

High Power Directional Coupler

JYDC-7-1HP

50Ω 30 to 500 MHz



CASE STYLE: BJ1051
PRICE: \$17.95 ea. QTY. (10-49)

Maximum Ratings

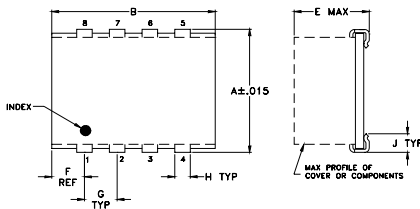
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |

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

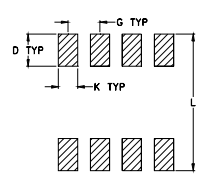
Pin Connections

| | |
|----------------------|-----|
| INPUT | 1 |
| OUTPUT | 8 |
| COUPLED | 3 |
| GROUND | 2,7 |
| 50Ω TERM EXTERNAL | 6 |
| ISOLATE (DO NOT USE) | 4,5 |

Outline Drawing



PCB Land Pattern

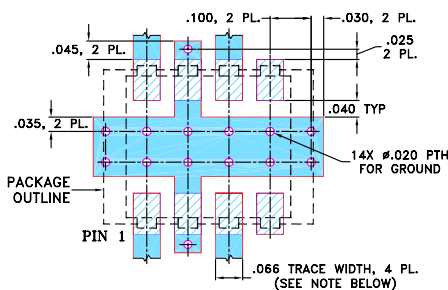


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

| | A | B | C | D | E | F | G | |
|--|-------|-------|------|-------|------|------|------|-------|
| | .395 | .500 | -- | .100 | .230 | .100 | .100 | |
| | 10.03 | 12.70 | -- | 2.54 | 5.84 | 2.54 | 2.54 | |
| | H | J | K | L | | | | wt |
| | .047 | .065 | .065 | .425 | | | | grams |
| | 1.19 | 1.65 | 1.65 | 10.80 | | | | 0.71 |

Demo Board MCL P/N: TB-282 Suggested PCB Layout (PL-157)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

Features

- high power handling, 5 watts
- low mainline loss, 1.3 dB typ.
- excellent VSWR, 1.25:1 typ.
- good flatness, ±0.1 dB typ.
- protected by US Patent 6,140,887

Applications

- VHF/UHF receivers
- cellular

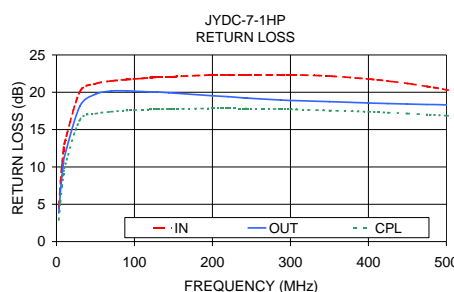
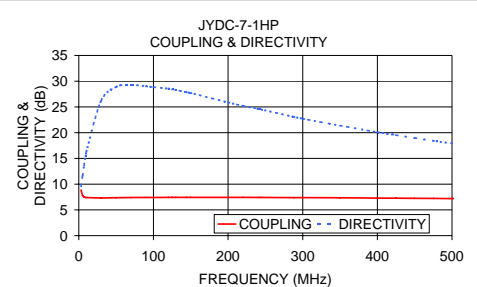
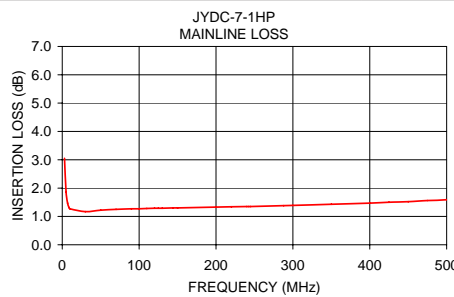
Directional Coupler Electrical Specifications

| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | | DIRECTIVITY (dB) | | | | VSWR (:1) | POWER INPUT, W | | |
|-------------|---------------|---------------|---------------------------------|------|------|------|------------------|------|------|------|-----------|----------------|------|------|
| | Nom. | Max. Flatness | L | | U | | L | | U | | | Typ. | Max. | Max. |
| | | | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | | | | |
| 30-500 | 7.3±0.4 | ±0.2 | 1.3 | 1.6 | 1.4 | 1.9 | 30 | 22 | 20 | 15 | 1.25 | 5.0 | 5.0 | |

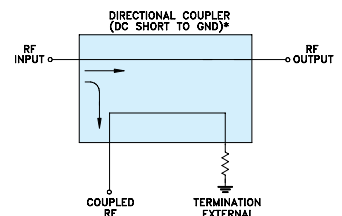
L = 30-200 MHz U = 200-500 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 30.00 | 1.17 | 7.33 | 26.24 | 20.09 | 18.15 | 16.30 |
| 100.00 | 1.27 | 7.42 | 28.87 | 21.78 | 20.14 | 17.62 |
| 150.00 | 1.30 | 7.44 | 27.70 | 22.10 | 19.90 | 17.78 |
| 200.00 | 1.33 | 7.44 | 25.89 | 22.33 | 19.53 | 17.84 |
| 245.00 | 1.35 | 7.42 | 24.50 | 22.30 | 19.21 | 17.83 |
| 300.00 | 1.39 | 7.39 | 22.71 | 22.35 | 18.90 | 17.72 |
| 350.00 | 1.43 | 7.35 | 21.38 | 22.18 | 18.74 | 17.56 |
| 400.00 | 1.47 | 7.30 | 20.11 | 21.78 | 18.56 | 17.39 |
| 450.00 | 1.52 | 7.25 | 18.98 | 21.18 | 18.42 | 17.16 |
| 500.00 | 1.59 | 7.20 | 17.94 | 20.33 | 18.31 | 16.87 |



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

For detailed performance specs & shipping online see web site



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IF/RF MICROWAVE COMPONENTS

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