

## Dual Junction Circulator 8.5GHz-9.5GHz



Note: The photo is for illustration purposes only.  
Please refer to the outline drawing.

### Product Description

RFLC-504-9G is a dual junction circulator with a frequency range of 8.5 to 9.5GHz.

The circulator has a minimum isolation of 35dB. The maximum insertion loss is 0.7dB.

The operating temperature of this product is within -40 to +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 (T<sub>A</sub>=+25°C)

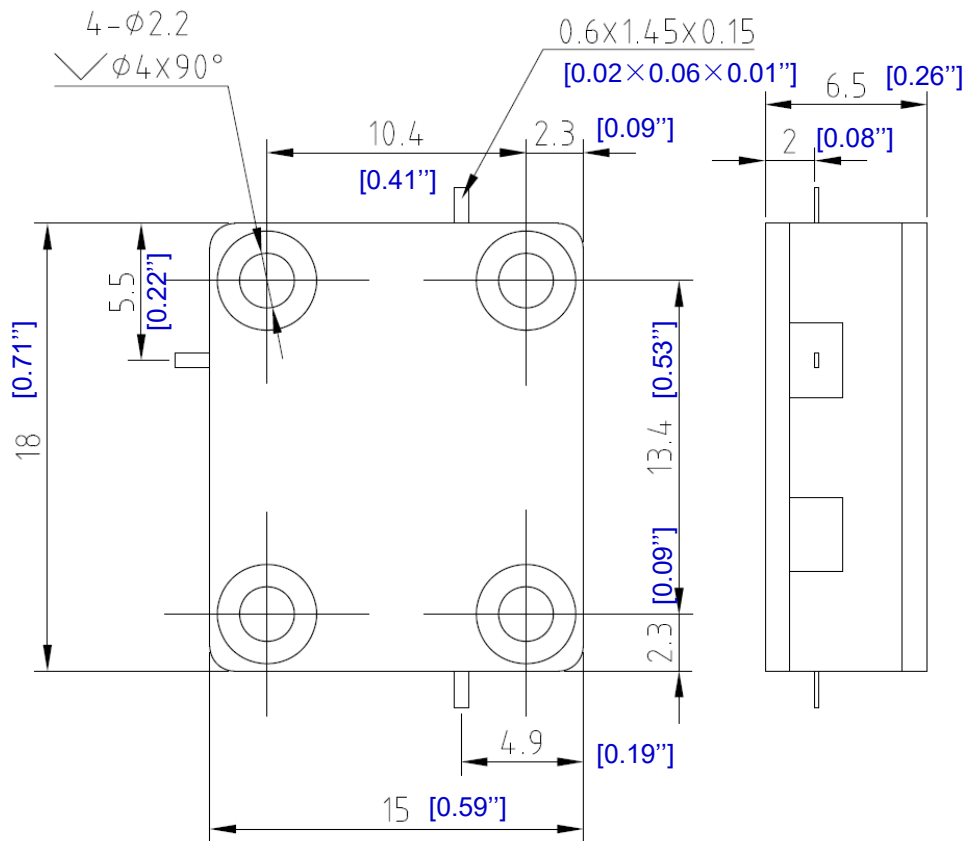
| Parameter                |     | Min. | Typ.                                                   | Max. | Units |
|--------------------------|-----|------|--------------------------------------------------------|------|-------|
| Frequency Range          |     |      | 8.5-9.5                                                |      | GHz   |
| Insertion Loss           | 1-2 |      |                                                        | 0.7  | dB    |
|                          | 2-3 |      |                                                        | 0.35 |       |
| Isolation                | 2-1 | 35   |                                                        |      | dB    |
|                          | 3-2 | 20   |                                                        |      |       |
| VSWR                     |     |      |                                                        | 1.25 | :1    |
| Power Handling (CW)      |     |      |                                                        | 20   | W     |
| Internal Load Power (CW) |     |      |                                                        | 1    | W     |
| Rotation                 |     |      | Clockwise (Standard)<br>Count Clockwise (upon request) |      |       |

## Environmental Specifications and Test Standards

| Parameter                         | Description                                                                                                                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature           | -40°C to +85°C<br>(Case Temperature)                                                                                                                                                                            |
| Storage Temperature               | -40°C to +100°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.

## Outline Drawing



Notes:

1. Interface: Microstrip Flat PIN.
2. All dimensions are in millimeters [inches].

## Additional Information

| Documentation                   | Webpage                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESD Policy                      | <a href="https://rflambda.com/pdf/rflambda_esd_control.pdf">https://rflambda.com/pdf/rflambda_esd_control.pdf</a>                                             |
| 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                            |
|-------------|--------------|----------------------------------------|
| RFLC-504-9G | Drop-in      | 8.5GHz-9.5GHz Dual Junction Circulator |

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