

Surface Mount Directional Coupler

50Ω 10 to 500 MHz

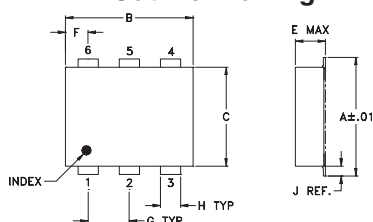
Maximum Ratings

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

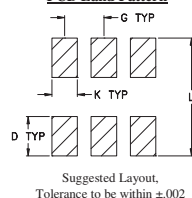
Pin Connections

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

Outline Drawing



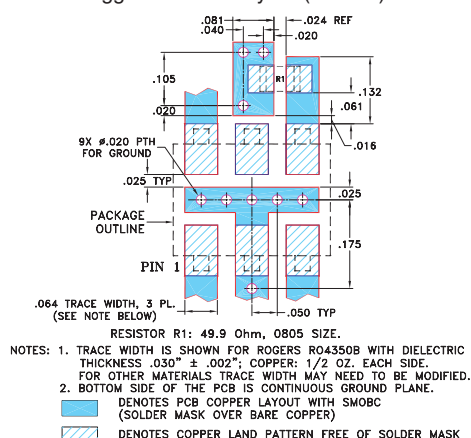
PCB Land Pattern



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-05 Suggested PCB Layout (PL-095)



Features

- wideband, 10-500 MHz
- low insertion loss, 0.2 dB typ.
- high directivity, 21 dB typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

Applications

- VHF/UHF
- reflective power measurements
- communications
- signal sampling

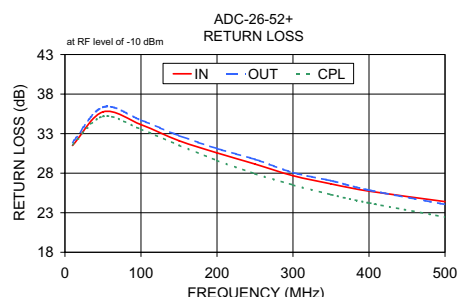
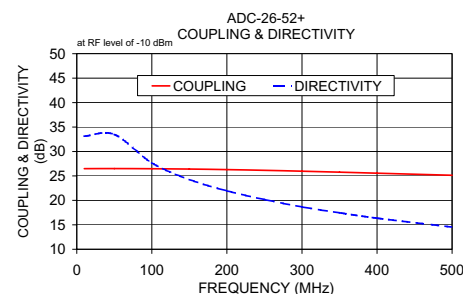
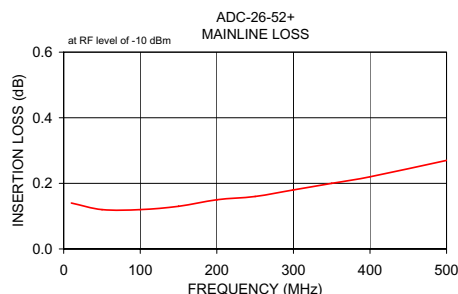
Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT (W)	
			L		M		U		L		M		U				
	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		Typ.	Max.
f _L -f _U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	MU Max.
10-500	26.0±0.5	±0.9	0.15	0.25	0.2	0.3	0.3	0.5	35	22	25	16	18	11	1.1	5	5

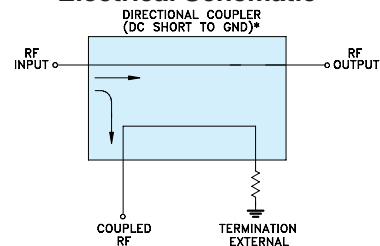
L= 10-100 MHz M= 100-250 MHz U= 250-500 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out	In-Cpl		In	Out	Cpl
10.00	0.14	26.49	33.14	31.50	31.90	31.60
50.00	0.12	26.51	33.50	35.75	36.35	35.18
100.00	0.12	26.48	27.68	34.14	34.71	33.55
150.00	0.13	26.41	24.27	32.10	32.76	31.53
200.00	0.15	26.29	21.96	30.57	31.12	29.61
250.00	0.16	26.14	20.19	29.15	29.75	27.93
300.00	0.18	25.97	18.67	27.68	28.08	26.51
350.00	0.20	25.77	17.46	26.65	27.05	25.29
400.00	0.22	25.56	16.37	25.73	25.86	24.24
500.00	0.27	25.14	14.54	24.41	24.06	22.45



Electrical Schematic



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

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