

# Plug-In Directional Coupler

## PDC-15-6+

50Ω 0.01 to 35 MHz

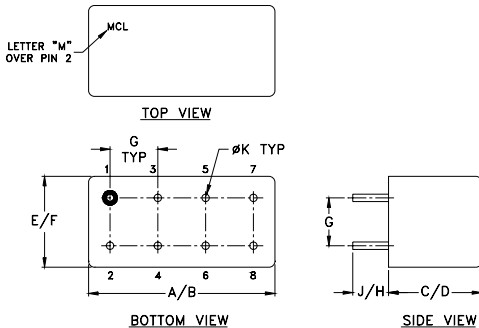
### Maximum Ratings

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	3
GROUND	2,5,7,8
CASE GROUND	2,5,7,8
NOT USED	6

### 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

### 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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

### Features

- excellent directivity, 35 dB typ.
- low mainline loss, 0.2 dB typ.
- good VSWR, 1.15 typ.
- up to 4W input
- rugged welded construction, hermetically sealed

### Applications

- HF
- amateur radio
- instrumentation
- communications

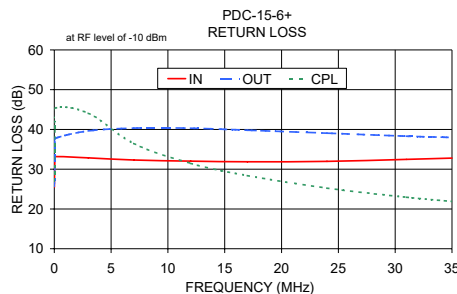
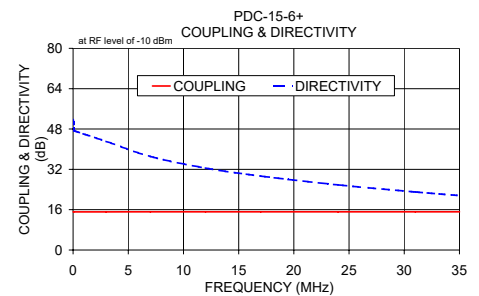
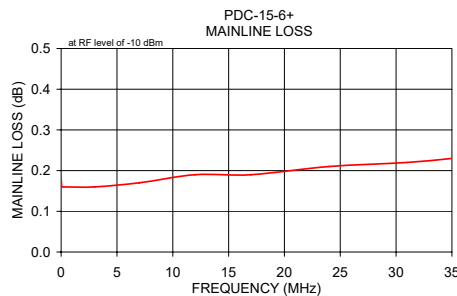
### Directional Coupler Electrical Specifications

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>																	
0.01-35	15.0±0.5	±0.5	0.3	0.6	0.2	0.4	0.3	0.6	38	30	35	25	28	20	1.15	2.0	4.0

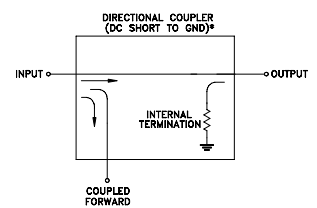
L = low range [f<sub>L</sub> to 10 f<sub>L</sub>] M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]  
 1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
0.01	0.18	15.17	51.68	25.48	25.78	27.10
0.05	0.16	15.13	47.89	32.51	36.17	40.39
0.09	0.16	15.13	47.35	33.18	37.76	45.37
3.00	0.16	15.13	43.11	32.85	39.63	44.08
7.00	0.17	15.15	37.12	32.31	40.33	36.48
12.00	0.19	15.16	32.53	32.03	40.31	31.49
17.00	0.19	15.16	29.32	31.88	39.82	28.39
24.00	0.21	15.17	25.84	31.97	39.07	25.24
31.00	0.22	15.17	23.04	32.48	38.32	22.96
35.00	0.23	15.16	21.62	32.79	37.98	21.89



### Electrical Schematic



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

