

Surface Mount Directional Coupler

50Ω

5 to 1000 MHz

Maximum Ratings

Operating Temperature -40°C to 85°C

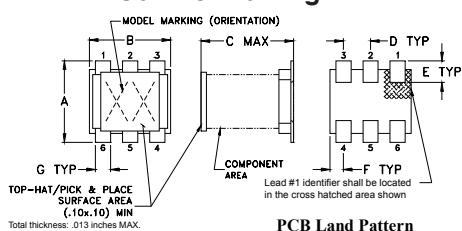
Storage Temperature -55°C to 100°C

* Case temperature is defined as temperature on ground leads. Permanent damage may occur if any of these limits are exceeded.

Pin Connections

INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
50Ω TERM EXTERNAL	6
NOT USED	5

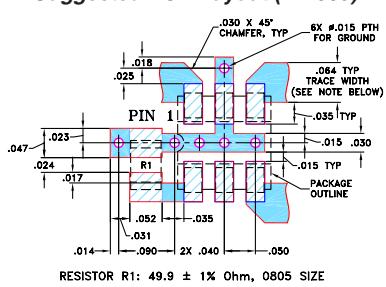
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.15

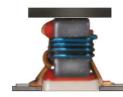
Demo Board MCL P/N: TB-71 Suggested PCB Layout (PL-009)



Features

- wideband, 5 to 1000 MHz
- low mainline loss, 0.7 dB typ.
- aqueous washable
- leads for excellent solderability
- protected by US Patent 6,140,887

TCD-13-4X+



CASE STYLE: DB1627

PRICE: \$1.49 ea. QTY(20)

+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, 500
13"	1000, 2000

Applications

- VHF/UHF
- CATV
- cellular

Electrical Specifications

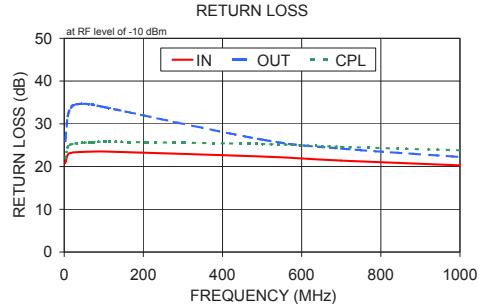
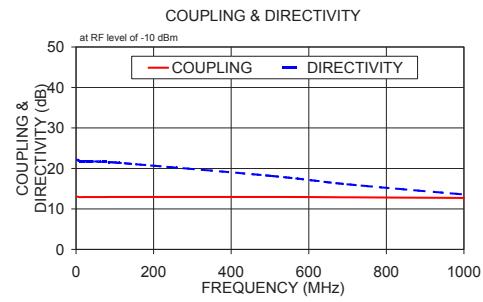
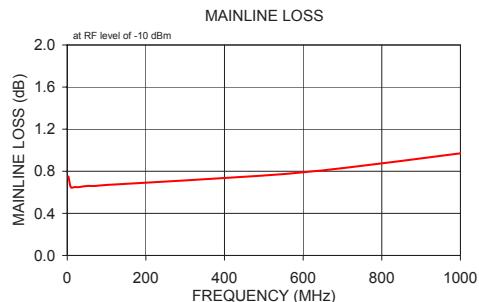
FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W		
	f _L -f _U	Nom.	Flatness	L	M	U	L	M	U			
5-1000	13.0±0.5	±0.6	0.7	1.3	0.7	1.3	21	17	18	1.20	0.5	1.0

L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]

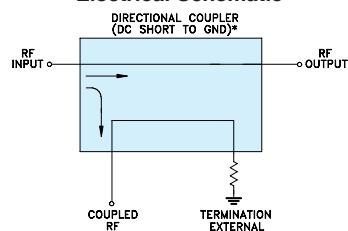
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
3.00	0.75	13.03	22.20	20.84	25.98	21.97
9.00	0.65	12.92	21.84	22.79	31.81	24.61
18.00	0.65	12.93	21.83	23.21	33.94	25.22
30.00	0.65	12.93	21.74	23.36	34.53	25.43
50.00	0.66	12.94	21.71	23.44	34.67	25.58
70.00	0.66	12.94	21.62	23.49	34.47	25.69
100.00	0.67	12.96	21.48	23.51	33.94	25.79
500.00	0.76	12.96	18.19	22.34	26.31	25.28
700.00	0.83	12.87	16.07	21.40	24.21	24.61
1000.00	0.97	12.71	13.56	20.29	22.25	23.79



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.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

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