

Plug-In

Bi-Directional Coupler

50Ω 1 to 400 MHz

PDC-10-1BD+

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

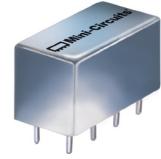
INPUT	1
OUTPUT	4
COUPLED (forward)	3
COUPLED (reverse)	6
GROUND	2,5,7,8
CASE GROUND	2,5,7,8

Features

- wideband, 1 to 400 MHz
- up to 4W power input
- excellent directivity, 35 dB typ.
- low mainline loss, 0.8 dB typ.
- rugged welded construction, hermetically sealed

Applications

- VHF/UHF
- communication receivers & transmitters
- instrumentation



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			L	MU
	f _L -f _U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.		Min.	Typ.
1-400	11.5±0.5	±0.5	0.6	0.9	0.8	1.1	0.9	1.3	55	35	35	20	22	15	1.2	2.0	4.0

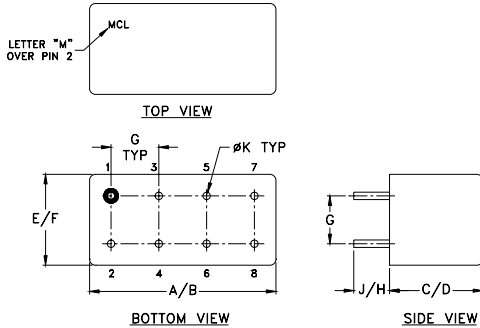
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

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

Typical Performance Data

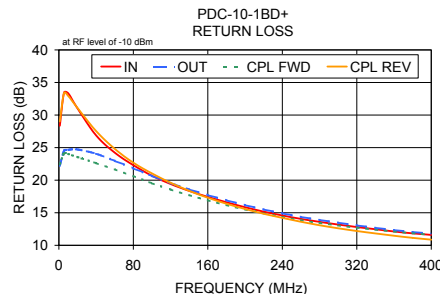
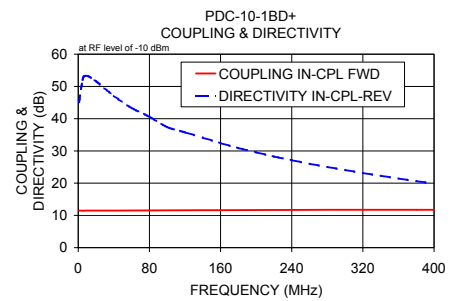
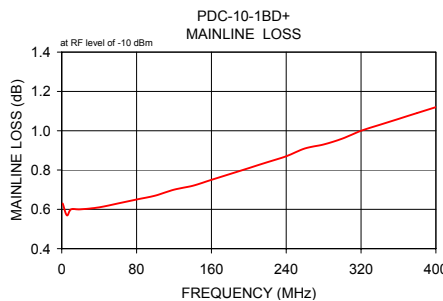
Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
1.00	0.63	11.50	11.50	81.10	45.13	28.35	22.22	22.43	29.02
5.50	0.57	11.47	11.45	46.78	52.71	33.44	24.48	24.09	33.36
10.00	0.60	11.49	11.48	41.73	53.31	33.34	24.67	24.02	32.94
20.00	0.60	11.49	11.48	37.25	51.62	31.02	24.71	23.55	31.09
40.00	0.61	11.51	11.48	34.59	47.08	26.87	24.06	22.62	27.54
80.00	0.65	11.55	11.54	32.34	40.59	22.30	21.81	20.63	22.68
160.00	0.75	11.63	11.67	27.76	32.42	17.43	17.71	16.91	17.30
240.00	0.87	11.70	11.84	23.89	27.12	14.58	14.90	14.36	14.21
320.00	1.00	11.74	12.05	20.01	23.15	12.81	13.06	12.71	12.19
400.00	1.12	11.74	12.27	17.04	19.89	11.60	11.78	11.62	10.87

Outline Drawing

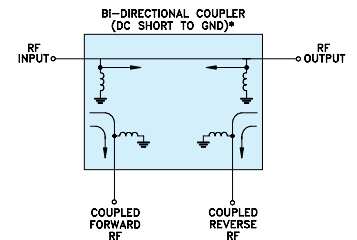


Outline Dimensions (inch/mm)

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



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMERS 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.
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