

Surface Mount Directional Coupler

TCD-20-4-75+

75Ω

40 to 1200 MHz



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

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

Features

- wideband, 40-1200 MHz
- excellent flatness, ±0.5 dB typ. each band
- better performance than MA-COM EMDC-20-2-75
- footprint compatible to EMDC-10-1-75
- aqueous washable

Applications

- CATV

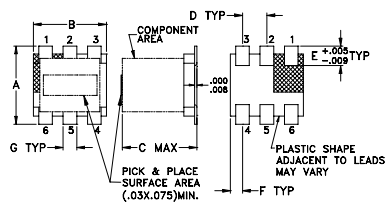
Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT, W
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
f_L - f_U								
40-500	21±0.5	±0.8	0.5	0.9	20	15	1.15	1.0
500-870	20±0.6	±0.8	0.6	1.0	23	16	1.15	1.0
870-1200	19.5±0.7	±0.8	0.6	1.1	20	14	1.15	1.0

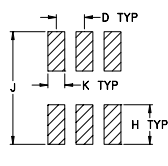
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Outline Drawing



PCB Land Pattern



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

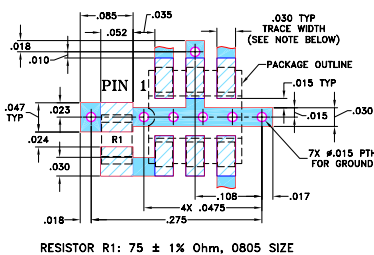
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out	In-Cpl			In	Out	Cpl
40.00	0.58	21.64	17.52	23.40	24.77	23.38	
150.00	0.51	21.32	22.55	26.56	29.03	26.72	
300.00	0.52	21.04	27.40	25.81	26.94	27.36	
500.00	0.55	20.52	34.93	23.79	23.55	25.86	
650.00	0.55	20.11	25.14	24.15	23.07	25.34	
850.00	0.59	19.53	23.06	26.52	24.05	24.00	
1000.00	0.65	19.12	23.38	29.12	26.11	23.57	
1050.00	0.68	18.96	21.95	30.51	26.75	22.99	
1100.00	0.69	18.81	21.82	31.20	26.49	23.19	
1200.00	0.73	18.51	20.42	32.12	27.62	23.06	

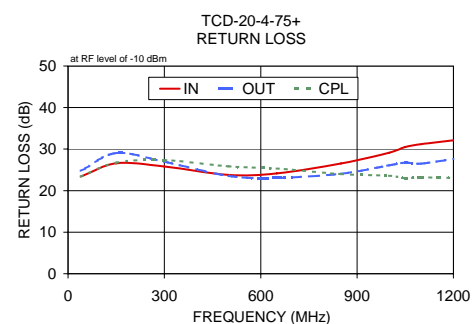
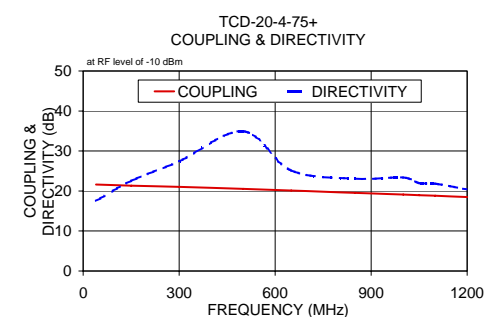
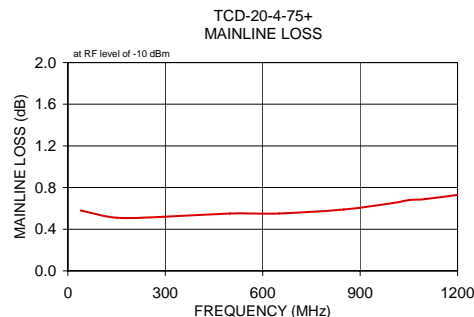
Outline Dimensions (inch/mm)

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	

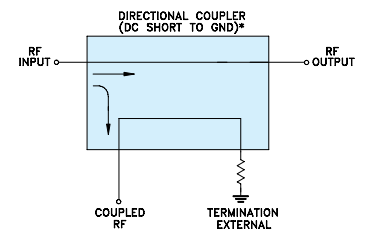
Demo Board MCL P/N: TB-72 Suggested PCB Layout (PL-010)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS 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



Electrical Schematic



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

For detailed performance specs & shopping online see web site



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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