

Directional Coupler

50Ω

500 to 1100 MHz

SCDC-11-2



CASE STYLE: YY161

PRICE: \$10.90 ea. QTY (25-49)

Maximum Ratings

Operating Temperature -40°C to 85°C

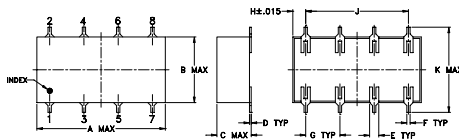
Storage Temperature -55°C to 100°C

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

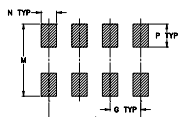
Pin Connections

INPUT	1
OUTPUT	2
COUPLED	5
GROUND	4,7,8
ISOLATE (DO NOT USE)	3,6

Outline Drawing



PCB Land Pattern

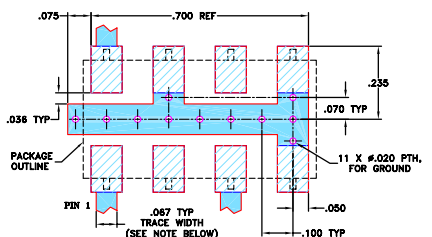
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G
0.75	0.38	0.28	0.01	0.05	0.02	0.2
19.05	9.65	7.11	0.25	1.27	0.51	5.08

H	J	K	M	N	P	wt
0.075	0.6	0.45	0.47	0.1	0.15	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.60

Demo Board MCL P/N: TB-35 Suggested PCB Layout (PL-096)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .030" ± .002".
COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

■ DENOTES PCB COPPER LAYOUT
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- low mainline loss, 1.1 dB typ.
- high directivity, 20 dB typ.
- excellent solderability

Applications

- communication
- cellular

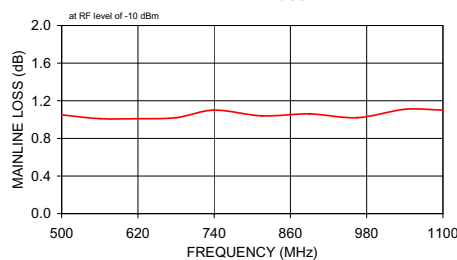
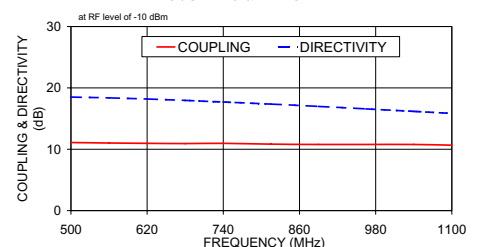
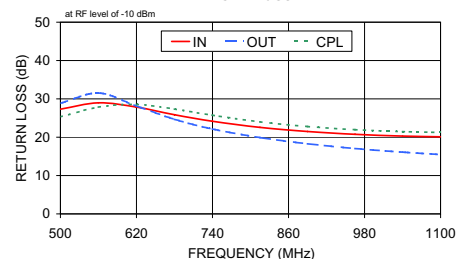
Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT, W
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
500-1100	11.3±0.5	±0.6	1.1	1.8	17	10	1.4	2

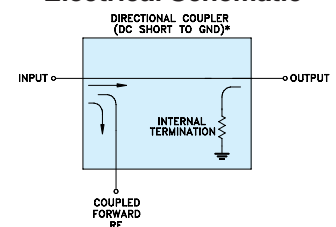
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
500.00	1.05	11.09	18.51	27.31	28.87	25.33
560.00	1.01	11.02	18.38	28.98	31.53	27.85
620.00	1.01	10.96	18.20	27.86	28.16	28.56
680.00	1.02	10.92	17.97	25.86	24.69	27.35
740.00	1.10	10.96	17.70	24.17	22.15	25.73
815.00	1.04	10.83	17.36	22.57	19.92	24.01
890.00	1.06	10.78	16.99	21.50	18.29	22.80
965.00	1.02	10.78	16.58	20.76	17.06	21.98
1040.00	1.11	10.78	16.18	20.30	16.11	21.48
1100.00	1.10	10.66	15.86	20.10	15.49	21.26

SCDC-11-2
MAINLINE LOSSSCDC-11-2
COUPLING & DIRECTIVITYSCDC-11-2
RETURN LOSS

Electrical Schematic



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

For detailed performance specs
& shopping online see web site

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IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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