

# Surface Mount Power Splitter/Combiner

2 Way-0° 50Ω 800 to 980 MHz

## LRPS-2-980J+ LRPS-2-980J



CASE STYLE: QQQ569  
PRICE: \$8.95 ea. QTY. (10-49)

**+ RoHS compliant in accordance  
with EU Directive (2002/95/EC)**

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

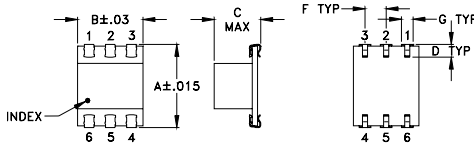
### Maximum Ratings

|                             |                |
|-----------------------------|----------------|
| 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.    |

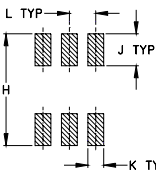
### Pin Connections

|          |     |
|----------|-----|
| SUMPORT  | 6   |
| PORT 1   | 4   |
| PORT 2   | 3   |
| GROUND   | 1   |
| NOT USED | 2,5 |

### Outline Drawing



### PCB Land Pattern

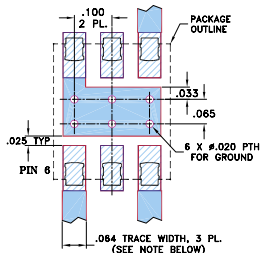


Suggested Layout,  
Tolerance to be within ±.002

### 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-94 Suggested PCB Layout (PL-058)



- 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

- low insertion loss, 0.5 dB typ.
- high isolation, 30 dB typ.
- aqueous washable
- J-leads for strain relief and excellent solderability

### Applications

- cellular

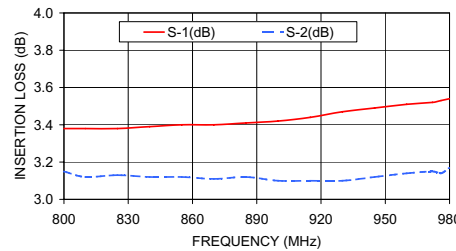
### Splitter Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |     | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|-------------------|----------------|-----|----------------------------------|------|---------------------------|--------------------------|
|                   | Typ.           | Min | Typ.                             | Max. | Max.                      | Max.                     |
| $f_c$ - $f_u$     | 30             | 18  | 0.5                              | 1.0  | 3.0                       | 0.5                      |
| 800-980           |                |     |                                  |      |                           |                          |

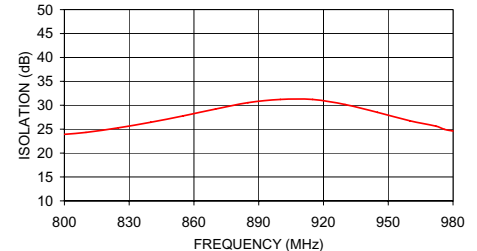
### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) |      | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|---------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
|                 | S-1                 | S-2  |                          |                |                        |        |        |        |
| 800.00          | 3.38                | 3.15 | 0.23                     | 23.91          | 0.02                   | 1.22   | 1.09   | 1.15   |
| 810.00          | 3.38                | 3.12 | 0.25                     | 24.32          | 0.04                   | 1.20   | 1.09   | 1.14   |
| 825.00          | 3.38                | 3.13 | 0.25                     | 25.28          | 0.06                   | 1.17   | 1.08   | 1.13   |
| 840.00          | 3.39                | 3.12 | 0.27                     | 26.45          | 0.02                   | 1.14   | 1.07   | 1.12   |
| 855.00          | 3.40                | 3.12 | 0.27                     | 27.78          | 0.07                   | 1.11   | 1.06   | 1.11   |
| 870.00          | 3.40                | 3.11 | 0.29                     | 29.20          | 0.14                   | 1.08   | 1.06   | 1.09   |
| 885.00          | 3.41                | 3.12 | 0.29                     | 30.54          | 0.41                   | 1.05   | 1.06   | 1.08   |
| 900.00          | 3.42                | 3.10 | 0.32                     | 31.21          | 0.63                   | 1.03   | 1.06   | 1.07   |
| 915.00          | 3.44                | 3.10 | 0.34                     | 31.21          | 0.69                   | 1.03   | 1.07   | 1.06   |
| 930.00          | 3.47                | 3.10 | 0.37                     | 30.16          | 0.91                   | 1.07   | 1.09   | 1.05   |
| 945.00          | 3.49                | 3.12 | 0.37                     | 28.51          | 1.01                   | 1.10   | 1.10   | 1.04   |
| 960.00          | 3.51                | 3.14 | 0.38                     | 26.75          | 1.14                   | 1.15   | 1.12   | 1.03   |
| 972.00          | 3.52                | 3.15 | 0.38                     | 25.64          | 1.36                   | 1.18   | 1.13   | 1.04   |
| 976.00          | 3.53                | 3.14 | 0.40                     | 24.96          | 1.31                   | 1.19   | 1.14   | 1.04   |
| 980.00          | 3.54                | 3.17 | 0.38                     | 24.61          | 1.50                   | 1.21   | 1.14   | 1.04   |

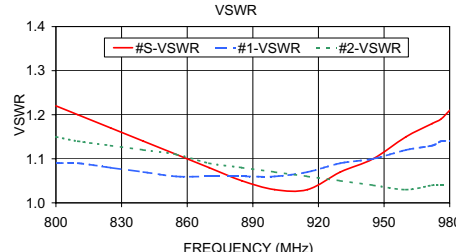
LRPS-2-980J  
INSERTION LOSS



LRPS-2-980J  
ISOLATION



LRPS-2-980J  
VSWR



### electrical schematic

