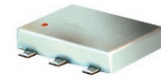


# Directional Coupler

## ADC-18-4-75R+

75Ω

20 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	2,5
NOT USED	4

### 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

CASE STYLE: CD542

PRICE: \$7.95 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 (dB)		MAINLINE LOSS <sup>1</sup> (dB)				DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W					
	Nom.	Flatness	L	M	U	L	M	U								
$f_L$ - $f_U$			Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Max.				
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

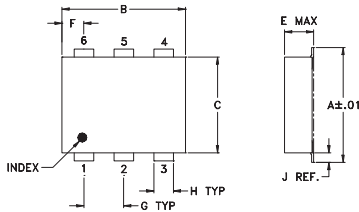
L= 20-200 MHz M= 200-500 MHz U= 500-1000 MHz

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

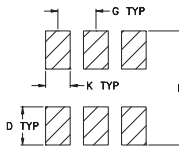
### Typical Performance Data

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

### Outline Drawing



### PCB Land Pattern

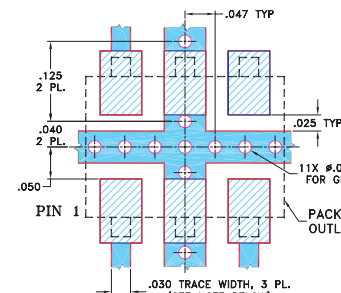


Suggested Layout, Tolerance to be within ±0.02

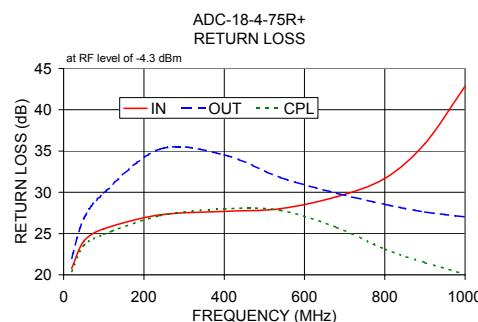
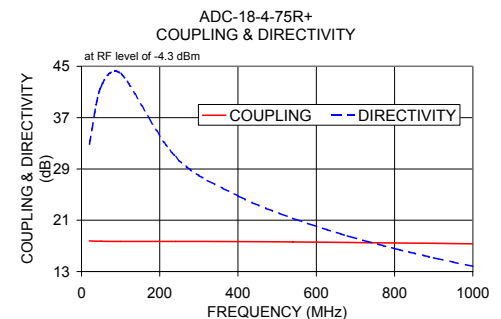
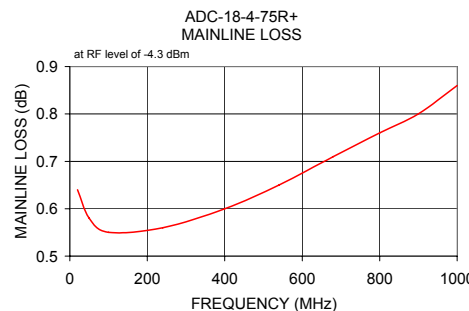
### Outline Dimensions (inch/mm)

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

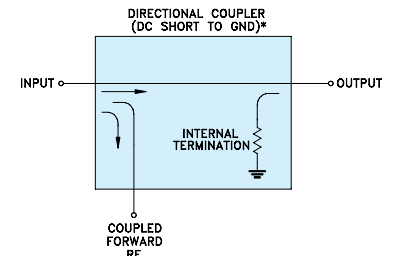
### Demo Board MCL P/N: TB-356 Suggested PCB Layout (PL-213)



- 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.  
 ■ DENOTES PCB COPPER LAYOUT WITH SMOBS (SOLDER MASK OVER BARE COPPER)  
 ■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK



### Electrical Schematic



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

