

Surface Mount Directional Coupler

75Ω

5 to 1000 MHz

TCD-13-4-75+ TCD-13-4-75



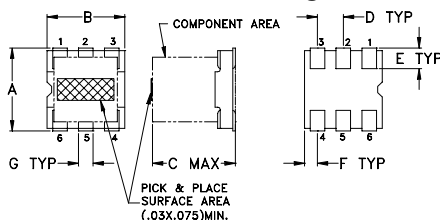
Maximum Ratings

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

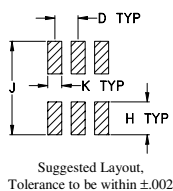
Pin Connections

INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2
75Ω TERM EXTERNAL	6
NOT USED	5

Outline Drawing



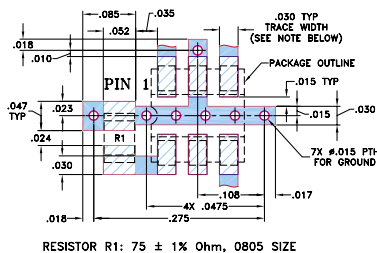
PCB Land Pattern



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-72 Suggested PCB Layout (PL-010)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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 SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 5 to 1000 MHz
- low insertion loss, 0.8 dB typ.
- aqueous washable
- leads for excellent solderability
- protected by US Patent 6,140,887

Applications

- VHF/UHF
- CATV
- cellular

CASE STYLE: DB714
PRICE: \$1.49 ea. QTY (25)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Directional Coupler Electrical Specifications

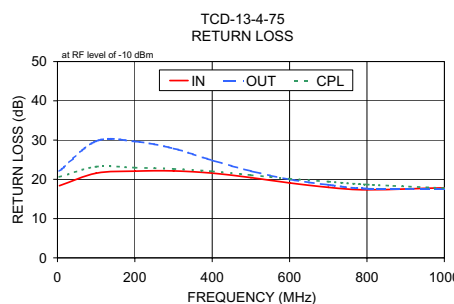
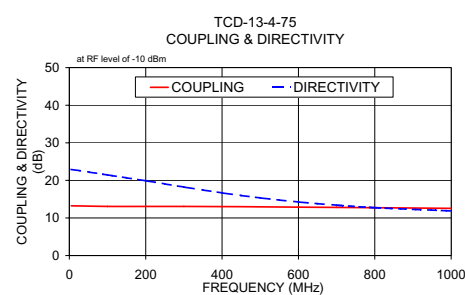
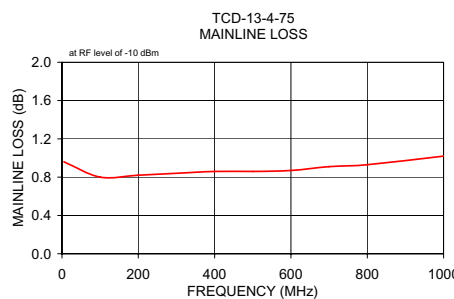
FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W		
	Nom.	Flatness	L		M		U		L		M		U			Typ.	L	MU
			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.				
5-1000	13.0±0.5	±0.9	1.0	1.8	0.8	1.3	1.1	1.5	22	17	15	—	12	—	1.20	0.5	1.0	

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
5.00	0.96	13.23	22.93	18.39	22.11	20.63
100.00	0.80	13.07	21.46	21.56	29.75	23.23
200.00	0.82	13.07	19.90	22.09	29.67	22.99
300.00	0.84	13.06	18.25	22.15	27.88	22.67
400.00	0.86	13.03	16.68	21.58	24.86	22.04
500.00	0.86	12.96	15.34	20.44	22.11	21.08
600.00	0.87	12.88	14.27	19.08	19.99	20.15
700.00	0.91	12.82	13.42	17.97	18.61	19.42
800.00	0.93	12.73	12.75	17.33	17.64	18.67
1000.00	1.02	12.56	11.88	17.83	17.63	17.78



electrical schematic

