*Surface Mount*

# Power Splitter/Combiner

## SP-2W+

2 Way-0° 50Ω 3300 to 3800 MHz

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 |

### 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

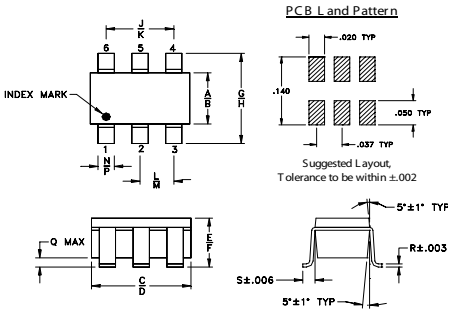
***+RoHS Compliant***

*The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications*

*Available Tape and Reel at no extra cost*

| Reel Size | Devices/Reel |
|---|---|
| 7" | 20, 50, 100, 200, 500,1000 |

### Outline Drawing

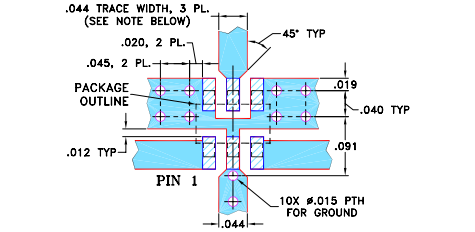



### Outline Dimensions (inch / mm)

| 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

### Electrical Specifications

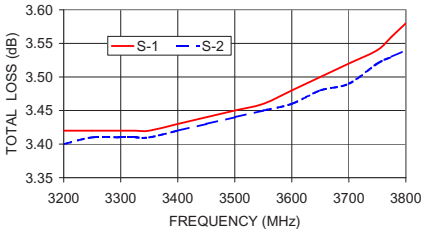
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 3.0 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1) | |
|---|---|---|---|---|---|---|---|---|
| | Typ. | Min. | Typ. | Max. | Max. | Max. | S-Port Typ. | Output Ports Typ. |
| 3300-3800 | 25 | 16 | 0.5 | 0.9 |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

### Typical Performance Data

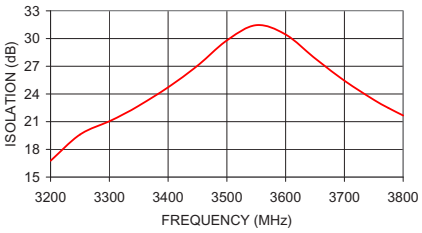
| Frequency (MHz) | Total Loss[1] (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|---|---|---|---|---|---|---|---|---|
| | S-1 | S-2 | | | | | | |
| 3125.00 | 3.42 | 3.40 | 0.02 | 16.77 | 1.28 | 1.22 | 1.13 | 1.14 |
| 3250.00 | 3.42 | 3.41 | 0.01 | 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.

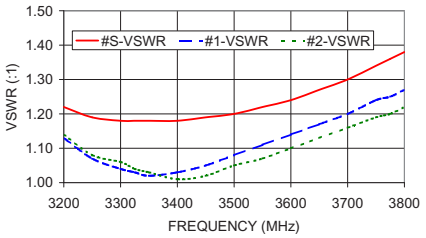
SP-2W+ TOTAL LOSS



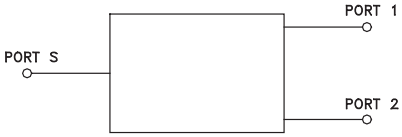

SP-2W+ ISOLATION




SP-2W+ VSWR




### electrical schematic




Notes

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