

Surface Mount Directional Coupler

ADC-6-13+ ADC-6-13

50Ω 200 to 1300 MHz



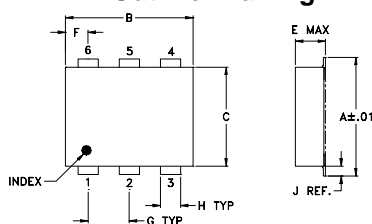
Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |

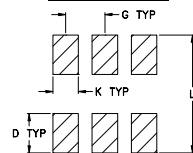
Pin Connections

| | |
|-------------------------|---|
| INPUT | 1 |
| OUTPUT | 6 |
| COUPLED | 3 |
| GROUND | 2 |
| 50Ω TERM EXTERNAL | 4 |
| GROUND or NO CONNECTION | 5 |

Outline Drawing



PCB Land Pattern



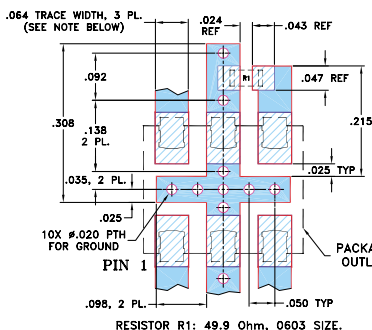
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|------|------|------|------|------|------|------|
| .272 | .310 | .220 | .100 | .112 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 2.84 | 1.40 | 2.54 |

| H | J | K | L | wt |
|------|------|------|------|-------|
| .030 | .026 | .065 | .300 | grams |
| 0.76 | 0.66 | 1.65 | 7.62 | 0.20 |

Demo Board MCL P/N: TB-05 Suggested PCB Layout (PL-041)



- 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

- wideband, 200-1300 MHz
- excellent VSWR, 1.3:1 typ.
- excellent coupling flatness, ±0.5 typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- cellular
- VHF/UHF receivers

CASE STYLE: CD542
PRICE: \$6.95 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.

Directional Coupler Electrical Specifications

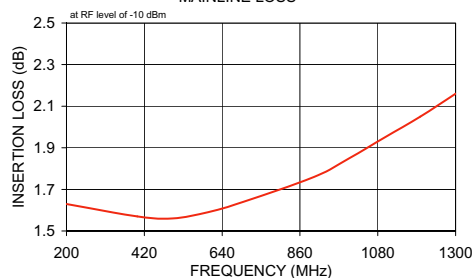
| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | DIRECTIVITY (dB) | | VSWR (:1) | POWER INPUT, W | |
|--------------------------------|------------------|----------|------------------------------------|------|---------------------|------|--------------|-------------------|-----------|
| | Nom. | Flatness | Typ. | Max. | Typ. | Min. | | Typ. | L Max. |
| f _L -f _U | | | | | | | | | |
| 200-1300 | 6.2±0.5 | ±0.9 | 1.8 | 2.5 | 17 | 10 | 1.3 | 0.5 | 0.5 |

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

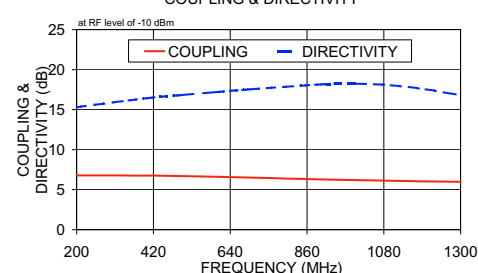
Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|--------------------|---------------------------------|----------------------------|---------------------|---------------------|-------|-------|
| | | | | In | Out | Cpl |
| 200.00 | 1.63 | 6.78 | 15.32 | 16.16 | 16.80 | 16.37 |
| 400.00 | 1.57 | 6.77 | 16.43 | 19.27 | 20.03 | 18.22 |
| 500.00 | 1.56 | 6.70 | 16.81 | 20.80 | 20.81 | 18.74 |
| 600.00 | 1.59 | 6.61 | 17.19 | 22.02 | 21.37 | 18.95 |
| 700.00 | 1.64 | 6.52 | 17.56 | 22.08 | 21.46 | 19.14 |
| 900.00 | 1.76 | 6.29 | 18.16 | 20.57 | 20.96 | 20.03 |
| 1000.00 | 1.85 | 6.20 | 18.24 | 19.80 | 21.45 | 20.54 |
| 1100.00 | 1.95 | 6.11 | 18.05 | 18.83 | 19.86 | 21.08 |
| 1200.00 | 2.05 | 6.04 | 17.55 | 17.57 | 19.28 | 21.80 |
| 1300.00 | 2.16 | 5.98 | 16.79 | 16.32 | 18.80 | 22.81 |

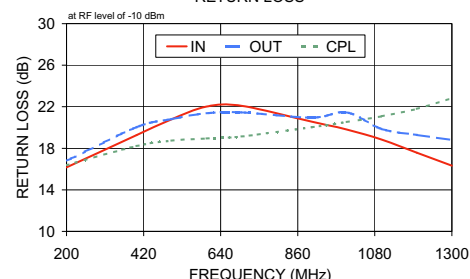
ADC-6-13
MAINLINE LOSS



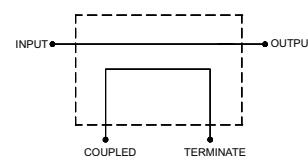
ADC-6-13
COUPLING & DIRECTIVITY



ADC-6-13
RETURN LOSS



electrical schematic



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RF/IF MICROWAVE COMPONENTS

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070920