TCD-10-4-75X+

 75Ω 5 to 1000 MHz

Features

- wideband, 5-1000 MHz
- excellent flatness, ±0.1 dB typ.
- better performance than MA-COM EMDC-10-1-75
- footprint compatible to EMDC-10-1-75
- aqueous washable

Applications

• ĊĀTV



Generic photo used for illustration purposes only

CASE STYLE: AT1521

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



Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Тур.	Max.	Unit
Frequency Range		5		1000	MHz
	5-50	_	1.0	1.5	
Mainline Loss ¹	5-500	_	1.1	1.5	dB
	500-1000	_	1.3	1.9	
Nominal Coupling	5-1000		9.9±0.5		dB
Coupling Flatness(±)	5-1000		±0.3		dB
	5-50	19	22	_	
Directivity	5-500	13	20	_	dB
	500-1000	11	15	_	
VSWR	5-1000	_	1.25	_	:1
Input Power	5-1000	_	_	1.0	W

^{1.} Mainline loss includes theoretical power loss at coupled port.

Maximum Ratings

Parameter	Ratings		
Operating Temperature	-40°C to 85°C*		
Storage Temperature	-55°C to 100°C		

Permanent damage may occur if any of these limits are exceeded.

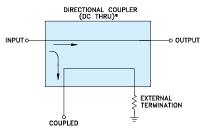
Pin Connections

Function	Pin Number		
INPUT	3		
OUTPUT	4		
COUPLED	1		
GROUND	2		
75Ω TERM EXTERNAL	6		

Product Marking



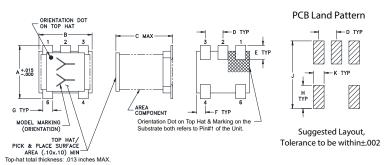
Electrical Schematic



 ELECTRICAL SCHEMATIC FOR DIRECTIONAL COUPLERS REQUIRING EXTERNAL TERMINATION THAT IS DESIGNED WITHOUT INTERNAL TRANSFORMERS.

^{*} Case temperature is defined as temperature on ground leads.

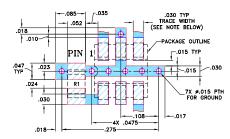
Outline Drawing



Outline Dimensions (inch)

В Ε wt .150 .150 .160 .050 .040 .025 .028 .065 .190 .030 grams 3.81 4.06 1.27 1.02 0.64 0.71 1.65 4.83 0.76 0.15 3.81

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



RESISTOR R1: 75 \pm 1% Ohm, 0805 SIZE

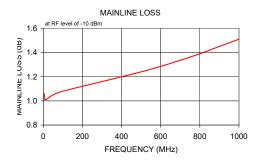
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

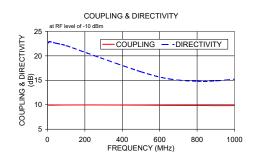
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

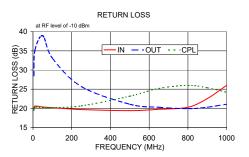
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Oút	ln-Cpl		In	Out	Cpl
5.00	1.06	9.94	22.66	19.73	28.50	19.46
10.00	1.01	9.94	22.91	20.57	35.13	20.26
50.00	1.05	9.93	22.54	20.35	38.95	20.20
100.00	1.08	9.95	22.09	20.17	33.10	20.18
250.00	1.14	9.96	20.05	19.68	25.68	20.63
500.00	1.24	9.92	16.74	19.39	21.07	23.17
650.00	1.31	9.86	15.28	19.74	20.28	25.18
800.00	1.39	9.85	14.81	20.28	19.92	25.99
900.00	1.45	9.82	14.88	22.54	20.29	25.37
1000.00	1.51	9.83	15.23	26.00	21.07	24.19







Additional 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.
- 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