

## Ultra Wide Band Drop-in Isolator 8GHz-12GHz



Note: Photo is for illustration purposes only.  
Please refer to outline drawing.

### Product Description

RFLI504G08G12 is an ultra wide band drop-in isolator with a frequency range of 8 to 12GHz.

The isolator has a typical isolation of 20dB. The maximum insertion loss is 0.6dB.

The isolator input and output connections are solder tabs.

### Features

- High power handling up to 10W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature
- High peak to average handling capability
- All specifications can be modified upon request

### 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 ( $T_A=+25^{\circ}\text{C}$ )

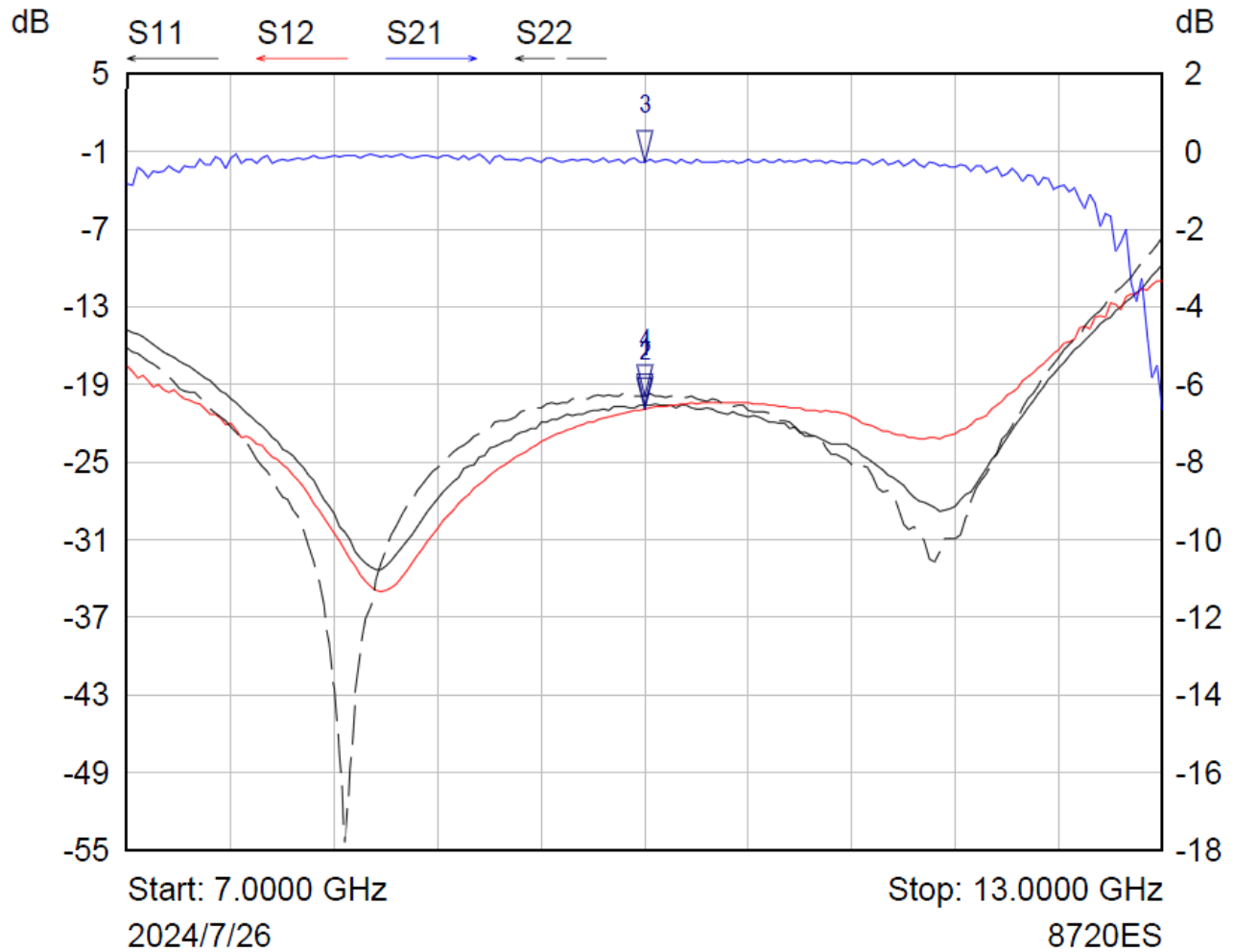
| Parameter                 | Min. | Typ.                                                     | Max. | Units    |
|---------------------------|------|----------------------------------------------------------|------|----------|
| Frequency Range           |      | 8 - 12                                                   |      | GHz      |
| Insertion Loss            |      | 0.4                                                      | 0.6  | dB       |
| Isolation                 | 18   | 20                                                       |      | dB       |
| VSWR                      |      | 1.30                                                     | 1.35 | :1       |
| Forward Power (CW)        |      |                                                          | 10   | W        |
| Reverse Power (CW)        |      |                                                          | 1    | W        |
| Rotation                  |      | Clockwise (Standard)<br>Counter Clockwise (upon request) |      |          |
| Input / Output Connectors |      | Drop-in (Solder tabs)                                    |      |          |
| Weight                    |      | -Max.                                                    |      | lbs      |
| Impedance                 |      | 50                                                       |      | $\Omega$ |

