

Directional Coupler

50Ω 10 to 700 MHz
PDC-20-1W+


Generic photo used for illustration purposes only

CASE STYLE: A01

+RoHS Compliant

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

Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

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

Pin Connections

INPUT	1
OUTPUT	4
COUPLED	3
GROUND	2,5,7,8
CASE GROUND	2,5,7,8
NOT USED	6

Features

- wideband, 10 to 700 MHz
- excellent directivity, 27 dB typ.
- low mainline loss, 0.4 dB typ.
- rugged welded construction, hermetically sealed

Applications

- VHF/UHF
- power levelling
- instrumentation
- defense & federal communications

Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U				
	f _L -f _U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.
10-700	19.2±0.5	±0.5	0.25	0.5	0.4	0.7	0.7	1.1	34	30	27	23	23	20	1.4	1.0	2.0

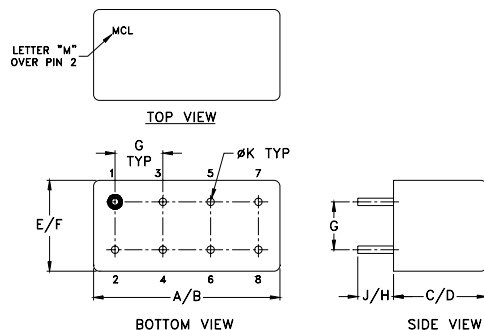
 L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]

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

Typical Performance Data

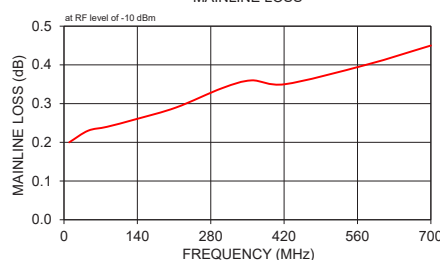
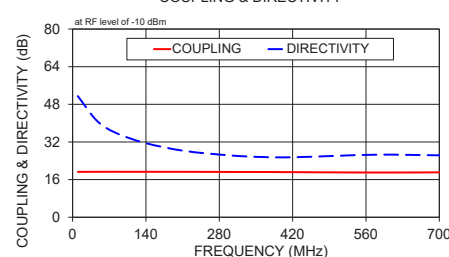
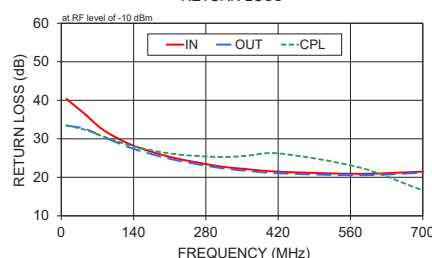
Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
10.00	0.20	19.29	51.48	40.36	33.45	33.45
46.00	0.23	19.32	41.09	36.39	32.61	32.35
82.00	0.24	19.33	35.91	32.26	30.46	30.58
138.00	0.26	19.32	31.59	28.32	27.48	28.12
214.00	0.29	19.31	28.18	25.20	24.70	26.12
302.00	0.34	19.25	26.26	22.96	22.54	25.29
358.00	0.36	19.24	25.63	22.14	21.71	25.57
421.00	0.35	19.17	25.50	21.46	21.05	26.20
576.00	0.40	19.01	26.57	20.92	20.54	22.61
700.00	0.45	19.09	26.33	21.47	21.20	16.58

Outline Drawing

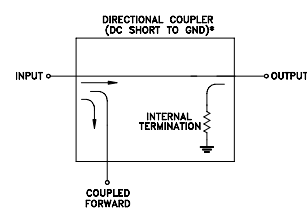


Outline Dimensions (inch/mm)

A	B	C	D	E	F
.770	.800	.385	.400	.370	.400
19.56	20.32	9.78	10.16	9.40	10.16
G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

 PDC-20-1W+
MAINLINE LOSS

 PDC-20-1W+
COUPLING & DIRECTIVITY

 PDC-20-1W+
RETURN LOSS


Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

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.

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www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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