

2 Way-0° 50Ω

1420 to 1660 MHz

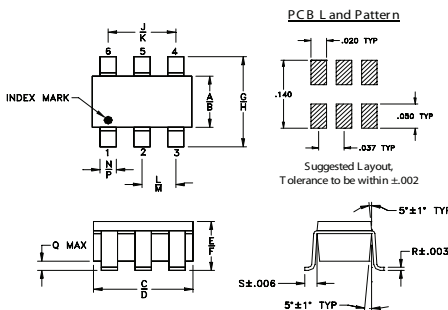
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -40°C to 85°C  |
| Storage Temperature                                             | -65°C to 150°C |
| Power Input (as a splitter)                                     | 1.5W max.      |
| Internal Dissipation                                            | 0.75W max.     |
| Permanent damage may occur if any of these limits are exceeded. |                |

## Pin Connections

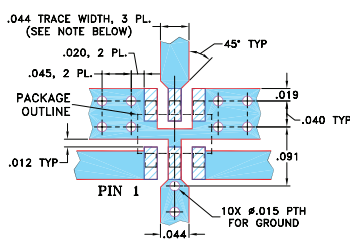
|          |       |
|----------|-------|
| SUM PORT | 5     |
| PORT 1   | 1     |
| PORT 2   | 3     |
| GROUND   | 2,4,6 |

## 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

## Features

- low insertion loss, 0.4 dB typ.
- good isolation, 28 dB typ.
- good output VSWR, 1.15:1 typ.
- good input VSWR, 1.25:1 typ.
- excellent power handling, 1.5W
- small size
- aqueous washable

## Applications

- GPS
- mobile satellite
- PDC
- defense & aeronautical

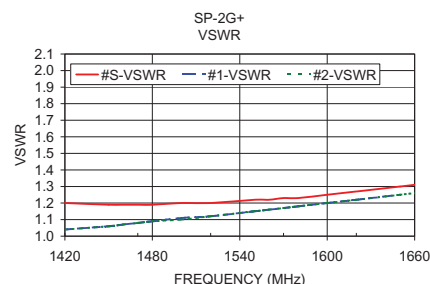
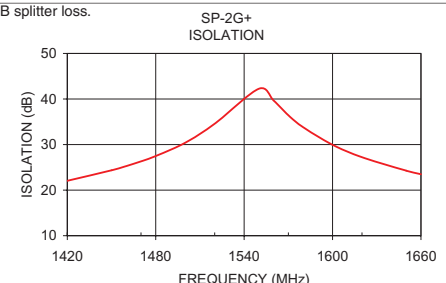
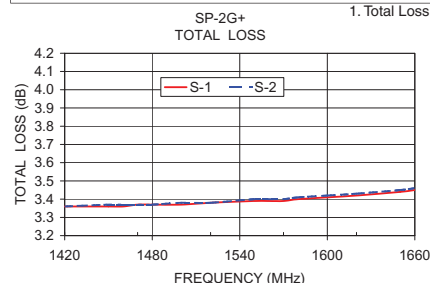
## Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1)   |                   |
|-------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|-------------|-------------------|
|                   | Typ.           | Min. | Typ.                             | Max. |                           |                          | S-Port Typ. | Output Ports Typ. |
| 1420-1660         | 28             | 19   | 0.4                              | 0.7  | 3                         | 0.2                      | 1.25        | 1.15              |

## 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  |                          |                |                        |        |        |        |
| 1420.00         | 3.36                         | 3.36 | 0.00                     | 22.04          | 0.59                   | 1.20   | 1.04   | 1.04   |
| 1450.00         | 3.36                         | 3.37 | 0.01                     | 24.35          | 0.60                   | 1.19   | 1.06   | 1.06   |
| 1460.00         | 3.36                         | 3.37 | 0.01                     | 25.28          | 0.61                   | 1.19   | 1.07   | 1.07   |
| 1470.00         | 3.37                         | 3.37 | 0.01                     | 26.31          | 0.61                   | 1.19   | 1.08   | 1.08   |
| 1480.00         | 3.37                         | 3.37 | 0.01                     | 27.48          | 0.62                   | 1.19   | 1.09   | 1.09   |
| 1500.00         | 3.37                         | 3.38 | 0.01                     | 30.39          | 0.62                   | 1.20   | 1.11   | 1.10   |
| 1520.00         | 3.38                         | 3.38 | 0.01                     | 34.57          | 0.64                   | 1.20   | 1.12   | 1.12   |
| 1550.00         | 3.39                         | 3.40 | 0.01                     | 42.25          | 0.65                   | 1.22   | 1.15   | 1.15   |
| 1560.00         | 3.39                         | 3.40 | 0.01                     | 39.67          | 0.66                   | 1.22   | 1.16   | 1.16   |
| 1570.00         | 3.39                         | 3.40 | 0.01                     | 36.43          | 0.66                   | 1.23   | 1.17   | 1.17   |
| 1580.00         | 3.40                         | 3.41 | 0.01                     | 33.81          | 0.66                   | 1.23   | 1.18   | 1.18   |
| 1600.00         | 3.41                         | 3.42 | 0.01                     | 29.95          | 0.67                   | 1.25   | 1.20   | 1.20   |
| 1620.00         | 3.42                         | 3.43 | 0.01                     | 27.22          | 0.68                   | 1.27   | 1.22   | 1.22   |
| 1650.00         | 3.44                         | 3.45 | 0.01                     | 24.27          | 0.69                   | 1.30   | 1.25   | 1.25   |
| 1660.00         | 3.45                         | 3.46 | 0.01                     | 23.48          | 0.69                   | 1.31   | 1.26   | 1.26   |

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



## electrical schematic



## ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001  
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)

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