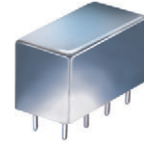


# Plug-In Directional Coupler

## PDC20-400HP+ PDC20-400HP

50Ω 40 to 400 MHz



CASE STYLE: A01  
PRICE: \$52.20 ea. QTY. (1-9)

### 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	2
COUPLED	5
GROUND	3,4,6,7,8
CASE GROUND	3,4,6,7,8

### Features

- high power, up to 10W power input
- wideband, 40 to 400 MHz
- low mainline loss, 0.2 dB typ.
- excellent directivity, 30 dB typ.
- rugged welded construction, hermetically sealed

### Applications

- power levelling
- military & defense communications
- VSWR measurement

+ 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.

### Directional Coupler Electrical Specifications

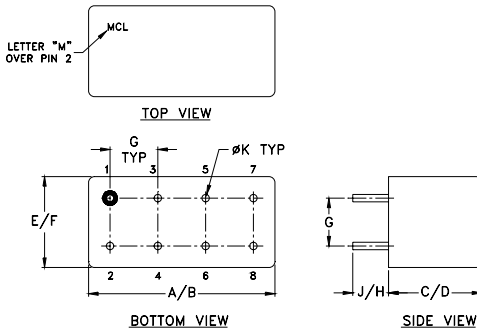
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U				
	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		Typ.	Max.
40-400	21.5±0.5	±0.6	0.1	0.3	0.2	0.4	0.2	0.5	30	20	30	20	27	18	1.1	10.0	10.0

L = 40-100 MHz M = 100-200 MHz U = 200-400 MHz

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

External heat sinking is recommended to reduce case temperature

### Outline Drawing



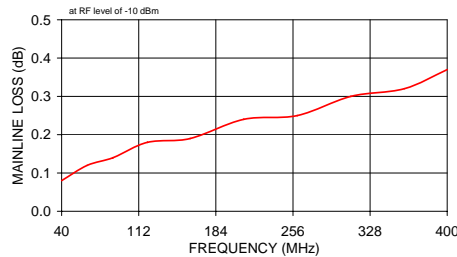
### Outline Dimensions (inch/mm)

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	

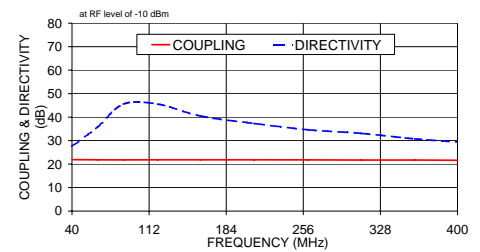
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
40.00	0.08	21.91	27.54	25.40	25.17	25.48
64.00	0.12	21.84	35.86	30.09	31.45	29.93
88.00	0.14	21.81	45.58	32.95	37.18	32.12
120.00	0.18	21.84	45.56	35.19	42.43	33.49
160.00	0.19	21.84	40.49	36.89	40.19	34.73
210.00	0.24	21.83	37.31	36.89	35.12	35.99
260.00	0.25	21.81	34.65	34.69	31.80	37.34
310.00	0.30	21.73	33.12	31.93	29.39	39.03
360.00	0.32	21.72	30.76	29.36	27.46	41.34
400.00	0.37	21.62	29.41	27.52	26.13	43.97

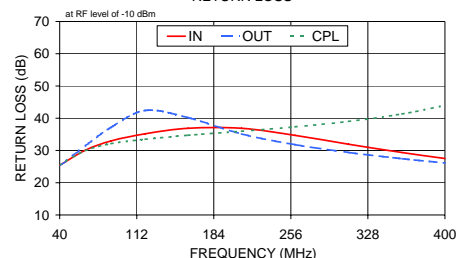
PDC20-400HP  
MAINLINE LOSS



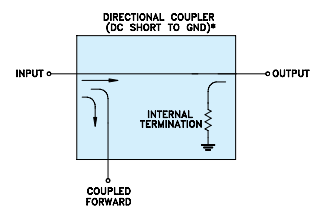
PDC20-400HP  
COUPLING & DIRECTIVITY



PDC20-400HP  
RETURN LOSS



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) 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

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)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

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