

Surface Mount Directional Coupler

75Ω

40 to 1200 MHz

TCD-20-4-75+



Maximum Ratings

Operating Temperature -40°C to 85°C

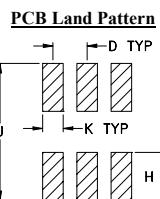
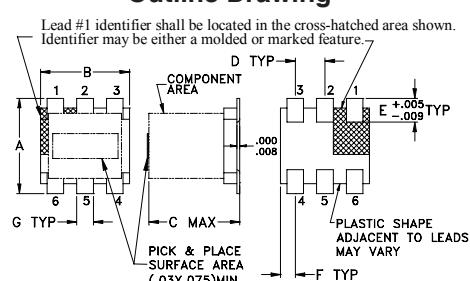
Storage Temperature -55°C to 100°C

* 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

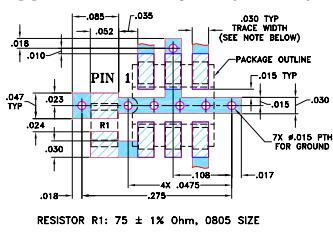


Outline Dimensions (inch/mm)

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)



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

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

+RoHS Compliant

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

Applications

- CATV

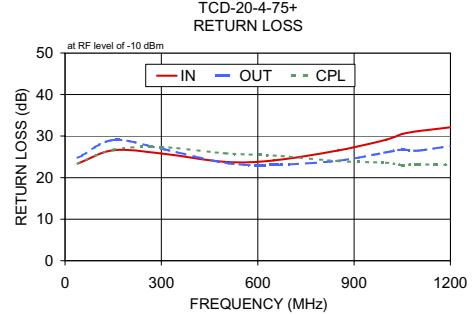
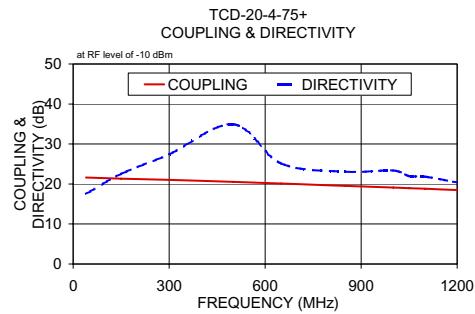
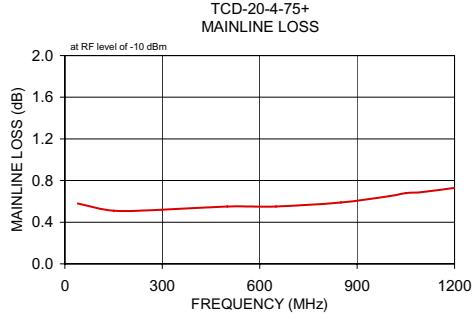
Directional Coupler Electrical Specifications

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

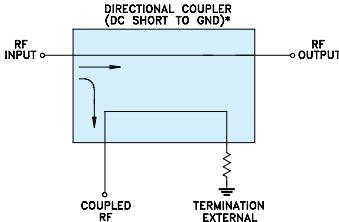
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

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



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-Circuits' applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document 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