

Plug-In

Bi-Directional Coupler

PDC-20-3BD+

50Ω 0.2 to 250 MHz

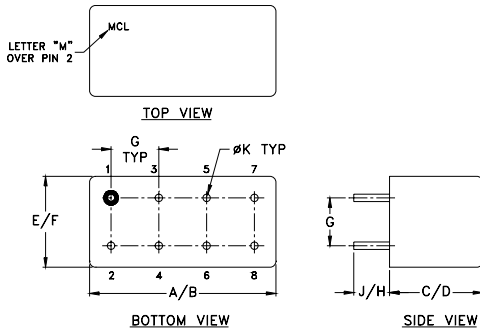
Maximum Ratings

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 (forward)	3
COUPLED (reverse)	6
GROUND	2,5,7,8
CASE GROUND	2,5,7,8

Outline Drawing



Outline Dimensions (inch mm)

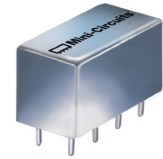
A	B	C	D	E	F
.770	.800	.385	.400	.370	.400
19.56	20.32	9.78	10.16	9.40	10.16
G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

Features

- up to 4W power input
- excellent VSWR, 1.1:1 typ.
- very low mainline loss, 0.25 dB typ.
- excellent directivity, 40 dB typ.
- rugged welded construction, hermetically sealed

Applications

- HF/UHF
- communication receivers & transmitters
- amateur radio



CASE STYLE: A01

+RoHS Compliant

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

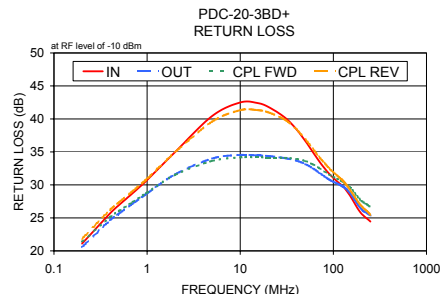
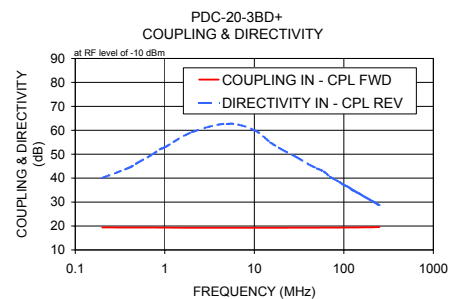
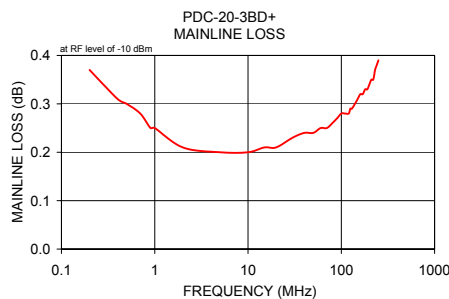
Directional Coupler Electrical Specifications

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	Norm.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.
0.2-250	19.5±0.5	±0.5	0.3	1.0	0.25	0.9	0.35	0.7	47	25	40	25	30	20	1.1	1.5	4.0

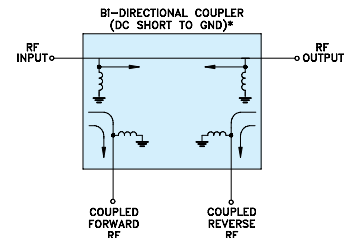
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
0.20	0.37	19.39	19.45	59.26	40.06	21.10	20.56	21.39	21.84
0.50	0.30	19.37	19.39	59.12	46.47	26.95	25.66	26.07	27.37
1.00	0.25	19.33	19.32	60.43	52.88	30.73	28.71	28.84	30.94
5.00	0.20	19.27	19.28	58.69	62.79	40.44	34.00	33.63	39.59
10.00	0.20	19.27	19.27	57.23	60.02	42.50	34.54	34.16	41.33
20.00	0.21	19.29	19.28	55.96	52.13	41.82	34.37	34.15	41.00
50.00	0.24	19.32	19.32	49.80	44.08	36.66	33.15	33.62	36.92
100.00	0.28	19.36	19.40	41.57	37.13	31.05	30.48	31.22	31.92
200.00	0.34	19.45	19.63	31.52	30.76	25.65	26.34	27.61	26.80
250.00	0.39	19.54	19.83	28.07	28.71	24.44	25.35	26.62	25.46



Electrical Schematic



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

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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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