

Surface Mount Directional Coupler

75Ω 10 to 750 MHz

TCD-10-1W-75+ TCD-10-1W-75



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.

Maximum Ratings

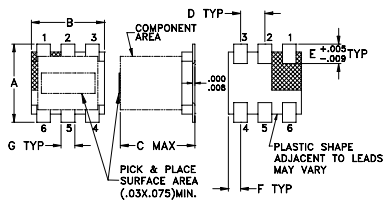
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

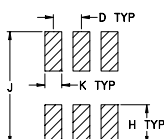
Pin Connections

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

Outline Drawing



PCB Land Pattern

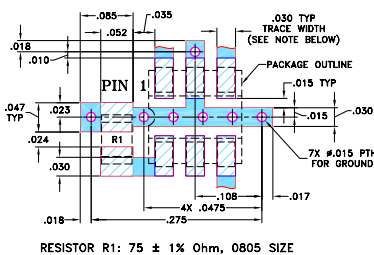


Suggested L layout,
Tolerance to be within ±.002

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)



RESISTOR R1: 75 ± 1% Ohm, 0805 SIZE

- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 10 to 750 MHz
- low mainline loss, 1.4 dB typ.
- aqueous washable
- leads for excellent solderability
- protected by US Patent 6,140,887

Applications

- VHF/UHF
- CATV
- communications

Directional Coupler Electrical Specifications

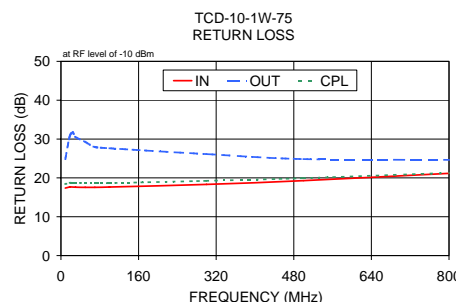
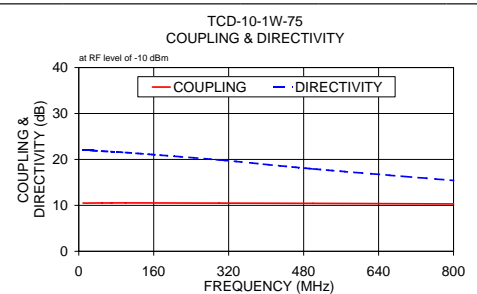
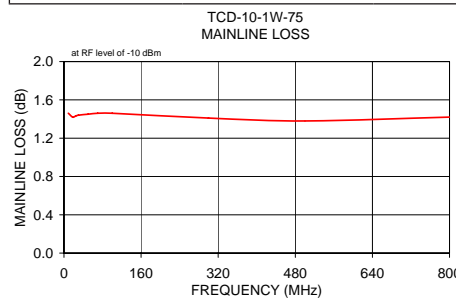
FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W				
	Nom.	Flatness	L		M		U		L	M	U		Typ.	L	MU		
10-750	10.5±0.5	±0.7	1.6	2.1	1.4	1.9	1.5	2.0	22	17	18	14	14	—	1.30	0.5	1.0

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]

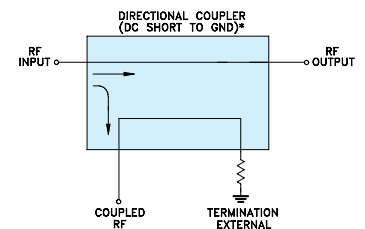
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
9.00	1.46	10.50	22.09	17.37	24.83	18.42
18.00	1.42	10.49	22.05	17.64	30.73	18.75
24.00	1.43	10.50	22.01	17.64	31.76	18.75
30.00	1.44	10.51	21.95	17.61	30.54	18.73
50.00	1.45	10.53	21.81	17.56	29.29	18.70
70.00	1.46	10.53	21.69	17.57	27.94	18.68
100.00	1.46	10.54	21.52	17.64	27.64	18.69
300.00	1.41	10.49	19.89	18.33	26.14	19.24
500.00	1.38	10.43	17.95	19.30	24.85	19.95
800.00	1.42	10.31	15.43	21.16	24.64	21.29



Electrical Schematic



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

For detailed performance specs & shopping online see web site

Mini-Circuits
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IF/RF MICROWAVE COMPONENTS

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