# VHF Dual Junction Circulator
# 100 ~ 200MHz (20% BW)

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

## *Features*

- High power handling up to 30W
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature

## *Typical Applications*

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

### *Electrical Specifications, $T_A$=25 ℃*

| Parameter | Min. | Typ. | Max. | Units |
|---|---|---|---|---|
| Frequency Range | 100~200 (20% BW)<br>Examples<br>(126 ~ 154MHz)<br>(151 ~ 185MHz) | | | MHz |
| Insertion Loss | | | 1.0 | dB |
| Isolation | 40 | | | dB |
| VSWR | | | 1.3 | :1 |
| Forward Power (CW) | | | 30 | W |
| Rotation | Clockwise (Standard)<br>Counter Clockwise (Upon Request) | | | |
| Input / Output Connectors | N-Female | | | |
| Finish | Nickel Plated | | | |
| Case Material | Aluminum / Copper | | | |
| Impedance | 50 | | | Ω |

Note 1: Units which have a narrower frequency bandwidth can achieve higher isolation & lower insertion loss
Bandwidth (5 ~10) % x Center Frequency (Isolation >43dB)
Bandwidth (20~30) % x Center Frequency (Isolation >42dB)
Bandwidth (40~60) % x Center Frequency (Isolation >40dB)
Ask manufacturer for details

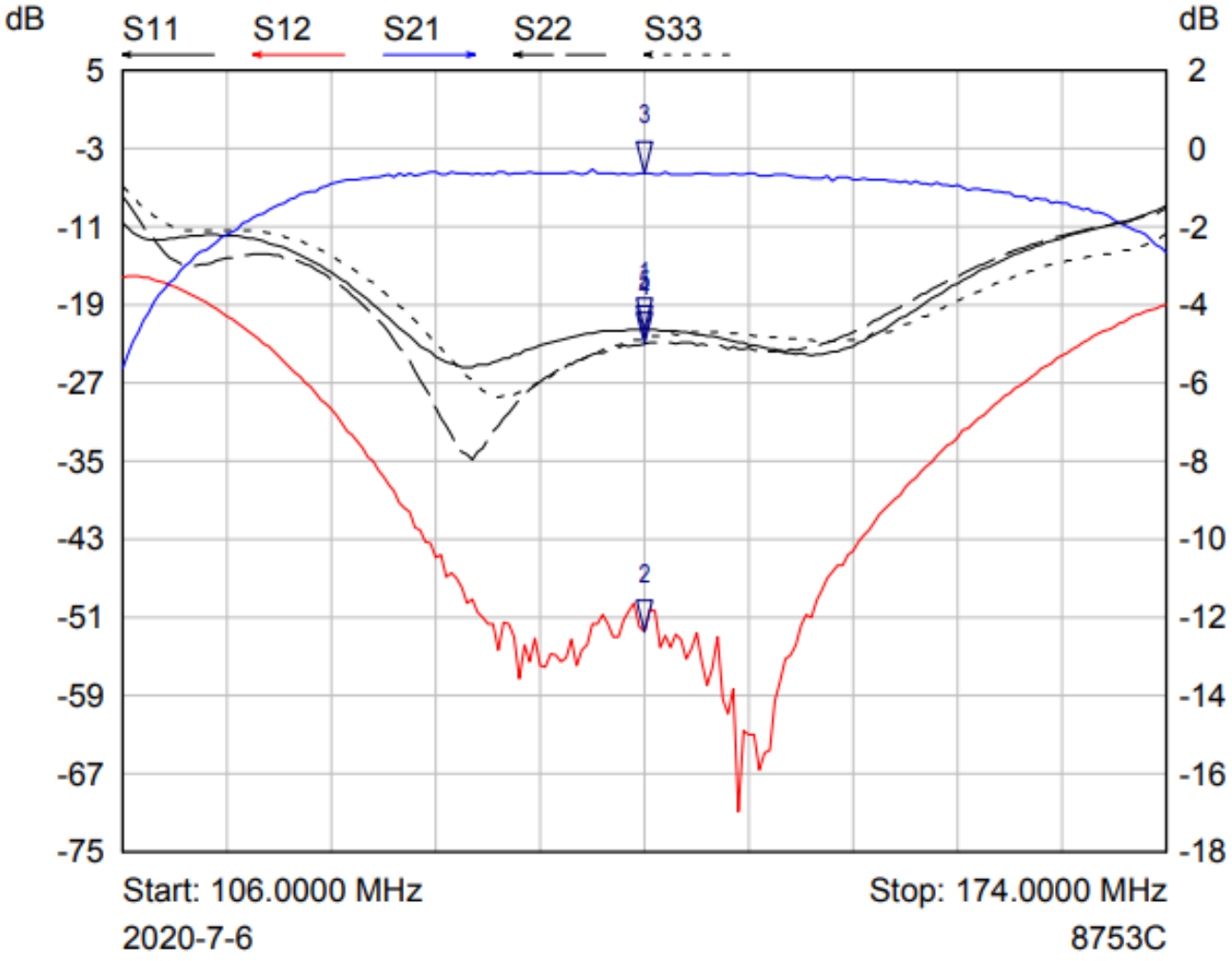
VHF Dual Junction Circulator 100 ~ 200MHz (20% BW)

