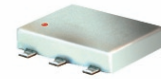


Surface Mount Directional Coupler

ADC-6-1R+ ADC-6-1R

50Ω 5 to 200 MHz



Maximum Ratings

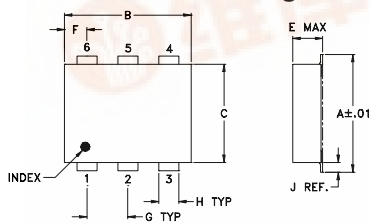
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |

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

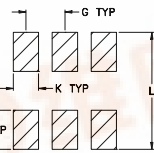
Pin Connections

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

Outline Drawing



PCB Land Pattern



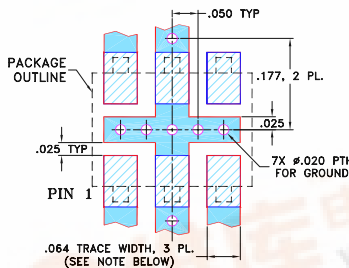
Suggested Layout,
Tolerance to be within ±.002

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-32 Suggested PCB Layout (PL-094)



- 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, 5 to 200 MHz
- low mainline loss, 1.7 dB typ.
- excellent coupling flatness, ±0.1 typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- communications
- cable tv

CASE STYLE: GD542
PRICE: \$7.95 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.

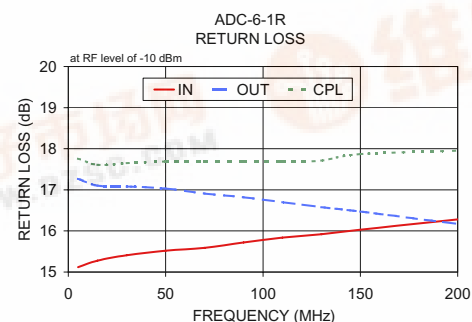
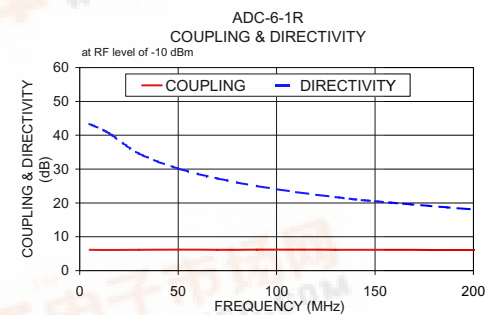
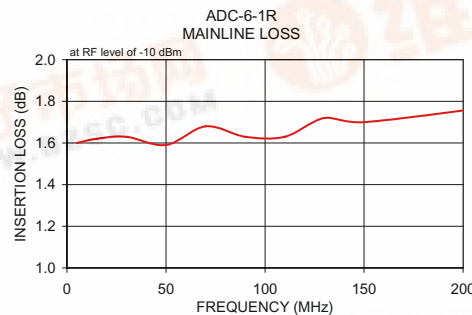
Directional Coupler Electrical Specifications

| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | DIRECTIVITY (dB) | | | VSWR (:1) | POWER INPUT, W | | | | | | | |
|--------------------------------|---------------|----------|---------------------------------|------|------|------------------|------|------|-----------|----------------|------|------|------|----|------|-----|-----|
| | Nom. | Flatness | L | M | U | L | M | U | | Typ. | L | MU | | | | | |
| f _c -f _u | | | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Max. | Max. | | | | |
| 5-200 | 6.2±0.3 | ±0.3 | 1.6 | 2.0 | 1.7 | 2.0 | 1.7 | 2.1 | 35 | 22 | 25 | 18 | 17 | 13 | 1.33 | 0.5 | 0.5 |

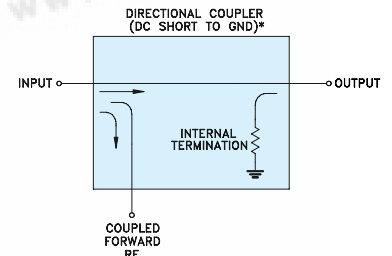
L= 5-50 MHz M= 50-100 MHz U= 100-200 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 5.00 | 1.60 | 6.15 | 43.32 | 15.12 | 17.27 | 17.76 |
| 15.00 | 1.62 | 6.11 | 40.58 | 15.28 | 17.10 | 17.61 |
| 30.00 | 1.63 | 6.14 | 34.62 | 15.41 | 17.08 | 17.65 |
| 50.00 | 1.59 | 6.18 | 30.14 | 15.52 | 17.03 | 17.69 |
| 70.00 | 1.68 | 6.13 | 27.21 | 15.59 | 16.91 | 17.69 |
| 90.00 | 1.63 | 6.19 | 24.97 | 15.72 | 16.82 | 17.69 |
| 110.00 | 1.63 | 6.19 | 23.20 | 15.84 | 16.70 | 17.69 |
| 130.00 | 1.72 | 6.15 | 21.73 | 15.92 | 16.58 | 17.71 |
| 150.00 | 1.70 | 6.17 | 20.47 | 16.03 | 16.47 | 17.87 |
| 220.00 | 1.78 | 6.07 | 17.12 | 16.38 | 16.05 | 17.98 |



Electrical Schematic



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

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IF/RF MICROWAVE COMPONENTS

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