Environmental Specifications and Test Standards

| Parameter                         | Description                                                                                                                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature           | -20°C to +70°C<br>(Case Temperature)                                                                                                                                                                            |
| Storage Temperature               | -40°C to +85°C                                                                                                                                                                                                  |
| Thermal Shock                     | -40°C → +85°C<br>(5 Cycles / 10 hours)                                                                                                                                                                          |
| **Random Vibration                | MIL-STD-202G<br>Table 214-I, Test Condition Letter C<br>1.5 Hours Per Axis                                                                                                                                      |
| 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<br>(Optional) | MIL-STD-883 (For Hermetically Sealed Units)                                                                                                                                                                     |

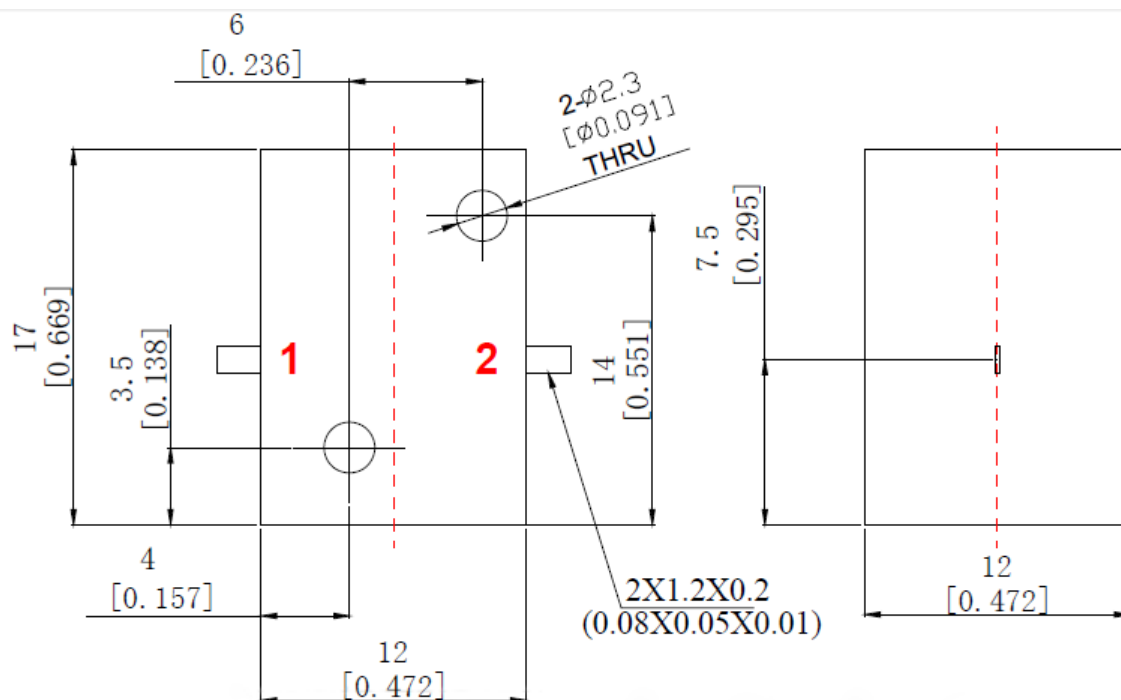
\*\*For vibration testing details please see additional information section.

Typical Performance Plots



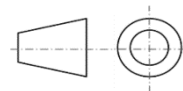
| Mkr | Trace | X-Axis      | Value     | Notes |
|-----|-------|-------------|-----------|-------|
| 1 ▾ | S11   | 10.0000 GHz | -20.59 dB |       |
| 2 ▾ | S12   | 10.0000 GHz | -20.91 dB |       |
| 3 ▾ | S21   | 10.0000 GHz | -0.28 dB  |       |
| 4 ▾ | S22   | 10.0000 GHz | -19.87 dB |       |

## Outline Drawing



Notes:

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



### Additional Information

| Documentation                   | Webpage                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connector Torque Specifications | <a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>                                   |
| Random Vibration Test Standard  | <a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a> |

Ordering Information

| Part Number   | Modification | Description                 |
|---------------|--------------|-----------------------------|
| RFLI504G08G12 | Drop-in      | 8GHz-12GHz Drop-in Isolator |

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