



### Coaxial 50W 10dB Directional Coupler 4-18GHz



#### Features

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

#### Typical Applications

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

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

| Parameters                    |         | Min.       | Typ.      | Max.      | Min. | Typ.      | Max.      | Units  |
|-------------------------------|---------|------------|-----------|-----------|------|-----------|-----------|--------|
| Frequency Range               |         | 4          |           | 10        | 10   |           | 18        | GHz    |
| Nominal Coupling              |         | 9          | 10        | 11        | 9    | 10        | 11        | dB     |
| Frequency Sensitivity         |         |            | $\pm 0.5$ | $\pm 0.7$ |      | $\pm 0.5$ | $\pm 0.7$ | dB     |
| Directivity                   |         | 14         | 16        |           | 12   | 14        |           | dB     |
| Insertion Loss(Excl Coupling) |         |            | 0.4       | 0.5       |      | 0.5       | 0.7       | dB     |
| Insertion Loss (True)         |         |            | 0.8       | 1.0       |      | 0.95      | 1.15      | dB     |
| VSWR Primary                  |         |            | 1.3       | 1.4       |      | 1.4       | 1.5       | :1     |
| VSWR Secondary                |         |            | 1.3       | 1.4       |      | 1.4       | 1.5       | :1     |
| Power Rating                  | Average | 50         |           |           |      |           |           | W      |
|                               | Peak    | 500        |           |           |      |           |           | W      |
| Impedance                     |         | 50         |           |           |      |           |           | Ohms   |
| Weight                        |         | 0.35       |           |           |      |           |           | ounces |
| Input / Output Connectors     |         | N-Female   |           |           |      |           |           |        |
| Material                      |         | Aluminum   |           |           |      |           |           |        |
| Finish                        |         | Blue Paint |           |           |      |           |           |        |

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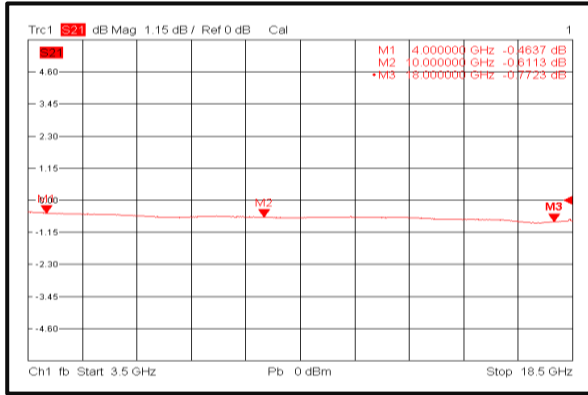
**Environmental Specifications and Test Standards**

| 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                         |               | 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   | MIL-STD-883 (For Hermetically Sealed Units)   |