*Environmental Specifications and Test Standards*

| Parameter | Description |
|---|---|
| Operational Temperature | 0℃~+70℃<br>(Case Temperature) |
| Storage Temperature | -40℃~+100℃ |
| Thermal Shock | 0℃ → +70℃<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 +80℃ 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 (For Hermetically Sealed Units) |

***Typical Performance Plots***

**126 ~ 154MHz Model**

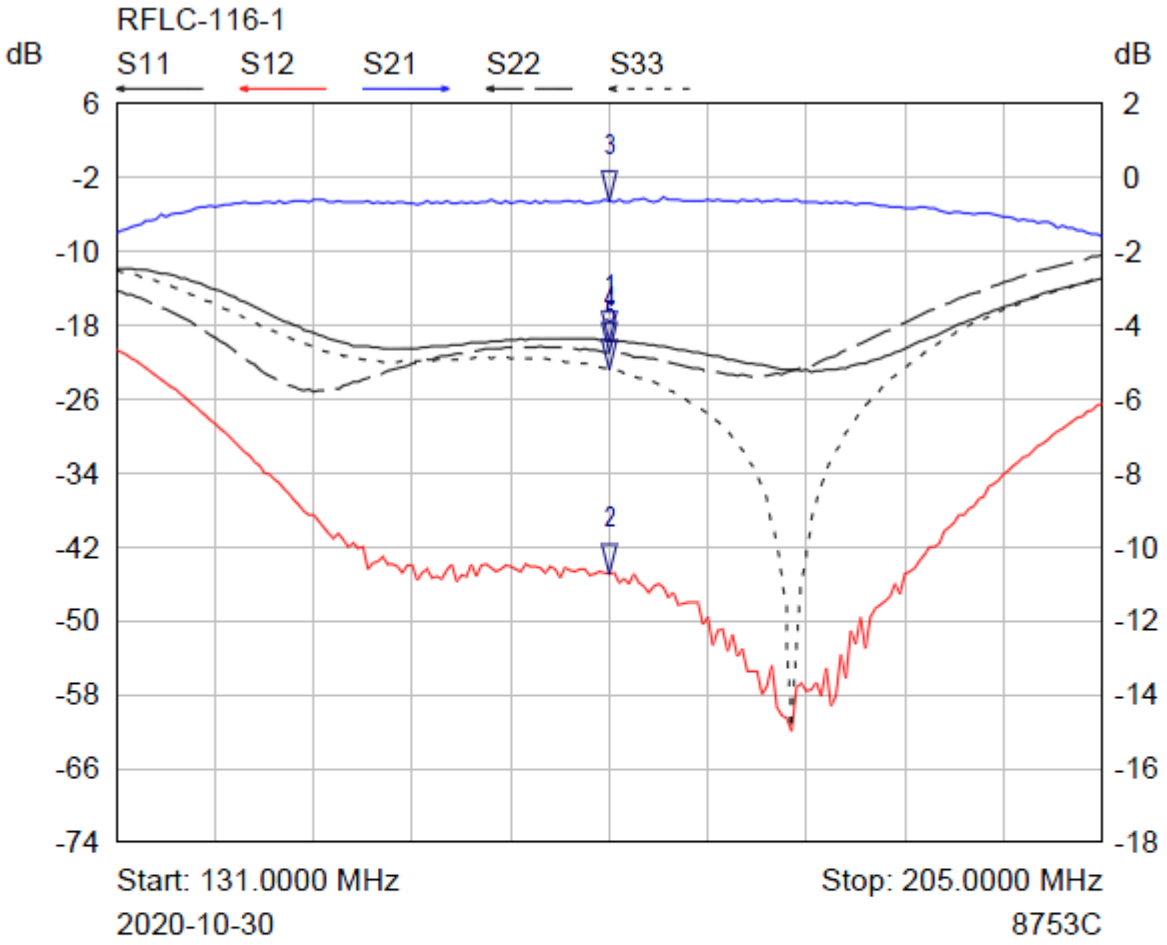



| Mkr | Trace | X-Axis | Value | Notes |
|---|---|---|---|---|
| 1 ▽ | S11 | 140.0000 MHz | -21.57 dB | |
| 2 ▽ | S12 | 140.0000 MHz | -52.53 dB | |
| 3 ▽ | S21 | 140.0000 MHz | -0.64 dB | |
| 4 ▽ | S22 | 140.0000 MHz | -23.03 dB | |
| 5 ▽ | S33 | 140.0000 MHz | -22.37 dB | |

