

High Power Directional Coupler

50Ω 30 to 500 MHz

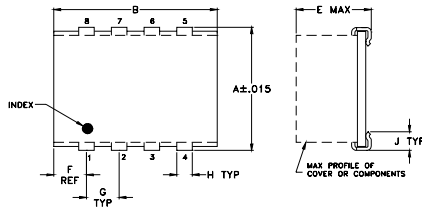
Maximum Ratings

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.	

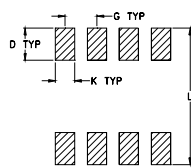
Pin Connections

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

Outline Drawing



PCB Land Pattern

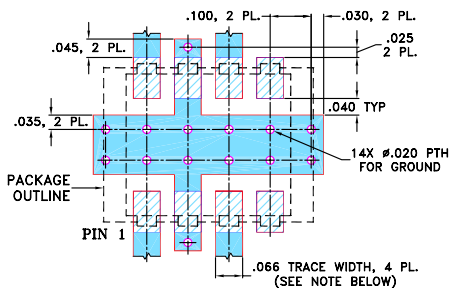


Suggested Layout,
Tolerance to be within ±0.02

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



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

Directional Coupler Electrical Specifications

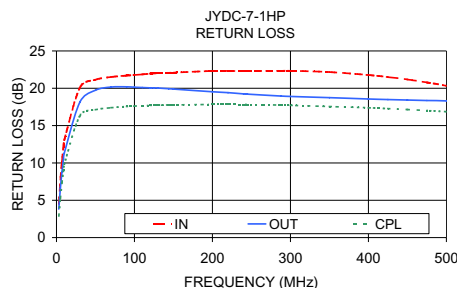
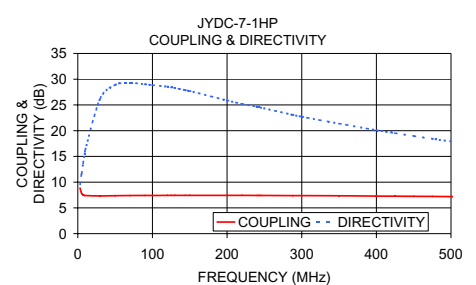
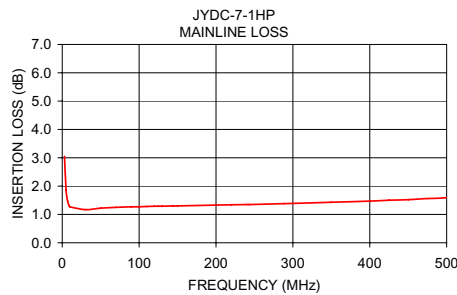
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)				DIRECTIVITY (dB)				VSWR (:1)	POWER INPUT, W	
			L		U		L		U			L	U
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
30-500	7.3±0.4	±0.2	1.3	1.6	1.4	1.9	30	22	20	15	1.25	5.0	5.0

L = 30-200 MHz U = 200-500 MHz

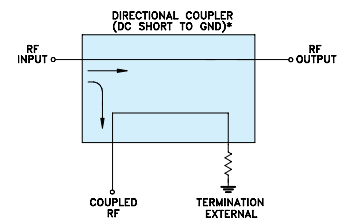
1. Mainline loss includes theoretical power loss at coupled port.

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.

Notes

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