



**THE DATASHEET OF
ADC-20-4+**



Surface Mount Directional Coupler

ADC-20-4+

50Ω 5 to 1000 MHz

Maximum Ratings

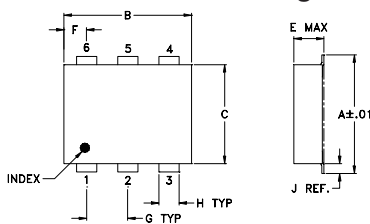
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

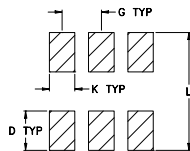
Pin Connections

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

Outline Drawing



PCB Land Pattern



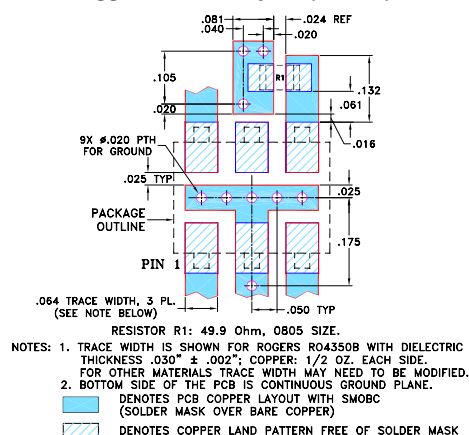
Suggested Layout,
Tolerance to be within ±.002

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-05 Suggested PCB Layout (PL-095)



Features

- wideband, 5-1000 MHz
- low mainline loss, 0.5 dB typ.
- high directivity, 21 dB typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- cable tv
- communications



Generic photo used for illustration purposes only
CASE STYLE: CD542

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500, 1000

Directional Coupler Electrical Specifications

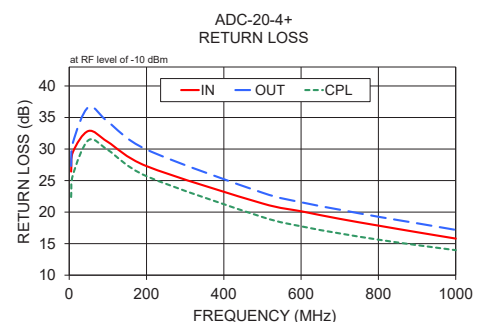
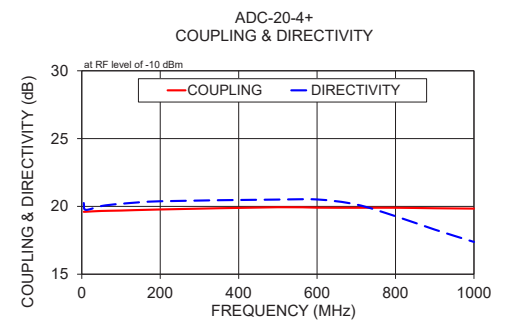
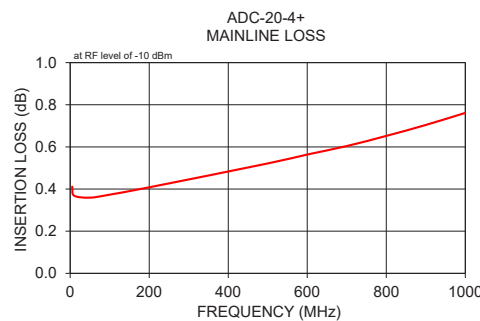
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W							
	Nom.	Flatness	L	M	U	L	M	U		Typ.	L	MU					
f _L -f _U			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.						
5-1000	20.0±0.5	±0.8	0.4	0.8	0.5	1.0	0.7	1.3	20	18	21	17	21	15	1.1	1.0	1.0

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

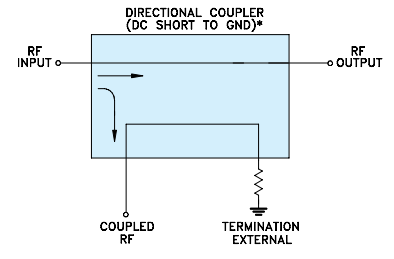
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
5.00	0.41	19.60	20.25	26.42	27.32	22.39
10.00	0.37	19.61	19.75	29.58	31.08	25.96
50.00	0.36	19.67	20.03	32.86	36.64	31.40
100.00	0.37	19.69	20.19	31.12	34.33	29.86
200.00	0.41	19.77	20.38	27.29	29.92	25.70
500.00	0.52	19.94	20.50	21.37	23.07	19.21
600.00	0.56	19.91	20.51	20.13	21.56	17.75
700.00	0.60	19.90	20.14	18.93	20.38	16.62
800.00	0.65	19.90	19.28	17.86	19.26	15.63
900.00	0.70	19.86	18.29	16.81	18.23	14.77
1000.00	0.76	19.84	17.38	15.80	17.18	13.97



Electrical Schematic



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

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.
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