

## Wide Band Coaxial Circulator 200MHz - 400MHz



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

### Product Description

RFLC101M20M40 is a wide band coaxial circulator with a frequency range of 200 to 400MHz.

The circulator has a typical isolation of 15dB. The maximum insertion loss is 1.5dB. The circulator has good isolation performance.

The circulator input and output connectors are SMA-Female.

### Features

- High power handling up to 50W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature
- Aerospace and military applications
- LMDS multi-carrier operation
- 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

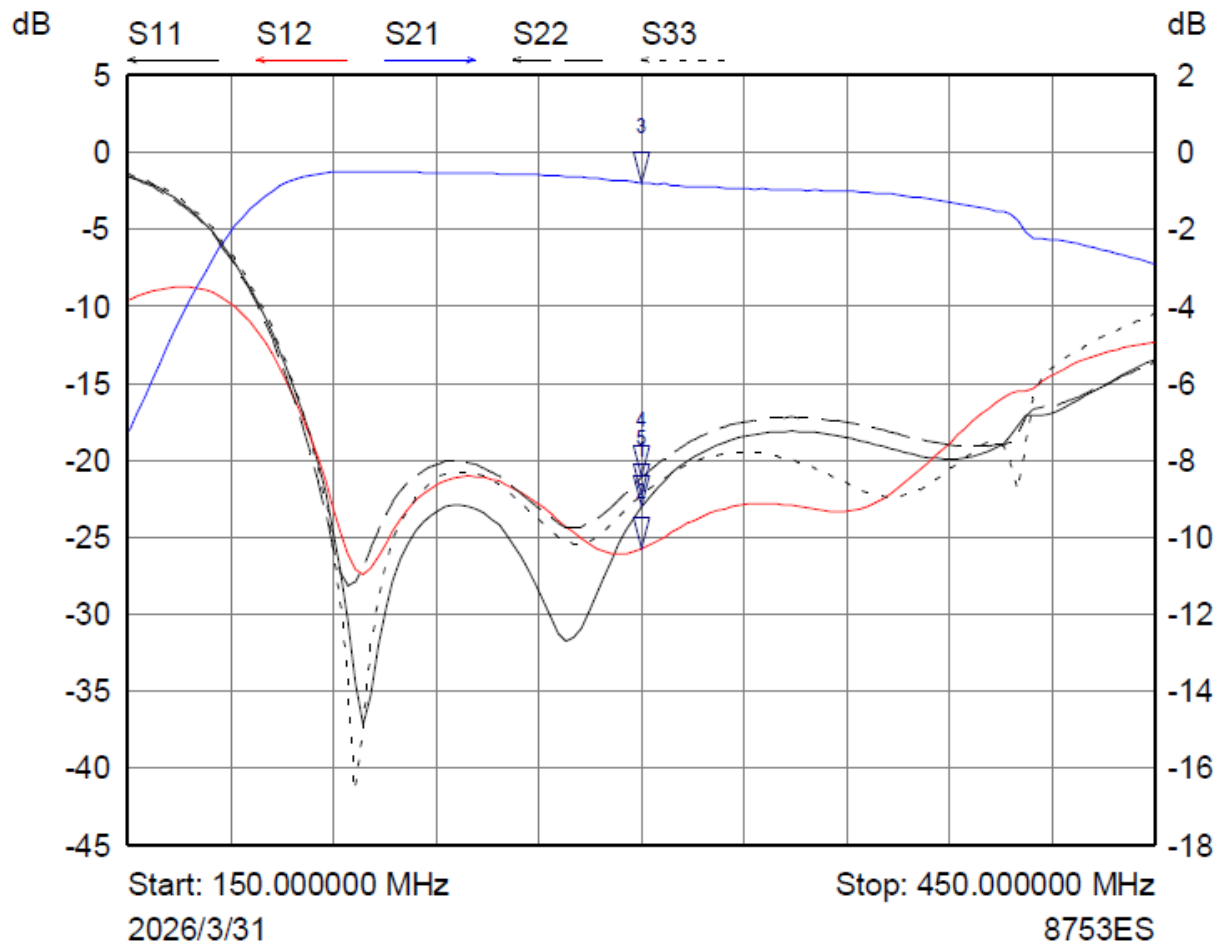
### Electrical Specifications ( $T_A=+25^{\circ}\text{C}$ )

| Parameter                 | Min | Typ                                                      | Max  | Units    |
|---------------------------|-----|----------------------------------------------------------|------|----------|
| Frequency Range           |     | 200-400                                                  |      | MHz      |
| Insertion Loss            |     |                                                          | 1.50 | dB       |
| Isolation                 | 15  |                                                          |      | dB       |
| VSWR                      |     |                                                          | 1.43 | :1       |
| Forward Power (CW)        |     |                                                          | 50   | W        |
| Rotation                  |     | Clockwise (Standard)<br>Counter Clockwise (upon request) |      |          |
| Input / Output Connectors |     | SMA-Female                                               |      |          |
| Weight                    |     | --                                                       |      | lbs.     |
| Impedance                 |     | 50                                                       |      | $\Omega$ |

