*Surface Mount*

# Power Splitter/Combiner

# LRPS-2-11J+

## 2 Way-0° 50Ω 20 to 2000 MHz

*Generic photo used for illustration purposes only*

CASE STYLE: QQQ569

***+RoHS Compliant***

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

### Maximum Ratings

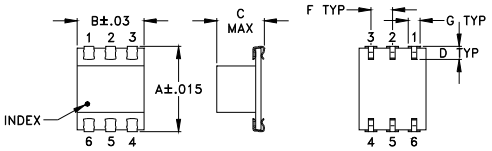
| | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |
| Internal Dissipation | 0.125W max. |

Permanent damage may occur if any of these limits are exceeded.

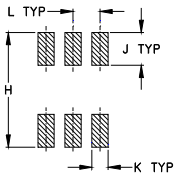
### Pin Connections

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

### Outline Drawing




**PCB Land Pattern**



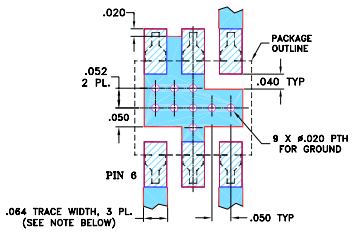

Suggested Layout,
Tolerance to be within ±.002

### Outline Dimensions (inch / mm)

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| .390 | .31 | .225 | .060 | -- | .100 | .045 |
| 9.91 | 7.87 | 5.72 | 1.52 | -- | 2.54 | 1.14 |

| H | J | K | L | M | wt |
|---|---|---|---|---|---|
| .420 | .120 | .060 | .100 | -- | grams |
| 10.67 | 3.05 | 1.52 | 2.54 | -- | 0.50 |

***Demo Board MCL P/N: TB-100***
***Suggested PCB Layout (PL-057)***




NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; 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

- very wideband, 20 to 2000 MHz
- low insertion loss, 0.7 dB typ.
- good isolation, 21 dB typ.
- aqueous washable
- J-leads for strain relief and excellent solderability

### Applications

- cellular
- GPS
- communications systems

### Electrical Specifications

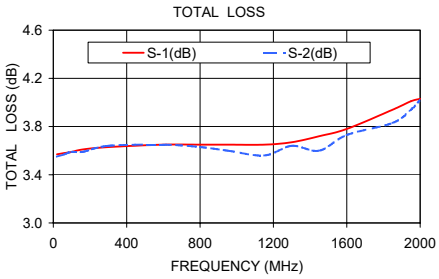
| FREQ. RANGE (MHz) | ISOLATION (dB) | | | | | | INSERTION LOSS (dB) ABOVE 3.0 dB | | | | | | PHASE UNBALANCE (Degrees) | | | AMPLITUDE UNBALANCE (dB) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | | M | | U | | L | | M | | U | | L | M | U | L | M | U |
| $f_L$-$f_U$ | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. | Max. | Max. | Max. |
| 20-2000 | 19 | 15 | 21 | 15 | 30 | 15 | 0.6 | 0.8 | 0.7 | 1.0 | 0.8 | 1.5 | 2.0 | 3.0 | 5.0 | 0.2 | 0.3 | 0.7 |

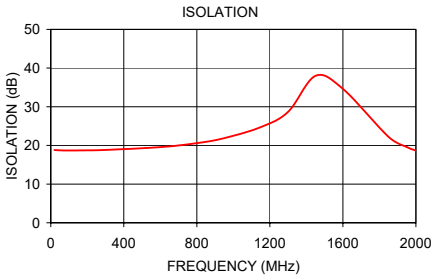
L = 20-200 MHz M = 200-1000 MHz U = 1000-2000 MHz

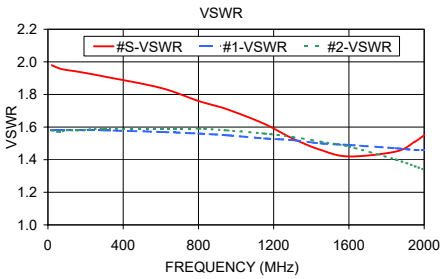
### Typical Performance Data

| Frequency (MHz) | Total Loss[1] (dB) S-1 | Total Loss[1] (dB) S-2 | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|---|---|---|---|---|---|---|---|---|
| 20.00 | 3.57 | 3.55 | 0.01 | 18.82 | 0.10 | 1.98 | 1.58 | 1.58 |
| 60.00 | 3.58 | 3.57 | 0.01 | 18.71 | 0.18 | 1.96 | 1.58 | 1.57 |
| 100.00 | 3.59 | 3.59 | 0.01 | 18.70 | 0.29 | 1.95 | 1.58 | 1.58 |
| 160.00 | 3.61 | 3.59 | 0.02 | 18.72 | 0.45 | 1.94 | 1.58 | 1.58 |
| 300.00 | 3.63 | 3.64 | 0.01 | 18.84 | 0.77 | 1.91 | 1.58 | 1.59 |
| 600.00 | 3.65 | 3.65 | 0.00 | 19.55 | 1.46 | 1.84 | 1.57 | 1.59 |
| 800.00 | 3.65 | 3.63 | 0.02 | 20.59 | 1.76 | 1.76 | 1.56 | 1.59 |
| 950.00 | 3.65 | 3.60 | 0.05 | 21.89 | 1.90 | 1.71 | 1.55 | 1.58 |
| 1150.00 | 3.65 | 3.56 | 0.09 | 24.73 | 1.89 | 1.62 | 1.53 | 1.56 |
| 1300.00 | 3.67 | 3.64 | 0.03 | 28.68 | 1.70 | 1.53 | 1.52 | 1.54 |
| 1450.00 | 3.72 | 3.60 | 0.12 | 37.99 | 1.45 | 1.46 | 1.50 | 1.51 |
| 1600.00 | 3.78 | 3.73 | 0.05 | 34.62 | 1.03 | 1.42 | 1.49 | 1.48 |
| 1850.00 | 3.94 | 3.83 | 0.11 | 22.22 | 0.16 | 1.45 | 1.47 | 1.40 |
| 1950.00 | 4.01 | 3.94 | 0.07 | 19.58 | 0.70 | 1.51 | 1.46 | 1.36 |
| 2000.00 | 4.03 | 4.02 | 0.01 | 18.65 | 0.98 | 1.55 | 1.46 | 1.34 |

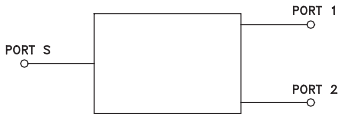
1. Total Loss = Insertion Loss + 3dB splitter loss.




### electrical schematic




Notes

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