VHF Dual Junction Circulator 100 ~ 200MHz (20% BW)

***Typical Performance Plots***

**151 ~ 185MHz**



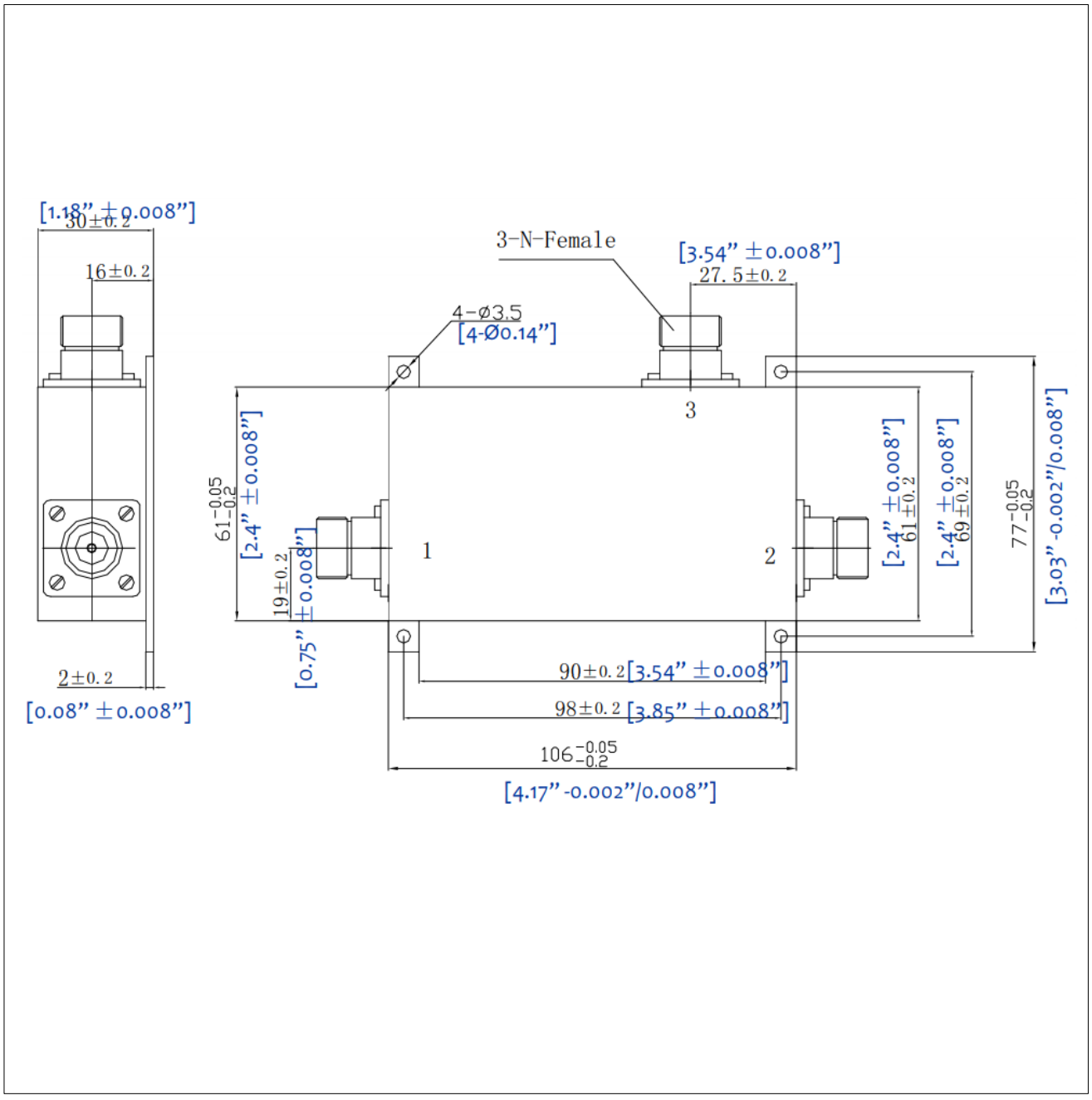

| Mkr | Trace | X-Axis | Value | Notes |
|---|---|---|---|---|
| 1 ▽ | S11 | 168.0000 MHz | -19.74 dB | |
| 2 ▽ | S12 | 168.0000 MHz | -44.89 dB | |
| 3 ▽ | S21 | 168.0000 MHz | -0.63 dB | |
| 4 ▽ | S22 | 168.0000 MHz | -20.96 dB | |
| 5 ▽ | S33 | 168.0000 MHz | -22.74 dB | |

SN:20201007

VHF Dual Junction Circulator 100 ~ 200MHz (20% BW)

## Outline Drawing:

All Dimensions in mm [inches]




## 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.

VHF Dual Junction Circulator 100 ~ 200MHz (20% BW)