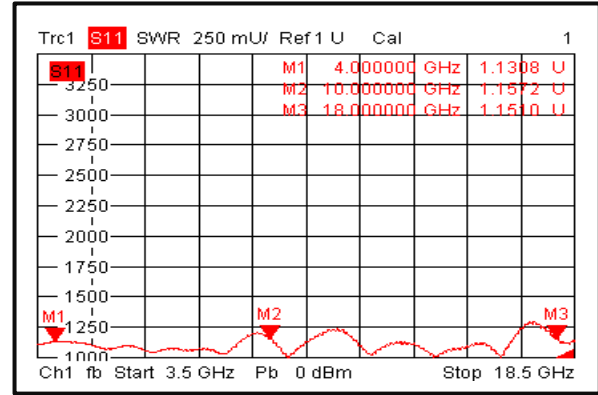


**Typical Performance Plots**

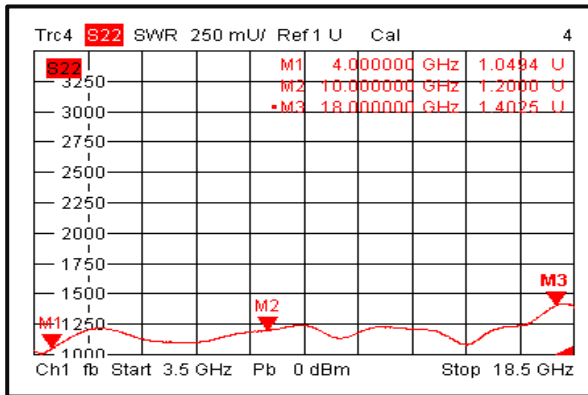
**Insertion Loss**



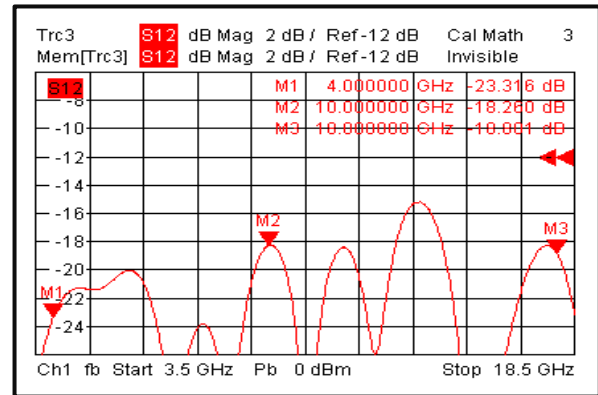
**Primary VSWR**



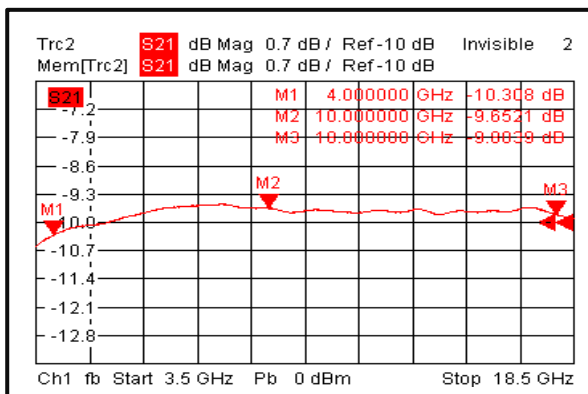
**Secondary VSWR**



**Directivity**



**Nominal Coupling**



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# RF-LAMBDA

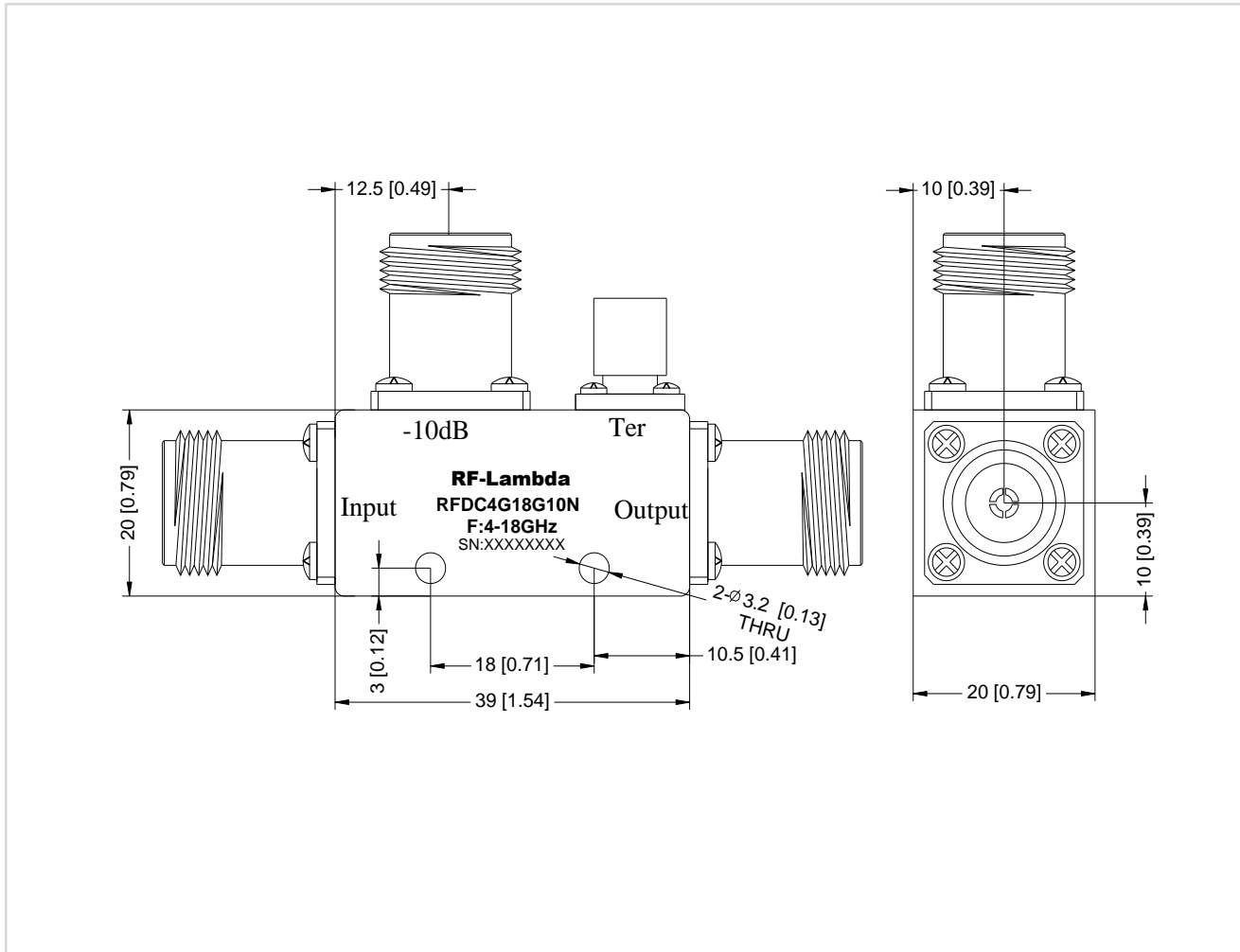
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## RFDC4G18G10N

### Outline Drawing:

All Dimensions in mm [inches]

Tolerance  $\pm 0.25$  [0.01]



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