Surface Mount Directional Coupler

50Ω

5 to 1000 MHz

Features

- wideband, 5 to 1000 MHz
- low mainline loss, 0.7 dB typ.
- aqueous washable
- leads for excellent solderability
 protected by US Patent 6,140,887

Applications

- communications
- signal sampling
- level detection





Generic photo used for illustration purposes only

CASE STYLE: DB714

+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

Parameter	Frequency (MHz)	Min.	Тур.	Max.	Unit	
Frequency Range		5		1000	MHz	
Mainline Loss ¹	5 - 50	—	0.7	1.3		
	50 - 500	_	0.7	1.1	dB	
	500 - 1000	_	1.0	1.4		
Nominal Coupling	5 - 1000	_	17.9±0.5	—	dB	
Coupling Flatness(±)	5 - 1000	—	±0.6	—	dB	
	5 - 50	11	22	—		
Directivity	50 - 500	15	20	_	dB	
	500 - 1000	_	18	_		
VSWR	5 - 1000	_	1.20	—	:1	
Input Power	5 - 50	_	_	1.0	W	
	50 - 1000	_	_	1.0		

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

Maximum Ratings

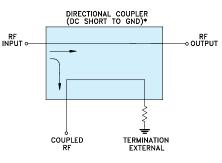
Parameter	Ratings		
Operating Temperature	-40°C to 85°C*		
Storage Temperature -55°C to 100°C			
Permanent damage may occur if any of these limits are exceeded.			

* Case temperature is defined as temperature on ground leads.

Pin Connections

Function	Pin Number		
INPUT	3		
OUTPUT	4		
COUPLED	1		
GROUND	2		
50Ω TERM EXTERNAL	6		
NOT USED	5		

Electrical Schematic



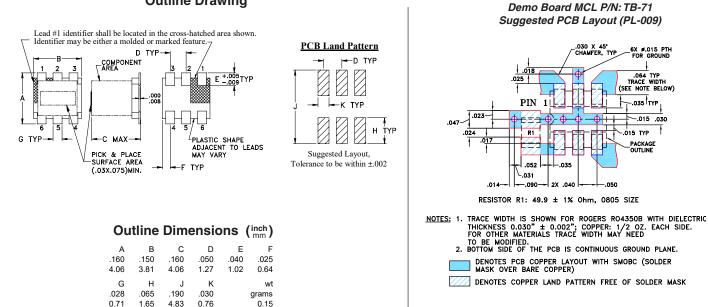
* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

REV. H M151107 ED-8563/1 TCD-18-4X WZ/TD/CP/AM 191104 Page 1 of 2



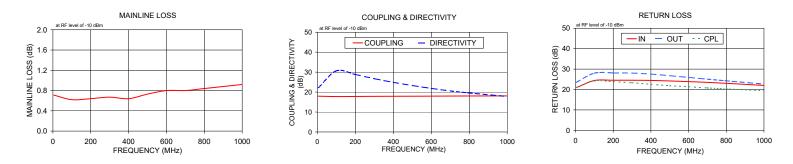
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Outline Drawing



Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
()	In-Out	In-Cpl		In	Out	Cpl
5.00	0.71	17.93	22.13	20.96	23.54	21.00
100.00	0.62	17.76	30.64	24.40	28.02	24.20
200.00	0.64	17.80	28.81	24.53	28.17	23.85
300.00	0.67	17.85	26.73	24.53	28.03	23.28
400.00	0.64	17.89	24.88	24.44	27.55	22.54
500.00	0.73	17.92	23.27	24.18	26.78	21.86
600.00	0.80	17.96	21.85	23.87	25.93	21.34
700.00	0.80	18.00	20.56	23.48	25.07	20.77
800.00	0.84	18.03	19.55	23.03	24.24	20.27
1000.00	0.92	18.08	17.79	22.00	22.68	19.42



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



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