



Generic photo used for illustration purposes only

CASE STYLE: CA531

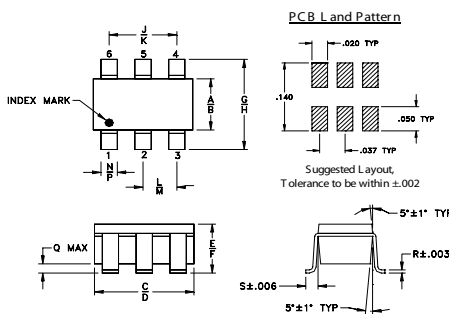
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -40°C to 85°C  |
| Storage Temperature                                             | -65°C to 150°C |
| Power Input (as a splitter)                                     | 0.75W max.     |
| Internal Dissipation                                            | 0.375W max.    |
| Permanent damage may occur if any of these limits are exceeded. |                |

## Pin Connections

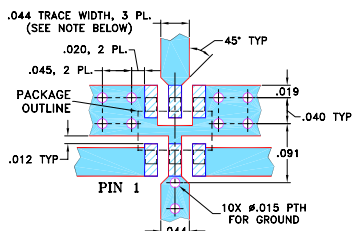
|          |       |
|----------|-------|
| SUM PORT | 5     |
| PORT 1   | 1     |
| PORT 2   | 3     |
| GROUND   | 2,4,6 |

## Outline Drawing



## Outline Dimensions (inch)

| A    | B    | C    | D    | E    | F    | G    | H    | J     |
|------|------|------|------|------|------|------|------|-------|
| .052 | .067 | .106 | .122 | .035 | .064 | .087 | .118 | .067  |
| 1.32 | 1.70 | 2.69 | 3.10 | 0.89 | 1.63 | 2.21 | 3.00 | 1.70  |
| K    | L    | M    | N    | P    | Q    | R    | S    | wt    |
| .083 | .033 | .042 | .012 | .020 | .012 | .006 | .018 | grams |
| 2.11 | 0.84 | 1.07 | 0.30 | 0.51 | 0.30 | 0.15 | 0.46 | 0.020 |

Demo Board MCL P/N: TB-374  
Suggested PCB Layout (PL-232)

NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

## Features

- low insertion loss, 0.5 dB typ.
- good isolation, 25 dB typ.
- good output VSWR, 1.1:1 typ.
- small size
- aqueous washable

## Applications

- WIMAX
- defense radar
- fixed satellite service

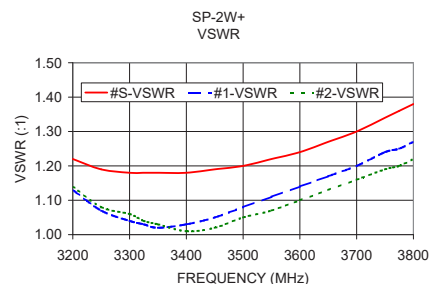
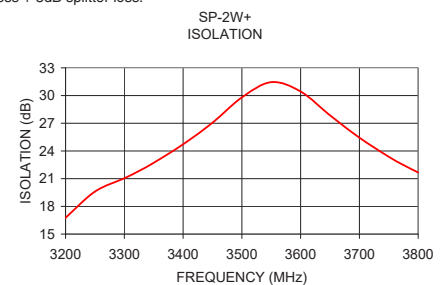
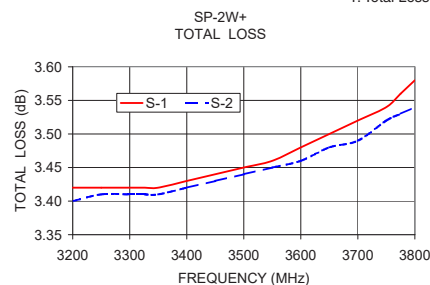
## Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1)   |                   |
|-------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|-------------|-------------------|
|                   | Typ.           | Min. | Typ.                             | Max. | Max.                      | Max.                     | S-Port Typ. | Output Ports Typ. |
| 3300-3800         | 25             | 16   | 0.5                              | 0.9  | 7                         | 0.2                      | 1.2         | 1.1               |

## Typical Performance Data

| Frequency (MHz) | Total Loss <sup>1</sup> (dB) |      | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
|                 | S-1                          | S-2  |                          |                |                        |        |        |        |
| 3125.00         | 3.42                         | 3.40 | 0.02                     | 16.77          | 1.28                   | 1.22   | 1.13   | 1.14   |
| 3250.00         | 3.42                         | 3.41 | 0.01                     | 19.60          | 1.27                   | 1.19   | 1.07   | 1.08   |
| 3300.00         | 3.42                         | 3.41 | 0.01                     | 21.04          | 1.26                   | 1.18   | 1.04   | 1.06   |
| 3325.00         | 3.42                         | 3.41 | 0.01                     | 21.84          | 1.26                   | 1.18   | 1.03   | 1.04   |
| 3350.00         | 3.42                         | 3.41 | 0.01                     | 22.72          | 1.25                   | 1.18   | 1.02   | 1.03   |
| 3400.00         | 3.43                         | 3.42 | 0.01                     | 24.72          | 1.24                   | 1.18   | 1.03   | 1.01   |
| 3450.00         | 3.44                         | 3.43 | 0.01                     | 27.06          | 1.23                   | 1.19   | 1.05   | 1.02   |
| 3500.00         | 3.45                         | 3.44 | 0.01                     | 29.80          | 1.21                   | 1.20   | 1.08   | 1.05   |
| 3550.00         | 3.46                         | 3.45 | 0.01                     | 31.45          | 1.19                   | 1.22   | 1.11   | 1.07   |
| 3600.00         | 3.48                         | 3.46 | 0.02                     | 30.44          | 1.17                   | 1.24   | 1.14   | 1.10   |
| 3650.00         | 3.50                         | 3.48 | 0.02                     | 27.86          | 1.17                   | 1.27   | 1.17   | 1.13   |
| 3700.00         | 3.52                         | 3.49 | 0.03                     | 25.44          | 1.16                   | 1.30   | 1.20   | 1.16   |
| 3750.00         | 3.54                         | 3.52 | 0.02                     | 23.37          | 1.17                   | 1.34   | 1.24   | 1.19   |
| 3775.00         | 3.56                         | 3.53 | 0.03                     | 22.48          | 1.16                   | 1.36   | 1.25   | 1.20   |
| 3800.00         | 3.58                         | 3.54 | 0.03                     | 21.67          | 1.15                   | 1.38   | 1.27   | 1.22   |

1. Total Loss = Insertion Loss + 3dB splitter loss.



## electrical schematic



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[SP-2W+](#)