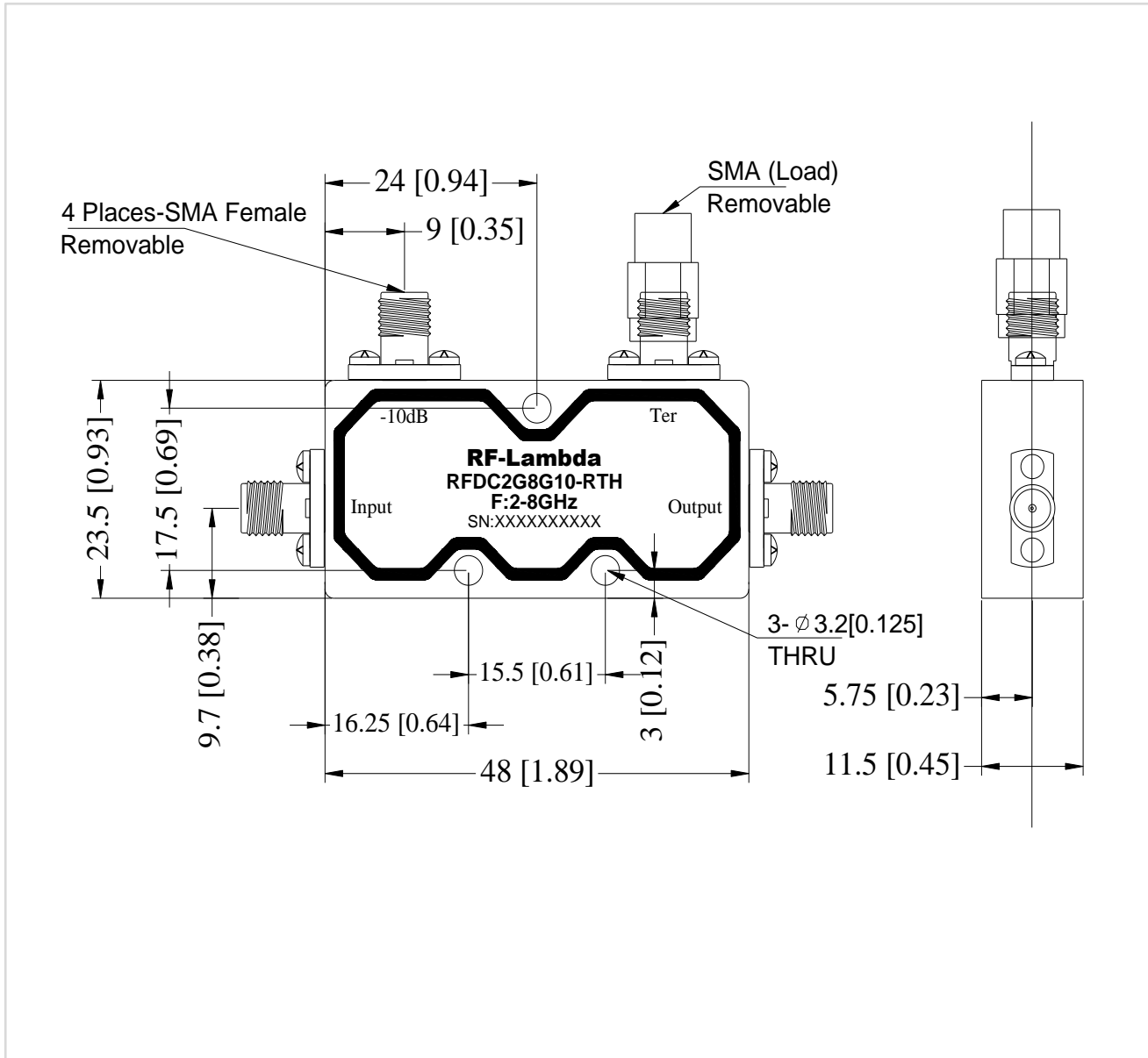
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### Outline Drawing:

All Dimensions in mm [inches]

Tolerance  $\pm 0.2$  [0.008]



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