Surface Mount

Directional Coupler

ADC-18-4-75R+

75Ω 20 to 1000 MHz

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.

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

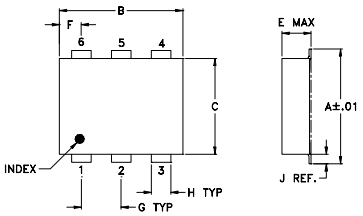
Features

- 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

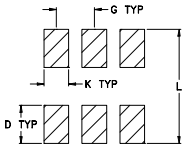
Applications

- CATV power tap

Outline Drawing



PCB Land Pattern



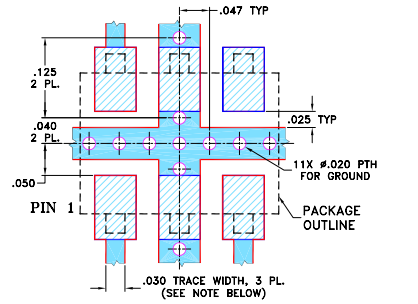
Suggested Layout,
Tolerance to be within ±.002

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-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

Directional Coupler Electrical Specifications

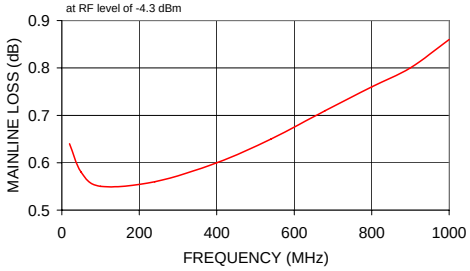
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS[1] (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W
			L		M		U		L		M		U			
f_L-f_U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.
20-1000	17.7±0.5	±0.5	0.6	1.0	0.5	0.9	0.7	1.2	30	19	25	18	20	11	1.15	1.0

L= 20-200 MHz M= 200-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

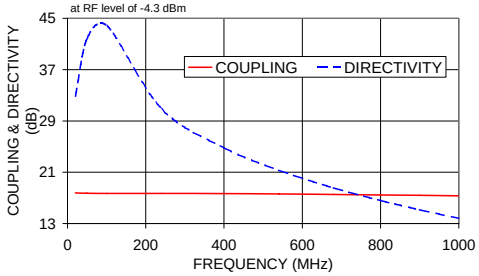
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) In	Return Loss (dB) Out	Return Loss (dB) 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

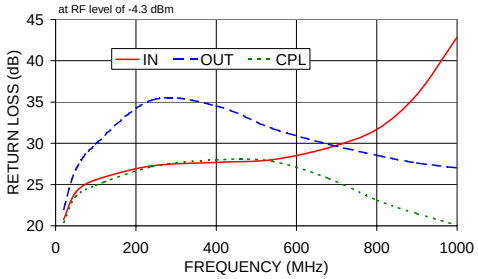
ADC-18-4-75R+
MAINLINE LOSS



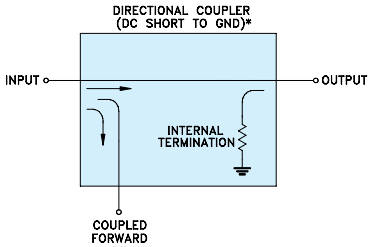
ADC-18-4-75R+
COUPLING & DIRECTIVITY



ADC-18-4-75R+
RETURN LOSS



Electrical Schematic



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

For detailed performance specs & shopping online see web site

REV. A
M119986
ED-12361/1
ADC-18-4-75R+
DY/LC/CP/AM
090903