Surface Mount

Directional Coupler

75Ω 30 to 1200 MHz

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

CASE STYLE: QQQ130
PRICE: $15.95 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

Pin Connections

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

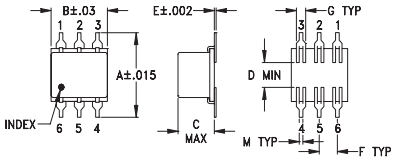
Features

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

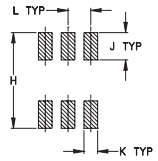
Applications

- VHF/UHF
- cellular
- communications
- cable tv

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

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

Directional Coupler Electrical Specifications

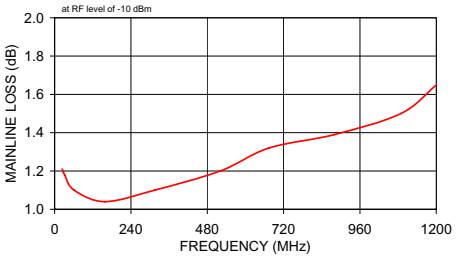
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS[1] (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U			L	MU
f_L-f_U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
30-1200	10.0±0.5	±0.8	1.0	1.5	1.1	1.6	1.3	2.0	21	17	22	17	18	15	1.3	1.0	1.0

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.

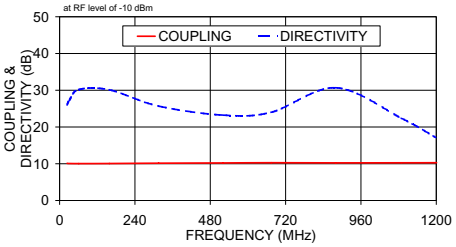
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) In	Return Loss (dB) Out	Return Loss (dB) Cpl
23.68	1.21	10.10	26.05	21.46	17.01	17.25
31.16	1.18	10.06	27.31	23.65	17.77	17.99
61.06	1.10	10.05	30.20	31.44	19.11	19.37
158.23	1.04	10.06	30.12	28.87	19.46	19.51
315.21	1.10	10.15	25.69	20.41	17.63	17.24
520.77	1.20	10.22	23.25	16.78	15.56	15.15
674.01	1.32	10.29	23.99	15.97	14.88	14.50
879.57	1.39	10.25	30.70	17.10	15.37	14.92
1088.87	1.50	10.27	22.42	21.86	17.37	17.06
1201.00	1.65	10.28	17.05	27.27	18.70	19.19

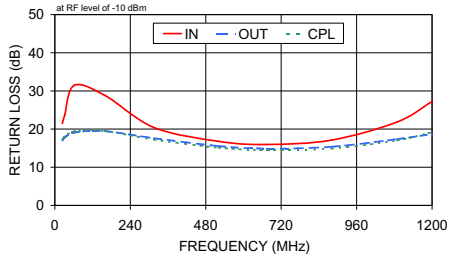
LRDC-10-2W-75
MAINLINE LOSS



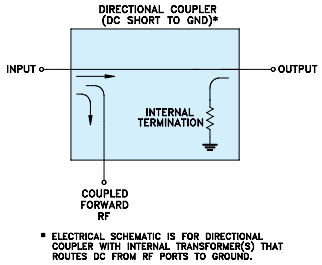
LRDC-10-2W-75
COUPLING & DIRECTIVITY



LRDC-10-2W-75
RETURN LOSS

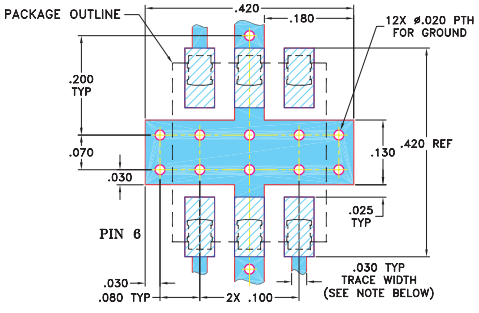


Electrical Schematic



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

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

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