

# Surface Mount Directional Coupler

75Ω 30 to 1000 MHz

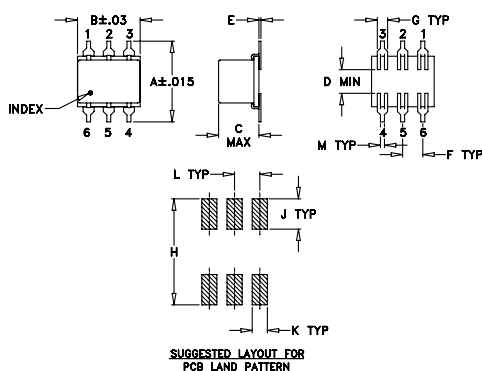
## Maximum Ratings

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

## Pin Connections

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

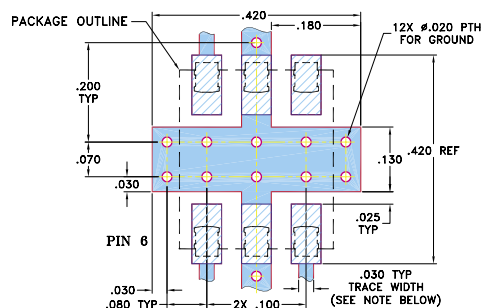
## Outline Drawing



## Outline Dimensions (inch)

A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27
H	J	K	L	M	wt	
.420	.120	.060	.100	.020	grams	
10.67	3.05	1.52	2.54	0.51	0.55	

## Demo Board MCL P/N: TB-34 Suggested PCB Layout (PL-043)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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

- low insertion loss, 1.1 dB typ.
- high directivity, 22 dB typ.

## Applications

- VHF/UHF
- cellular
- communications
- cable tv



CASE STYLE: QQQ130  
PRICE: \$13.95 ea. QTY (1-9)

**+ 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

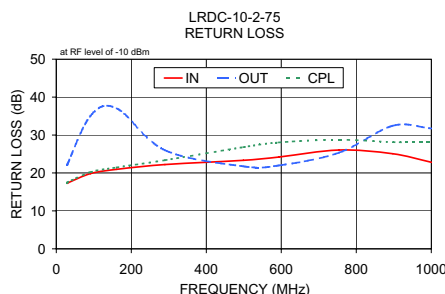
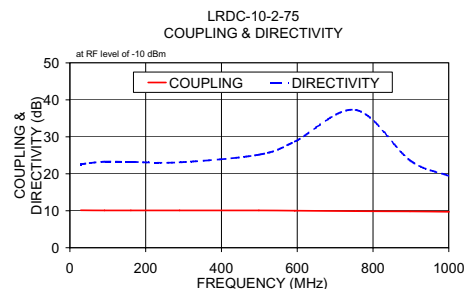
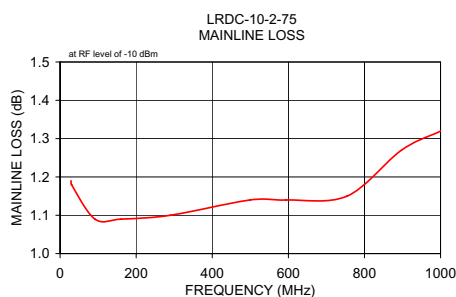
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U			L	MU
	f <sub>L</sub> -f <sub>U</sub>	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.		Min.	Typ.
30-1000	10.0±0.5	±0.6	1.0	1.5	1.1	1.5	1.3	1.8	21	17	22	17	19	15	1.3	1.0	1.0

L = low range [f<sub>L</sub> to 10 f<sub>L</sub>] M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

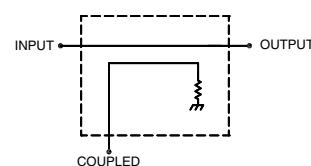
1. Mainline loss includes theoretical power loss at coupled port.

## Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
28.88	1.19	10.13	22.47	17.24	22.09	17.46
30.16	1.18	10.12	22.61	17.35	22.42	17.57
91.46	1.09	10.08	23.28	19.85	35.09	20.23
161.00	1.09	10.08	23.22	20.96	37.04	21.47
289.64	1.10	10.08	23.11	22.21	26.01	23.37
498.87	1.14	10.08	25.17	23.34	21.75	26.81
593.68	1.14	10.03	28.72	24.21	21.99	28.05
754.14	1.15	9.89	37.29	26.06	25.35	28.78
897.47	1.27	9.83	23.63	25.07	32.45	28.13
1000.56	1.32	9.71	19.42	22.80	31.75	28.13



## electrical schematic



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REV. B  
M102713  
LRDC-10-2-75  
WZ/TD/CP  
060718