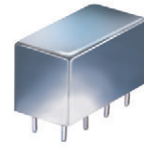


# Plug-In Directional Coupler

50Ω 10 to 700 MHz

PDC-20-1W+  
PDC-20-1W



CASE STYLE: A01  
PRICE: \$26.20 ea. QTY. (1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

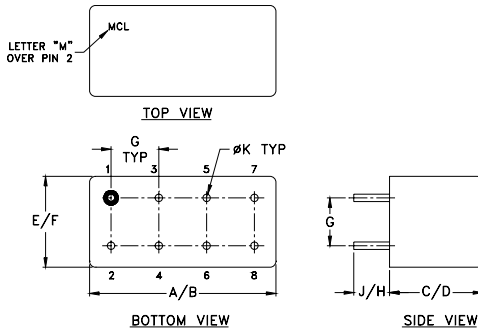
- VHF/UHF
- power levelling
- instrumentation
- defense & federal communications

## Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W		
			L		M		U		L		M		U					
	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Min.	Max.
10-700	19.2±0.5	±0.5	0.25	0.5	0.4	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.

## Outline Drawing



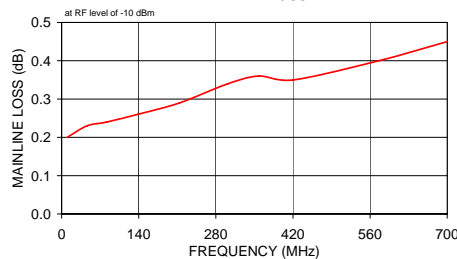
## Outline Dimensions (inch/mm)

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	

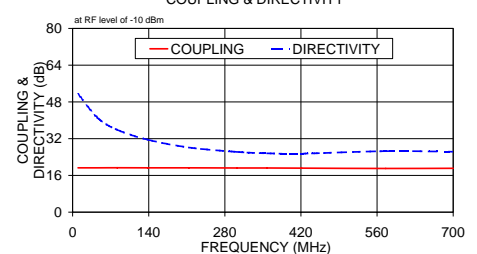
## Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
	In	Out			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

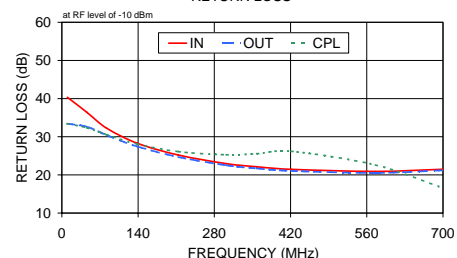
PDC-20-1W  
MAINLINE LOSS



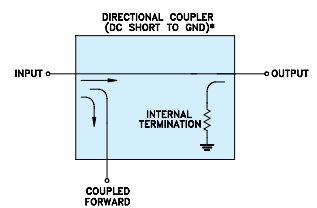
PDC-20-1W  
COUPLING & DIRECTIVITY



PDC-20-1W  
RETURN LOSS



## Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMERS THAT ROUTES DC FROM RF PORTS TO GROUND.

For detailed performance specs & shopping online see web site

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED  
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P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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