

Surface Mount Directional Coupler

50Ω 300 to 1100 MHz

LRDC-20-2+ LRDC-20-2



CASE STYLE: QQQ130
PRICE: \$15.95 ea. QTY (1-9)

+ 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 |

Pin Connections

| | |
|----------------------|-----|
| INPUT | 6 |
| OUTPUT | 1 |
| COUPLED | 4 |
| GROUND | 2,5 |
| ISOLATE (DO NOT USE) | 3 |

Features

- low mainline loss, 0.25 dB typ.
- high directivity, 17 dB typ.

Applications

- VHF/UHF
- cellular
- communications
- signal sampling

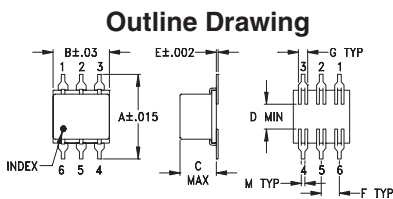
Directional Coupler Electrical Specifications

| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | DIRECTIVITY (dB) | | VSWR (:1) | POWER INPUT, W | | |
|----------------|------------------|----------|------------------------------------|------|---------------------|------|--------------|-------------------|-----------|------------|
| | Nom. | Flatness | Typ. | Max. | Typ. | Min. | | Typ. | L Max. | MU Max. |
| f_L - f_U | | | | | | | | | | |
| 300-1100 | 20.5±1.0 | ±1.3 | 0.25 | 0.6 | 17 | 10 | 1.2 | 2.0 | 2.0 | |

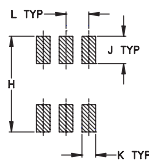
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|--------------------|---------------------------------|----------------------------|---------------------|---------------------|-------|-------|
| | | | | In | Out | Cpl |
| 300.00 | 0.30 | 22.27 | 18.46 | 15.52 | 15.46 | 16.06 |
| 438.46 | 0.26 | 22.11 | 17.25 | 18.41 | 18.43 | 19.61 |
| 576.92 | 0.26 | 21.96 | 16.06 | 20.51 | 20.53 | 24.62 |
| 715.38 | 0.28 | 21.80 | 15.20 | 22.14 | 22.18 | 31.13 |
| 807.69 | 0.30 | 21.67 | 14.83 | 22.93 | 23.08 | 31.10 |
| 900.00 | 0.32 | 21.51 | 14.54 | 23.56 | 23.66 | 27.46 |
| 950.00 | 0.34 | 21.43 | 14.42 | 23.84 | 24.00 | 33.75 |
| 1000.00 | 0.35 | 21.33 | 14.34 | 23.91 | 24.09 | 25.94 |
| 1050.00 | 0.37 | 21.21 | 14.26 | 23.80 | 24.04 | 32.75 |
| 1100.00 | 0.39 | 21.10 | 14.24 | 23.78 | 24.01 | 25.15 |



PCB Land Pattern

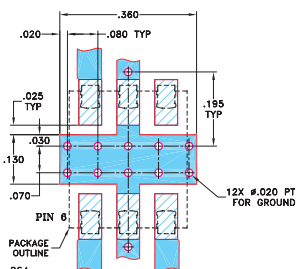


Suggested Layout,
Tolerance to be within ±0.02

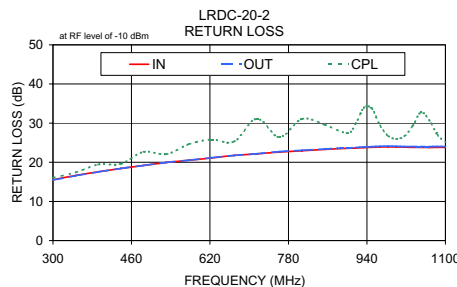
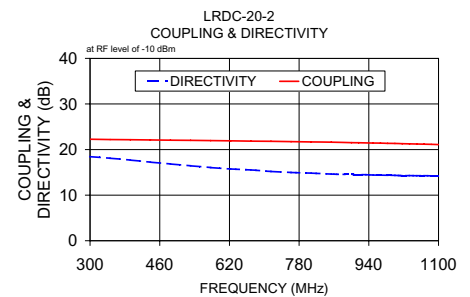
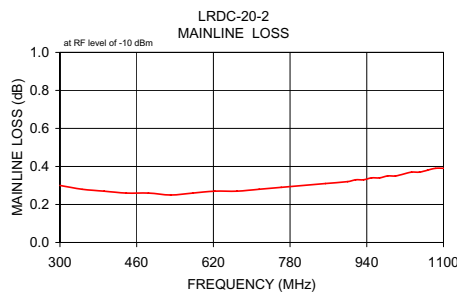
Outline Dimensions (inch)

| A | B | C | D | E | F | G |
|-------|------|------|------|------|-------|------|
| .400 | .31 | .200 | .10 | .010 | .100 | .050 |
| 10.16 | 7.87 | 5.08 | 2.54 | 0.25 | 2.54 | 1.27 |
| H | J | K | L | M | wt | |
| .420 | .120 | .060 | .100 | .020 | grams | |
| 10.67 | 3.05 | 1.52 | 2.54 | 0.51 | 0.55 | |

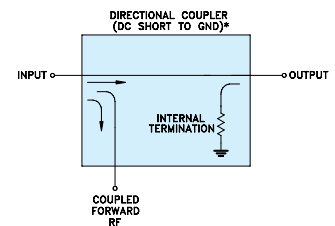
Demo Board MCL P/N: TB-31 Suggested PCB Layout (PL-087)



- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002". 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



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

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