

Surface Mount Directional Coupler

LRDC-12-1-75

75Ω 5 to 600 MHz



CASE STYLE: QQQ130
PRICE: \$11.95 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, 0.5 dB typ.
- high directivity, 21 dB typ.

Applications

- VHF/UHF
- signal sampling
- communications
- cable tv

Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W			
	Nom.	Flatness	L		M		U		L		M		U			Typ.	L	MU	
f_L - f_U			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
5-600	12.2±0.5	±0.6	0.4	0.8	0.5	1.0	0.8	1.5	20	17	21	18	20	12	1.3	1.0	1.0		

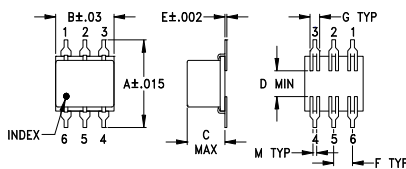
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

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

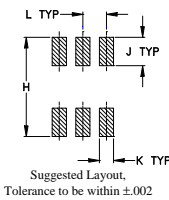
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	0.68	12.25	27.30	24.93	36.02	24.62
6.00	0.67	12.24	27.29	25.25	37.90	24.76
8.00	0.66	12.24	27.30	25.59	41.55	24.92
10.00	0.67	12.24	27.29	25.75	45.26	24.96
100.00	0.69	12.26	25.97	24.35	29.52	24.21
200.00	0.71	12.27	23.92	21.73	23.91	23.15
300.00	0.77	12.28	22.07	19.81	20.80	21.77
400.00	0.79	12.20	20.71	18.62	19.03	20.45
500.00	0.84	12.11	19.85	18.13	18.22	19.44
600.00	0.92	12.05	19.38	18.26	18.28	18.73

Outline Drawing



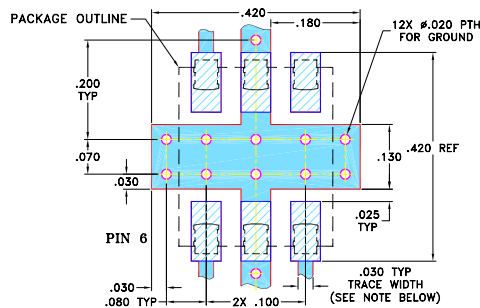
PCB Land Pattern



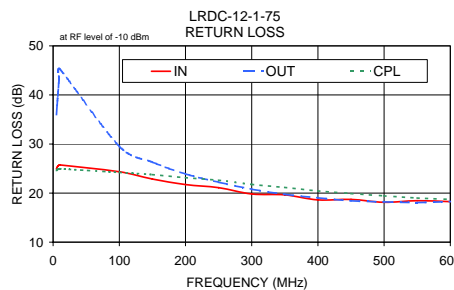
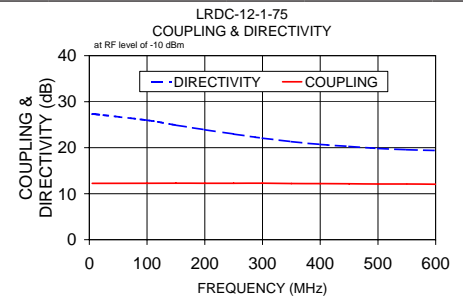
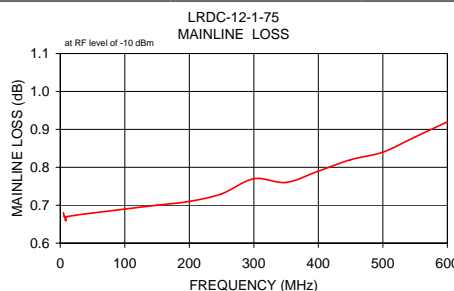
Outline Dimensions (inch)

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	0.55	

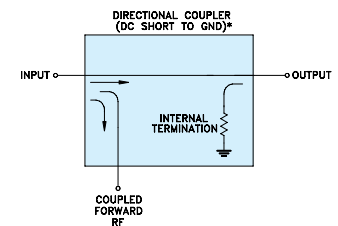
Demo Board MCL P/N: TB-34 Suggested PCB Layout (PL-043)



- 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



Electrical Schematic



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

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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 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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