

Surface Mount Directional Coupler

75Ω 40 to 1000 MHz

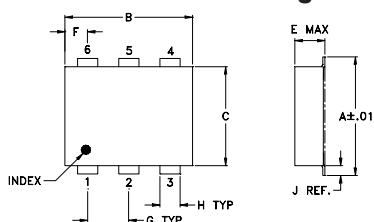
Maximum Ratings

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.	

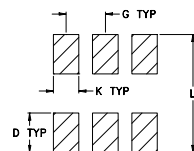
Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2,5
NOT USED	4

Outline Drawing



PCB Land Pattern

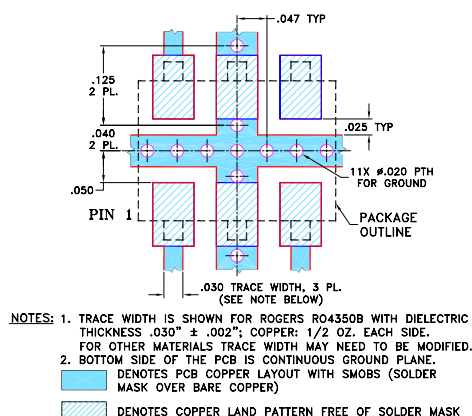


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54
H	J	K	L		wt	
.030	.026	.065	.300		grams	
0.76	0.66	1.65	7.62		0.25	

Demo Board MCL P/N: TB-356 Suggested PCB Layout (PL-213)



Features

- wideband, 40-1000 MHz
- low mainline loss, 0.6 dB typ.
- excellent VSWR, 1.1:1 typ.
- internal load, no external components required
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- cable tv

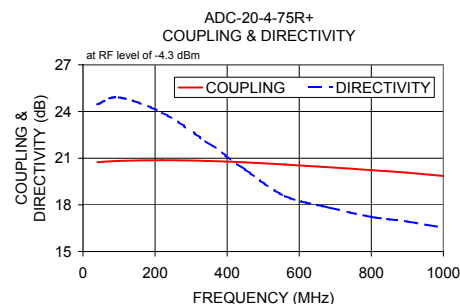
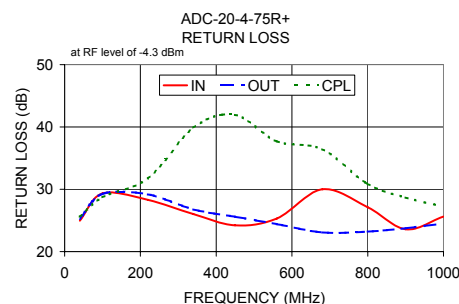
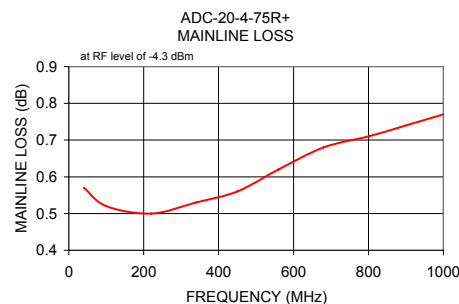
Directional Coupler Electrical Specifications

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.
40-1000	20.5±0.5	±0.8	0.5 0.8	0.6 0.9	0.7 1.2	24 17	20 15	17 12	1.10	1.0	1.0

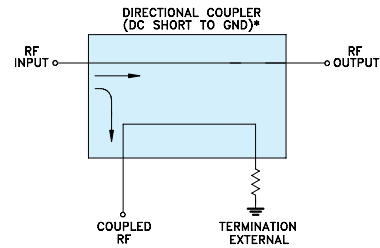
L= 40-400 MHz M= 400-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
40.00	0.57	20.74	24.46	24.97	25.29	25.60
100.00	0.52	20.82	24.90	29.34	29.25	28.73
220.00	0.50	20.87	23.92	28.31	29.17	31.75
340.00	0.53	20.82	22.10	26.02	26.77	39.90
450.00	0.56	20.73	20.26	24.23	25.60	41.94
560.00	0.62	20.59	18.57	25.31	24.40	37.70
680.00	0.68	20.42	17.84	30.01	23.08	36.42
800.00	0.71	20.23	17.23	27.10	23.22	30.86
900.00	0.74	20.07	16.93	23.57	23.74	28.67
1000.00	0.77	19.86	16.53	25.62	24.50	27.23



Electrical Schematic



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

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-Circuits' applicable established test performance criteria and measurement instructions.
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ADC-20-4-75R+



CASE STYLE: CD636

+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

REV. B
M151107
ED-12356/2
ADC-20-4-75R+
DY/LC/CP/AM
171019