

Directional Coupler

75Ω

20 to 1000 MHz

ADC-18-4-75R+



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

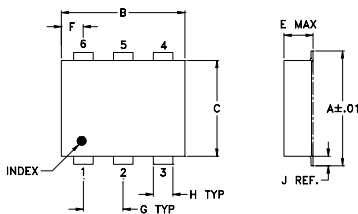
Maximum Ratings

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.	

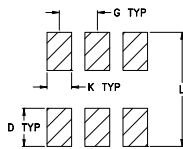
Pin Connections

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

Outline Drawing



PCB Land Pattern

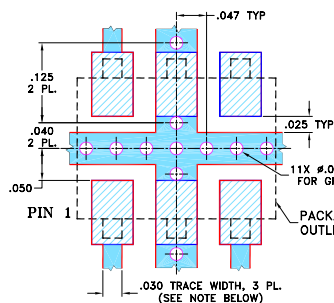


Suggested Layout,
Tolerance to be within ±0.02

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-356 Suggested PCB Layout (PL-213)



- NOTES: 1. 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.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. DENOTES PCB COPPER LAYOUT WITH SMOBS (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 20-1000 MHz
- good directivity, 25 dB typ.
- excellent VSWR, 1.15:1 typ.
- internal load, no external components required
- aqueous washable
- protected by US Patent 6,133,525 & 6,140,887

Applications

- CATV power tap

Directional Coupler Electrical Specifications

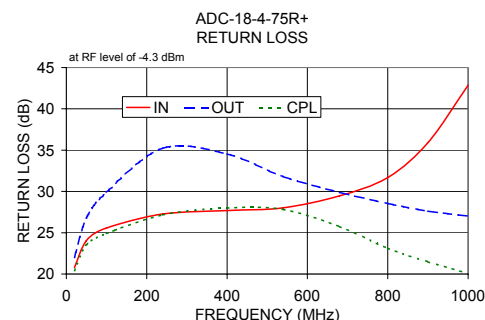
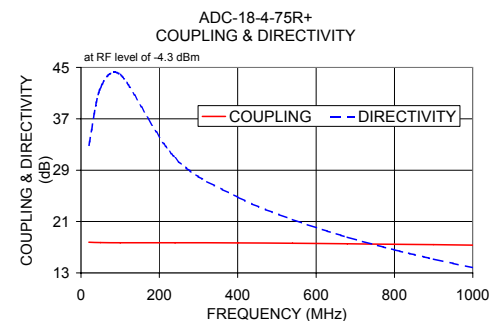
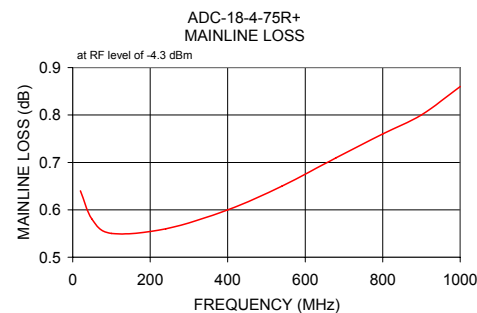
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W
			L			U			L		M		U			
			Typ.	Max.		Typ.	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.		
f _L -f _U	Nom.	Flatness														
20-1000	17.7±0.5	±0.5	0.6	1.0	0.5	0.9	0.7	1.2	30	19	25	18	20	11	1.15	1.0

L= 20-200 MHz M= 200-500 MHz U= 500-1000 MHz

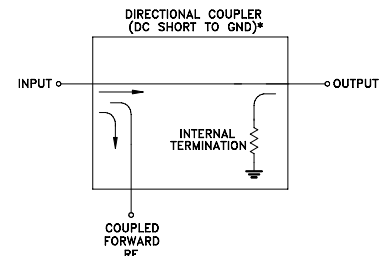
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
20.00	0.64	17.79	32.89	20.76	22.00	20.42
50.00	0.58	17.73	41.84	24.04	26.77	23.55
100.00	0.55	17.70	43.88	25.58	29.90	24.90
240.00	0.56	17.71	30.92	27.26	35.24	27.17
400.00	0.60	17.67	24.83	27.68	34.53	28.00
540.00	0.65	17.63	21.34	28.01	31.80	27.82
680.00	0.71	17.55	18.57	29.46	29.91	25.76
800.00	0.76	17.47	16.59	31.69	28.56	23.12
900.00	0.80	17.40	15.17	35.90	27.62	21.50
1000.00	0.86	17.33	13.84	42.87	27.02	20.11



Electrical Schematic



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

Notes

- A. 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.
B. 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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