# Surface Mount Directional Coupler

75Ω

10 to 1000 MHz

#### Features

- wideband, 10 to 1000 MHz
- low mainline loss, 0.7 dB typ.
- aqueous washable
- leads for excellent solderability
  protected by US Patent 6,140,887

#### Applications

- VHF/UHF
- CATV
- cellular





Generic photo used for illustration purposes only

CASE STYLE: DB1627

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

	Available Tape and Reel at no extra cost
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

#### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Тур.	Max.	Unit	
Frequency Range		10		1000	MHz	
Mainline Loss <sup>1</sup>	10 - 100	_	0.9	1.3		
	100 - 500	_	0.7	1.2	dB	
	500 - 1000	_	0.8	1.3		
Nominal Coupling	10 - 1000	_	18.0±0.5	_	dB	
Coupling Flatness(±)	10 - 1000	_	±0.9	_	dB	
	10 - 100	15	20	_		
Directivity	100 - 500	15	22	_	dB	
	500 - 1000	_	18	_		
VSWR	10 - 1000	_	1.20	_	:1	
han t Davier	10 - 100	-	_	1.0	14/	
Input Power	100 - 1000	_	_	1.0	W	

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

#### **Maximum Ratings**

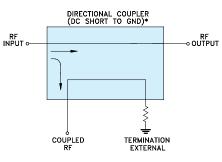
Parameter	Ratings		
Operating Temperature	-40°C to 85°C*		
Storage Temperature -55°C to 100°C			
Permanent damage may occur if any of these limits are exceeded.			

\* Case temperature is defined as temperature on ground leads.

#### **Pin Connections**

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

#### **Electrical Schematic**



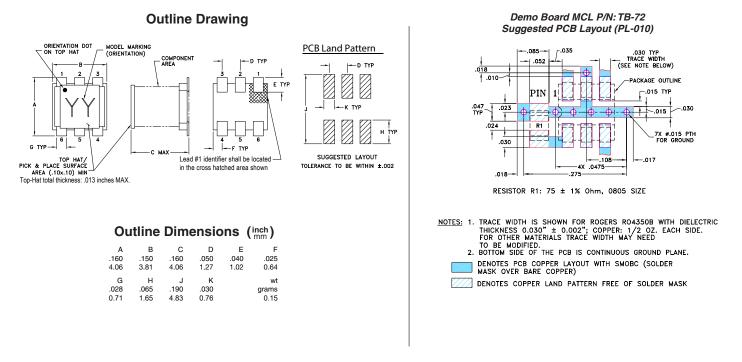
\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

REV. A M151107 ED-8563/1 TCD-18-4-75X+ WZ/TD/CP/AM 191009 Page 1 of 2

### **Product Marking**

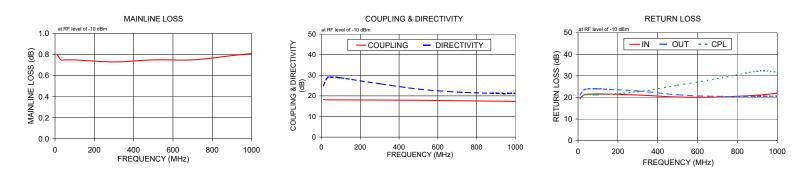


## TCD-18-4-75X+



#### **Typical Performance Data**

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
· · · ·	In-Out	In-Cpl		In	Òuť	Cpl
10.00	0.80	18.25	24.89	19.65	21.19	19.31
30.00	0.75	18.09	28.81	21.21	23.47	21.05
50.00	0.75	18.07	29.10	21.46	23.88	21.36
90.00	0.75	18.05	28.90	21.60	23.98	21.20
100.00	0.75	18.05	28.77	21.62	23.96	21.20
300.00	0.73	18.00	25.91	21.12	23.00	22.63
500.00	0.75	17.87	23.32	20.19	21.20	25.64
700.00	0.75	17.64	21.87	20.17	20.48	28.73
900.00	0.79	17.44	21.22	21.04	20.47	32.11
1000.00	0.81	17.34	21.19	21.96	20.60	31.73



#### **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



## **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Mini-Circuits: TCD-18-4-75X+