

Surface Mount Directional Coupler

75Ω 30 to 1000 MHz

LRDC-10-2-75+ LRDC-10-2-75



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.

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

Features

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

Applications

- VHF/UHF
- cellular
- communications
- cable tv

Directional Coupler Electrical Specifications

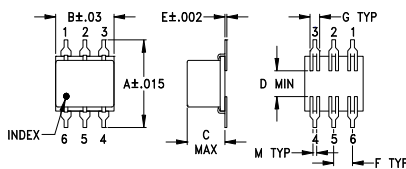
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U				
	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
f_L - f_U			1.0	1.5	1.1	1.5	1.3	1.8	21	17	22	17	19	15	1.3	1.0	1.0
30-1000	10.0±0.5	±0.6															

L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]
1. Mainline loss includes theoretical power loss at coupled port.

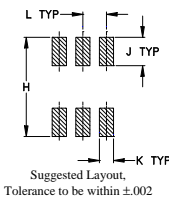
Typical Performance Data

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

Outline Drawing



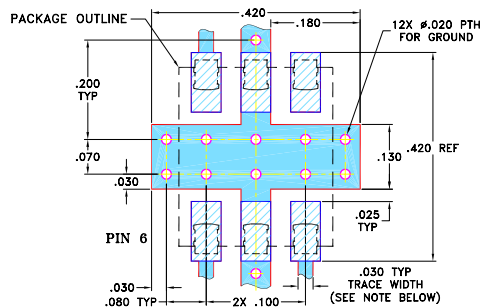
PCB Land Pattern



Outline Dimensions (inch)

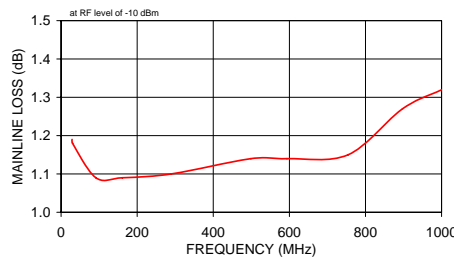
A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27
H	J	K	L	M	wt	
.420	.120	.060	.100	.020	grams	
10.67	3.05	1.52	2.54	0.51	grams	0.55

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

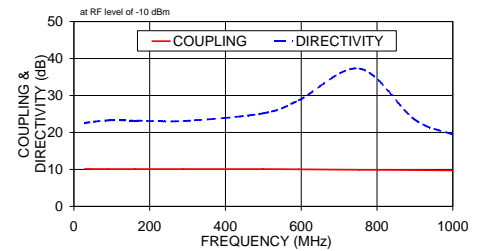


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

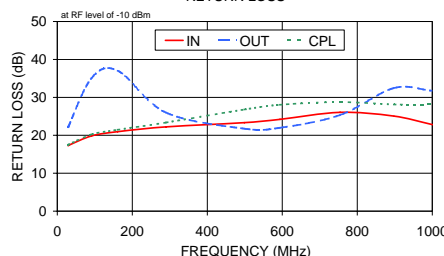
LRDC-10-2-75
MAINLINE LOSS



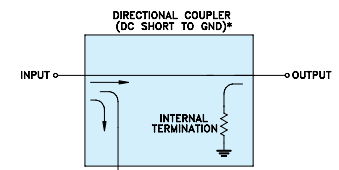
LRDC-10-2-75
COUPLING & DIRECTIVITY



LRDC-10-2-75
RETURN LOSS



Electrical Schematic



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

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