

Surface Mount Power Splitter/Combiner

LRPQ-320J

2 Way-90° 50Ω 270 to 320 MHz



CASE STYLE: QQQ569
PRICE: \$10.95 ea. QTY (1-9)

Maximum Ratings

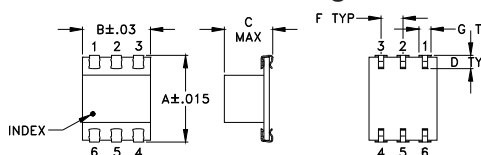
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |

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

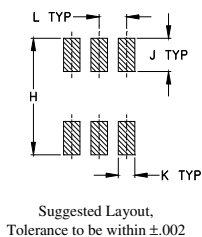
Pin Connections

| | |
|----------------------|-----|
| SUM PORT | 1 |
| PORT 1 (0°) | 3 |
| PORT 2 (+90°) | 6 |
| GROUND | 2,5 |
| 50 OHM TERM EXTERNAL | 4 |

Outline Drawing



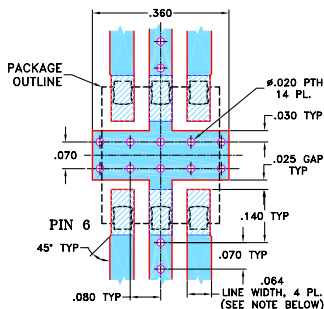
PCB Land Pattern



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-226 Suggested PCB Layout (PL-140)



- NOTE:**
- 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.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
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Features

- low insertion loss, 0.3 dB typ.
- good isolation, 21 dB typ.
- excellent phase unbalance 1 deg. typ.
- good return loss, VSWR 1.20:1 typ.
- aqueous washable

Applications

- UHF
- modulators
- balanced amplifiers
- image rejection mixers

Electrical Specifications

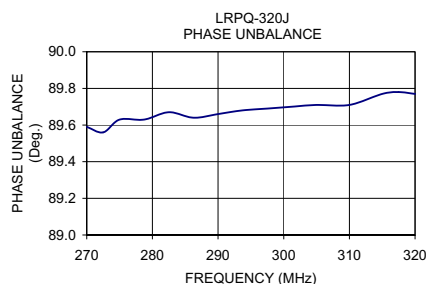
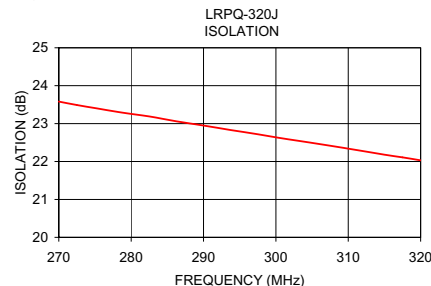
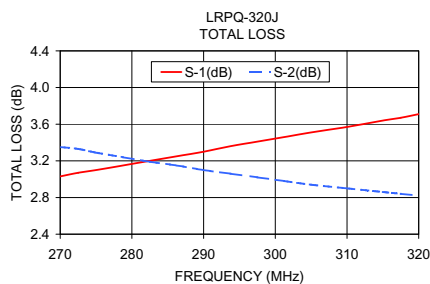
| FREQ. RANGE (MHz) | ISOLATION (dB) | INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|-------------------|----------------|---|---------------------------|--------------------------|
| f_L - f_U | Typ. Min. | Typ. Max. | Max. | Max. |
| 270-320 | 21 18 | 0.3 0.6 | 3 | 1.2 |

LRPQ units have bottom barrier ground plane insulated with glass barrier.

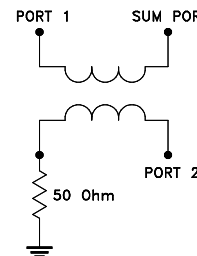
Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
| | S-1 | S-2 | | | | | | |
| 270.00 | 3.03 | 3.35 | 0.32 | 23.58 | 89.59 | 1.15 | 1.11 | 1.15 |
| 272.50 | 3.07 | 3.33 | 0.26 | 23.49 | 89.56 | 1.15 | 1.12 | 1.15 |
| 275.00 | 3.10 | 3.29 | 0.19 | 23.41 | 89.63 | 1.15 | 1.12 | 1.15 |
| 278.75 | 3.15 | 3.24 | 0.09 | 23.29 | 89.63 | 1.16 | 1.12 | 1.16 |
| 282.50 | 3.20 | 3.19 | 0.01 | 23.19 | 89.67 | 1.16 | 1.12 | 1.16 |
| 286.25 | 3.25 | 3.15 | 0.10 | 23.06 | 89.64 | 1.16 | 1.12 | 1.16 |
| 290.00 | 3.30 | 3.10 | 0.20 | 22.95 | 89.66 | 1.17 | 1.13 | 1.17 |
| 293.75 | 3.36 | 3.06 | 0.30 | 22.83 | 89.68 | 1.17 | 1.13 | 1.17 |
| 297.50 | 3.41 | 3.02 | 0.39 | 22.72 | 89.69 | 1.17 | 1.13 | 1.17 |
| 301.25 | 3.46 | 2.98 | 0.47 | 22.60 | 89.70 | 1.18 | 1.13 | 1.18 |
| 305.00 | 3.51 | 2.94 | 0.57 | 22.49 | 89.71 | 1.18 | 1.14 | 1.18 |
| 310.00 | 3.57 | 2.90 | 0.67 | 22.34 | 89.71 | 1.19 | 1.14 | 1.18 |
| 315.00 | 3.64 | 2.86 | 0.79 | 22.18 | 89.77 | 1.19 | 1.14 | 1.19 |
| 317.50 | 3.67 | 2.84 | 0.84 | 22.11 | 89.78 | 1.19 | 1.14 | 1.19 |
| 320.00 | 3.71 | 2.82 | 0.89 | 22.03 | 89.77 | 1.20 | 1.15 | 1.19 |

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



electrical schematic



For detailed performance specs & shopping online see web site

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