

Directional Coupler

75Ω

40 to 1000 MHz

ADC-20-4-75R+



CASE STYLE: CD636
PRICE: \$7.95 ea. QTY (10-49)

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

The +Suffix has been added in order to identify 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 | 1 |
| OUTPUT | 6 |
| COUPLED | 3 |
| GROUND | 2,5 |
| NOT USED | 4 |

Features

- wideband, 40-1000 MHz
- low mainline loss, 0.6 dB typ.
- excellent VSWR, 1.1:1 typ.
- internal load, no external components required
- aqueous washable
- protected by US Patent 6,133,525 & 6,140,887

Applications

- CATV

Directional Coupler Electrical Specifications

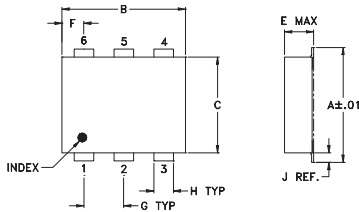
| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | | | | DIRECTIVITY (dB) | | | | | | VSWR (:1) | POWER INPUT, W |
|-------------|---------------|----------|---------------------------------|------|------|------|------|------|------------------|------|------|------|------|------|-----------|----------------|
| | Nom. | Flatness | L | | M | | U | | L | | M | | U | | | |
| | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | |
| 40-1000 | 20.5±0.5 | ±0.8 | 0.5 | 0.8 | 0.6 | 0.9 | 0.7 | 1.2 | 24 | 17 | 20 | 15 | 17 | 12 | 1.10 | 1.0 |

L= 40-400 MHz M= 400-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

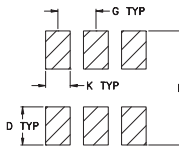
Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 40.00 | 0.57 | 20.74 | 24.46 | 24.97 | 25.29 | 25.60 |
| 100.00 | 0.52 | 20.82 | 24.90 | 29.34 | 29.25 | 28.73 |
| 220.00 | 0.50 | 20.87 | 23.92 | 28.31 | 29.17 | 31.75 |
| 340.00 | 0.53 | 20.82 | 22.10 | 26.02 | 26.77 | 39.90 |
| 450.00 | 0.56 | 20.73 | 20.26 | 24.23 | 25.60 | 41.94 |
| 560.00 | 0.62 | 20.59 | 18.57 | 25.31 | 24.40 | 37.70 |
| 680.00 | 0.68 | 20.42 | 17.84 | 30.01 | 23.08 | 36.42 |
| 800.00 | 0.71 | 20.23 | 17.23 | 27.10 | 23.22 | 30.86 |
| 900.00 | 0.74 | 20.07 | 16.93 | 23.57 | 23.74 | 28.67 |
| 1000.00 | 0.77 | 19.86 | 16.53 | 25.62 | 24.50 | 27.23 |

Outline Drawing



PCB Land Pattern

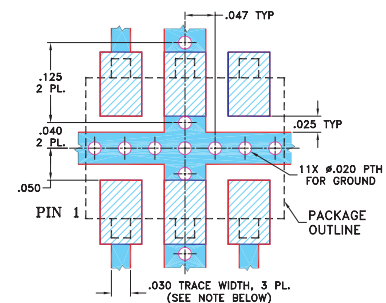


Suggested Layout, Tolerance to be within ±0.02

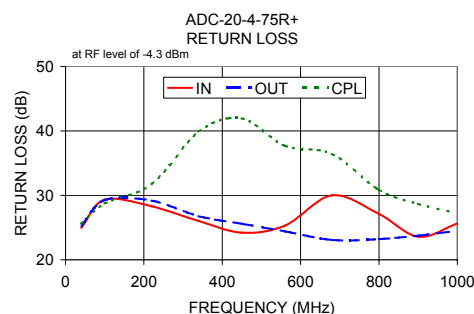
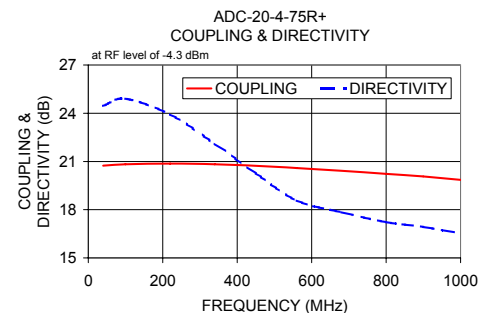
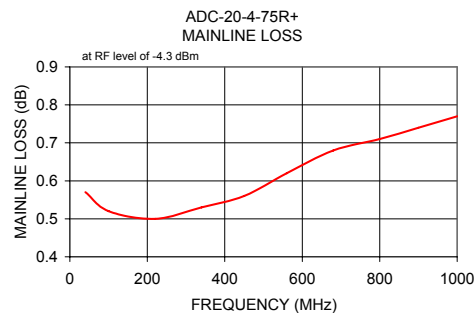
Outline Dimensions (inch/mm)

| | | | | | | |
|------|------|------|------|------|------|-------|
| A | B | C | D | E | F | G |
| .272 | .310 | .220 | .100 | .162 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 4.11 | 1.40 | 2.54 |
| H | J | K | L | | | wt |
| .030 | .026 | .065 | .300 | | | grams |
| 0.76 | 0.66 | 1.65 | 7.62 | | | 0.25 |

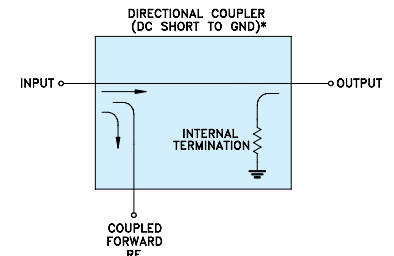
Demo Board MCL P/N: TB-356 Suggested PCB Layout (PL-213)



- 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 SMOBS (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.

