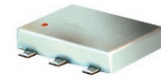


# Directional Coupler

## ADC-12-7550+

50/75Ω

5 to 1000 MHz



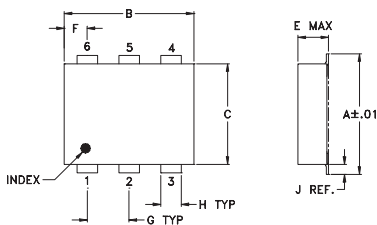
### Maximum Ratings

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

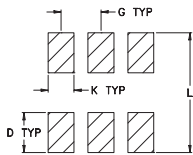
### Pin Connections

INPUT 75Ω	1
OUTPUT 75Ω	6
COUPLED 50Ω	3
GROUND	2
50Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

### Outline Drawing



### PCB Land Pattern

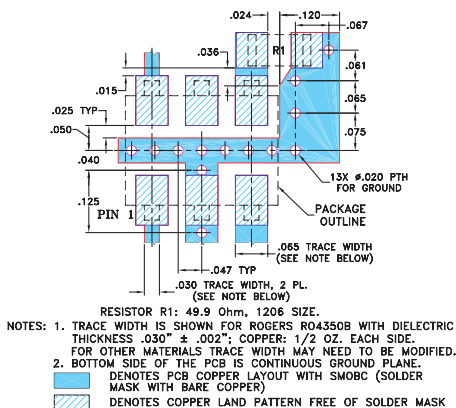


Suggested Layout.  
Tolerance to be within ±.002

### 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-358 Suggested PCB Layout (PL-215)



### Features

- wideband, 5-1000 MHz
- low mainline loss, 0.7 dB typ.
- excellent IN/OUT VSWR, 1.2:1 typ.
- unique circuit, 75Ω at IN/OUT and 50Ω at CPL
- aqueous washable
- protected by US Patents 6,133,525 & 6,140,887

### Applications

- CATV

CASE STYLE: CD542

PRICE: \$6.95 ea. QTY (10-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Directional Coupler Electrical Specifications

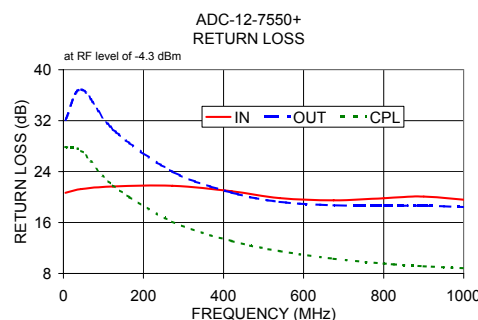
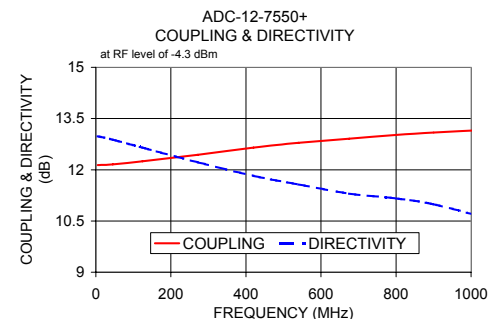
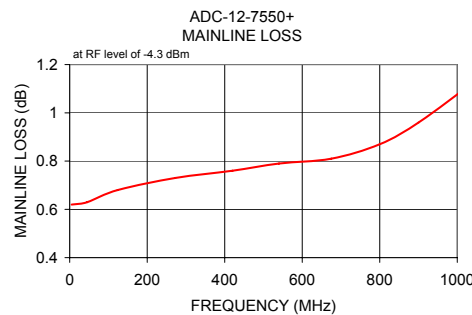
FREQ. (MHz)	COUPLING at 50Ω (dB)		MAINLINE LOSS at 75Ω (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT (W)						
	Nom.	Flatness	L	M	U	L	M	U								
5-1000	12.5±1.0	±1.0	Typ. 0.6	Max. 1.0	Typ. 0.7	Max. 1.2	Typ. 0.85	Max. 1.8	Typ. 13	Min. 10	Typ. 12	Min. 9	Typ. 11	Min. 7	Typ. 1.5	Max. 1.0

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

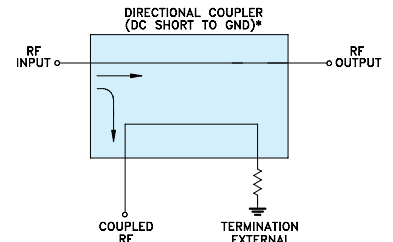
1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	0.62	12.14	12.98	20.67	32.11	27.86
45.00	0.63	12.16	12.88	21.27	36.89	27.24
124.00	0.68	12.25	12.65	21.67	30.63	21.83
272.00	0.73	12.44	12.22	21.77	24.00	16.13
420.00	0.76	12.65	11.82	20.91	20.71	13.09
540.00	0.79	12.79	11.57	19.83	19.25	11.53
675.00	0.81	12.91	11.30	19.50	18.71	10.32
800.00	0.87	13.02	11.16	19.81	18.63	9.57
900.00	0.96	13.09	10.99	20.08	18.64	9.14
1045.00	1.13	13.17	10.58	19.34	18.34	8.69



### 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](http://www.minicircuits.com)

IF/RF MICROWAVE COMPONENTS

REV. A  
M119986  
ED-12367  
ADC-12-7550+  
DY/LC/CP/AM  
081111