

Surface Mount

Directional Coupler

NON-CATALOG

D18P

50Ω 1710 to 1990 MHz

Not Recommended For New Designs
Recommended Replacement Part:
D18PA+



CASE STYLE: CA531-1
PRICE: Contact Sales Dept.

Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -65°C to 150°C |

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

Pin Connections

| | |
|---------|-------|
| INPUT | 4 |
| OUTPUT | 6 |
| COUPLED | 3 |
| GROUND | 1,2,5 |

Features

- low mainline loss, 0.3 dB typ.
- excellent VSWR, 1.2:1 typ.
- excellent repeatability
- miniature low profile package
- aqueous washable

Applications

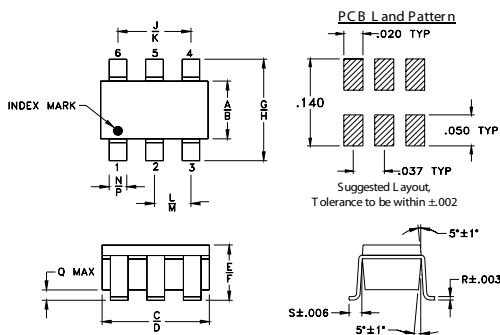
- PCS

Directional Coupler Electrical Specifications

| FREQ. RANGE (MHz) | COUPLING (dB) | MAINLINE LOSS ¹ (dB) | | DIRECTIVITY (dB) | | VSWR (:1) | POWER INPUT ² (W) |
|-------------------|---------------|---------------------------------|-----------|------------------|-----------|-----------|------------------------------|
| | | Nominal | Typ. Max. | Typ. Min. | Typ. Max. | | |
| 1710-1990 | 18.0±1.8 | 0.3 | 0.5 | 15 | 10 | 1.2 | 1.0 |

1. Mainline loss includes theoretical power loss at coupled port.
2. 4W CW when operating with a 2.0:1 maximum VSWR on all ports at 25°C.

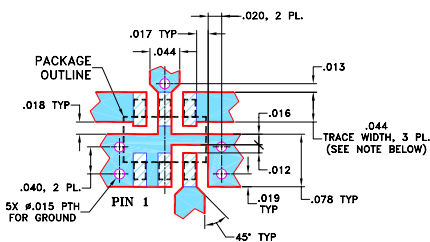
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | | | |
|------|------|------|------|------|------|------|------|-------|
| A | B | C | D | E | F | G | H | J |
| .052 | .067 | .106 | .122 | .035 | .064 | .087 | .118 | .067 |
| 1.32 | 1.70 | 2.69 | 3.10 | 0.89 | 1.63 | 2.21 | 3.00 | 1.70 |
| K | L | M | N | P | Q | R | S | wt |
| .083 | .033 | .042 | .012 | .020 | .012 | .006 | .018 | grams |
| 2.11 | 0.84 | 1.07 | 0.30 | 0.51 | 0.30 | 0.15 | 0.46 | 0.020 |

Demo Board MCL P/N: TB-396+ Suggested PCB Layout (PL-270)



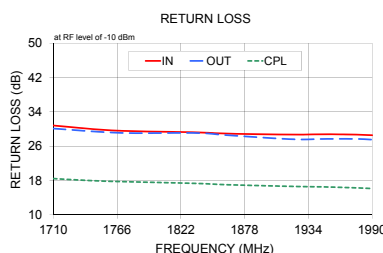
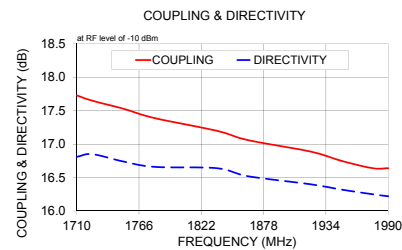
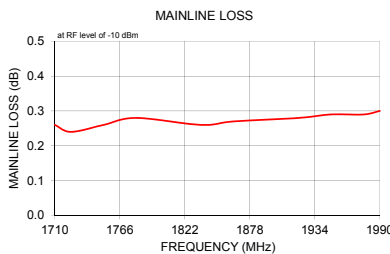
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

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

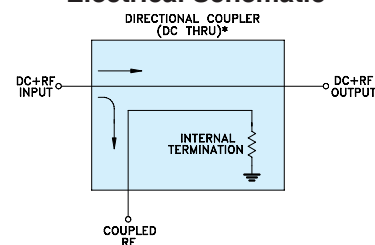
Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 1710.00 | 0.26 | 17.73 | 16.81 | 30.82 | 30.11 | 18.45 |
| 1724.00 | 0.24 | 17.65 | 16.85 | 30.48 | 29.84 | 18.24 |
| 1752.00 | 0.26 | 17.53 | 16.74 | 29.83 | 29.32 | 17.88 |
| 1780.00 | 0.28 | 17.39 | 16.66 | 29.50 | 29.04 | 17.68 |
| 1836.00 | 0.26 | 17.20 | 16.64 | 29.22 | 29.07 | 17.32 |
| 1864.00 | 0.27 | 17.06 | 16.52 | 28.92 | 28.54 | 17.01 |
| 1920.00 | 0.28 | 16.89 | 16.40 | 28.70 | 27.62 | 16.63 |
| 1948.00 | 0.29 | 16.75 | 16.32 | 28.78 | 27.69 | 16.51 |
| 1976.00 | 0.29 | 16.64 | 16.25 | 28.69 | 27.69 | 16.29 |
| 1990.00 | 0.30 | 16.64 | 16.22 | 28.56 | 27.53 | 16.13 |



Electrical Schematic



* ELECTRICAL SCHEMATIC FOR DIRECTIONAL COUPLER THAT IS DESIGNED WITHOUT INTERNAL TRANSFORMERS.

ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)

