

Surface Mount Directional Coupler

ADC-15-4-75+ ADC-15-4-75

75Ω 5 to 1000 MHz



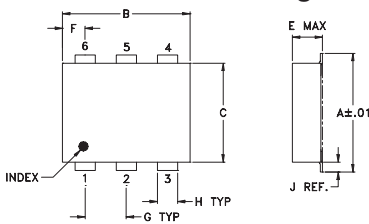
Maximum Ratings

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

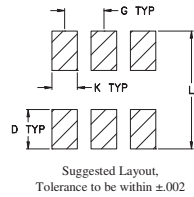
Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
75Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

Outline Drawing



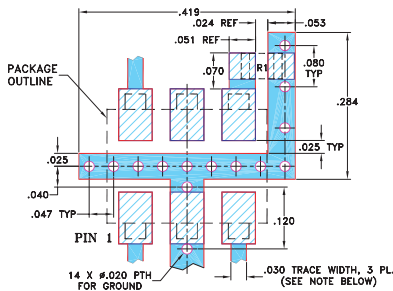
PCB Land Pattern



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-08 Suggested PCB Layout (PL-042)



- RESISTOR R1: 75 Ohm, 0805 SIZE.
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - 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

- wideband, 5-1000 MHz
- low mainline loss, 0.7 dB typ.
- good directivity, 20 dB typ.
- good VSWR, 1.2:1 typ.
- excellent coupling flatness, ±0.1 dB typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- cable tv
- communications

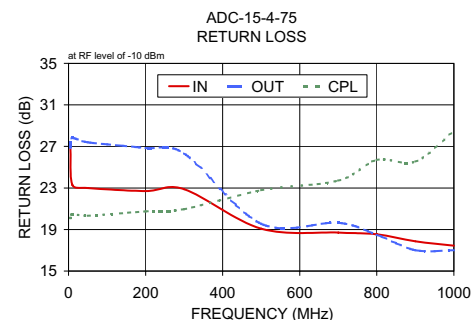
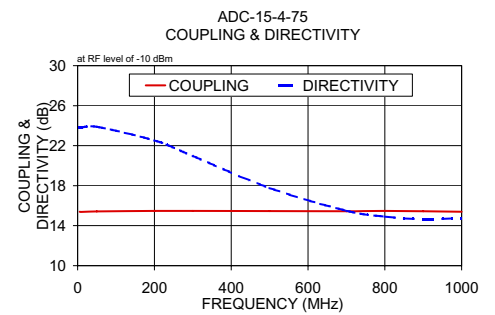
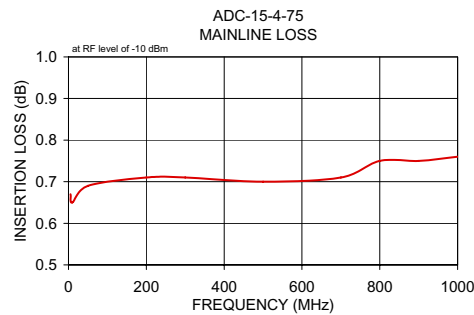
Directional Coupler Electrical Specifications

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 Max.	MU Max.					
f _L -f _U			Typ.	Max.	Typ.	Max.	Typ.	Max.									
5-1000	15.5±0.5	±0.5	0.7	1.2	0.7	1.0	0.8	1.2	23	18	20	14	16	11	1.2	1.0	1.0

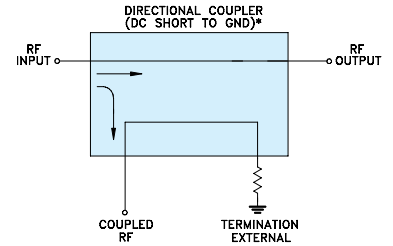
L= 5-50 MHz M= 50-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
5.00	0.67	15.39	23.83	26.83	26.83	20.08
10.00	0.65	15.37	23.82	23.29	27.82	20.48
50.00	0.69	15.42	23.89	23.00	27.40	20.33
200.00	0.71	15.47	22.52	22.71	26.85	20.75
300.00	0.71	15.48	20.96	22.88	26.32	20.96
500.00	0.70	15.46	17.77	19.08	19.55	22.78
700.00	0.71	15.44	15.49	18.70	19.65	23.70
800.00	0.75	15.47	14.90	18.55	18.50	25.69
900.00	0.75	15.44	14.64	17.87	17.00	25.53
1000.00	0.76	15.40	14.75	17.44	17.01	28.50



Electrical Schematic



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



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS

REV. D
M119986
ED-6528/3
ADC-15-4-75
WZ/TD/CP/AM
081111