

# Plug-In Bi-Directional Coupler

## PDC-10-1BD+

50Ω 1 to 400 MHz

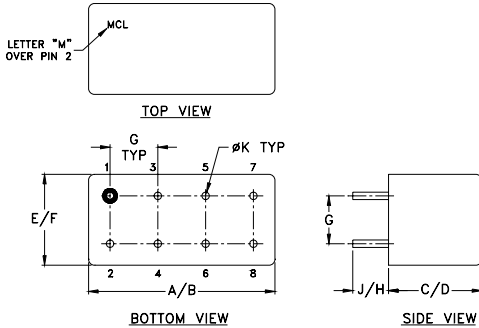
### Maximum Ratings

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

- 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



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

### Directional Coupler Electrical Specifications

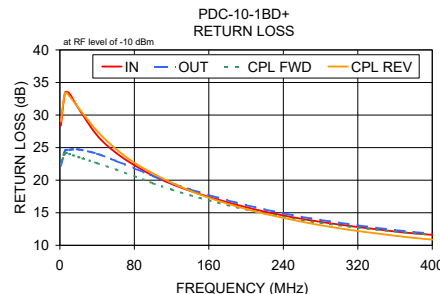
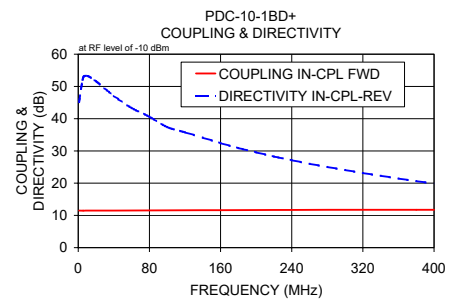
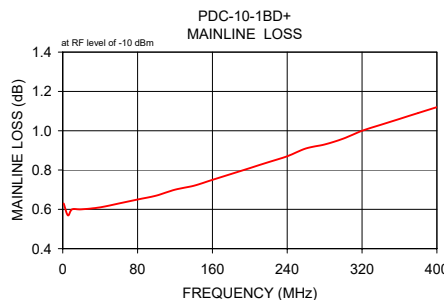
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W				
	Nom.	Flatness	L		M		U		L		M		U	Typ.	L	MU	
			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.		Min.				Typ.
f <sub>L</sub> -f <sub>U</sub>																	
1-400	11.5±0.5	±0.5	0.6	0.9	0.8	1.1	0.9	1.3	55	35	35	20	22	15	1.2	2.0	4.0

L = low range [f<sub>L</sub> to 10 f<sub>L</sub>] M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

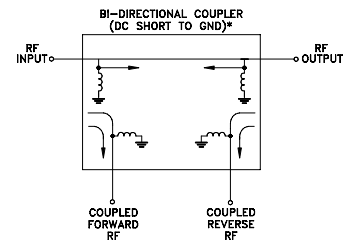
1. Mainline loss includes theoretical power loss at coupled port.

### 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	



### 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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