

Surface Mount Directional Coupler

50Ω 5 to 1000 MHz

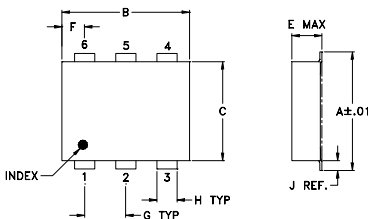
Maximum Ratings

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.	

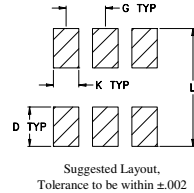
Pin Connections

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

Outline Drawing



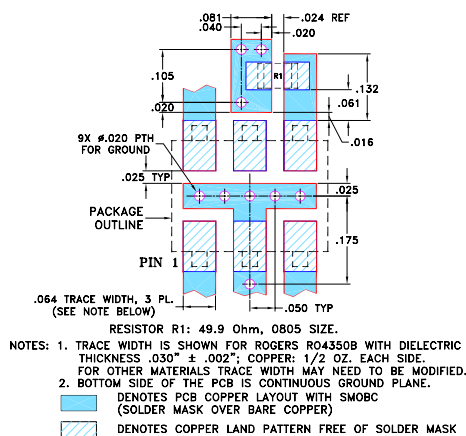
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54
H	J	K	L			wt
.030	.026	.065	.300			grams
0.76	0.66	1.65	7.62			0.20

Demo Board MCL P/N: TB-05 Suggested PCB Layout (PL-095)



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited 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

Features

- wideband, 5-1000 MHz
- low mainline loss, 0.6 dB typ.
- high directivity, 24 dB typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- cable tv
- communications



Generic photo used for illustration purposes only

CASE STYLE: CD542

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500, 1000

Directional Coupler Electrical Specifications

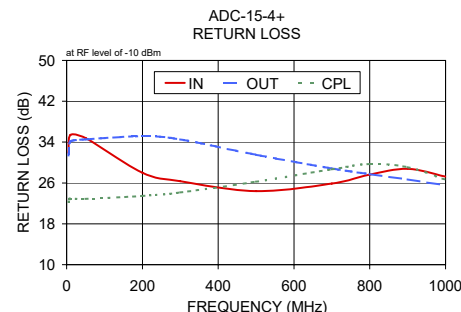
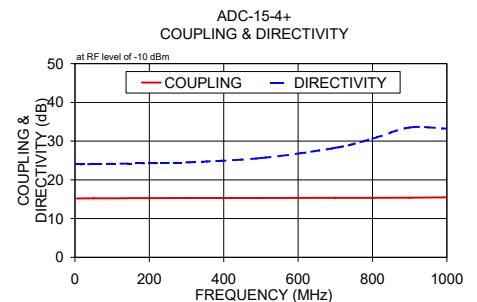
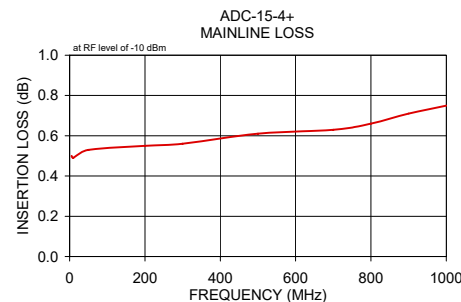
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W	
	Nom.	Flatness	L Typ. Max.	M Typ. Max.	U Typ. Max.	L Typ. Min.	M Typ. Min.	U Typ. Min.		L Max.	MU Max.
5-1000	15.5±0.5	±0.5	0.6 1.0	0.6 1.0	0.8 1.2	23 20	24 20	28 17	1.20	1.0	1.0

L= 5-50 MHz M= 50-500 MHz U= 500-1000 MHz

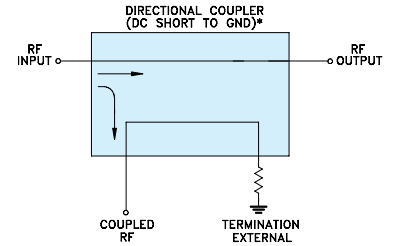
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)	
				In	Out
5.00	0.50	15.21	24.01	31.88	31.38
10.00	0.49	15.19	23.99	35.41	34.12
50.00	0.53	15.23	24.08	34.79	34.52
200.00	0.55	15.28	24.31	28.00	35.16
300.00	0.56	15.30	24.52	26.35	34.54
500.00	0.61	15.32	25.64	24.41	31.51
700.00	0.63	15.34	28.27	25.88	28.84
800.00	0.66	15.36	30.62	27.63	27.73
900.00	0.71	15.42	33.51	28.77	26.69
1000.00	0.75	15.49	33.23	27.25	25.54



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.



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