## Environmental Specifications and Test Standards

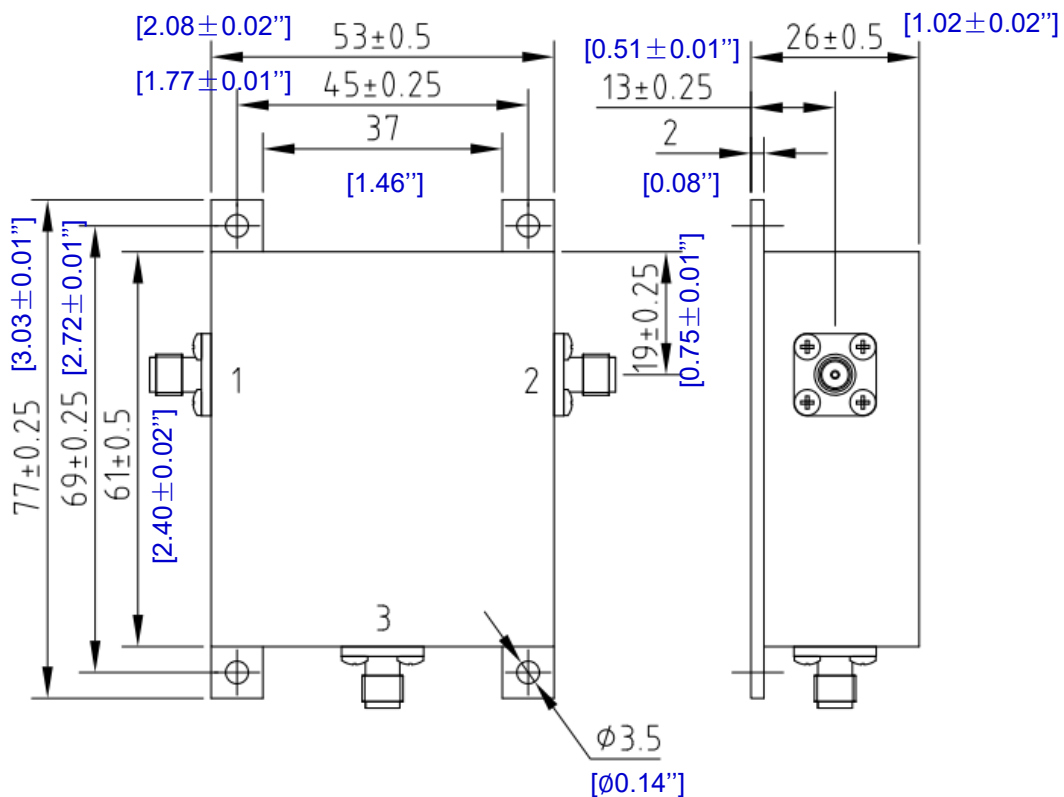
| Parameter                         | Description                                                                                                                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature           | -40°C to +70°C<br>(Case Temperature)                                                                                                                                                                            |
| Storage Temperature               | -40°C to +85°C                                                                                                                                                                                                  |
| Thermal Shock                     | -40°C → +70°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                                                                                                                                      |
| High 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<br>(Optional) | MIL-STD-883 (For Hermetically Sealed Units)                                                                                                                                                                     |

Typical Performance Plots



| Mkr | Trace | X-Axis         | Value       | Notes |
|-----|-------|----------------|-------------|-------|
| 1 ▽ | S11   | 300.000000 MHz | -23.0159 dB |       |
| 2 ▽ | S12   | 300.000000 MHz | -25.7260 dB |       |
| 3 ▽ | S21   | 300.000000 MHz | -0.7871 dB  |       |
| 4 ▽ | S22   | 300.000000 MHz | -21.1057 dB |       |
| 5 ▽ | S33   | 300.000000 MHz | -22.2597 dB |       |

## Outline Drawing



### Notes:

1. Package Material: Aluminum Alloy
2. Finish: Nickel Plated
3. All dimensions are in millimeters [inches].
4. Standard torque wrench must be used to secure RF connectors.

### Additional Information

#### Documentation

ESD Policy

[https://rflambda.com/pdf/rflambda\\_esd\\_control.pdf](https://rflambda.com/pdf/rflambda_esd_control.pdf)

Connector Torque Specifications

[https://www.rflambda.com/pdf/Torque\\_Specifications.pdf](https://www.rflambda.com/pdf/Torque_Specifications.pdf)

Random Vibration Test Standard

[https://www.rflambda.com/pdf/rflambda\\_random\\_vibration\\_MIL-STD-202G.pdf](https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf)

#### Webpage

**Ordering Information**

| Part Number   | Modification | Description              |
|---------------|--------------|--------------------------|
| RFLC101M20M40 | Standard     | 200MHz-400MHz Circulator |

**Important Notice**

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information.

RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.