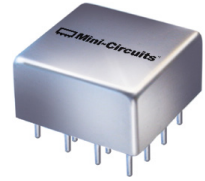


# Directional Coupler

NON-CATALOG

PDC-20A-5+

50Ω 0.1 to 2000 MHz



CASE STYLE: C145

### 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	14
OUTPUT	8
COUPLED	5
GROUND	all other pins
CASE GROUND	all other pins

### Features

- very wideband, 0.1 to 2000 MHz
- good directivity, 25 dB typ.
- excellent mainline loss, 0.6 dB typ.
- rugged welded construction, hermetically sealed

### Applications

- cellular/GPS
- instrumentation
- communications receivers & transmitters
- defense & federal communications

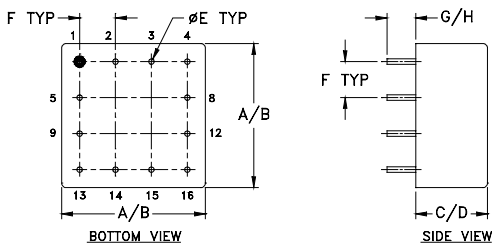
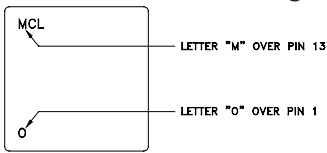
**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W			
			L		M		U		L	M	U		L	MU		
	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.	
f <sub>L</sub> -f <sub>U</sub>																
0.1-2000	20.0±0.5	±1.0	0.6	1.5	0.6	1.5	1.9	2.9	34	20	25	15	20	10	1.5	0.5 2.0

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.

### Outline Drawing

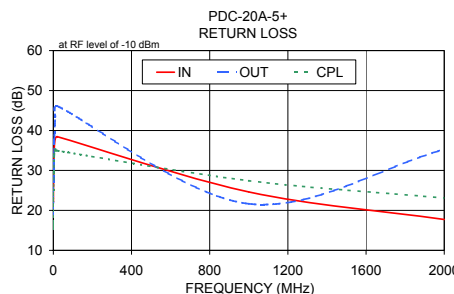
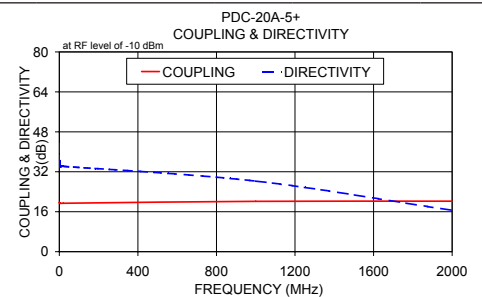
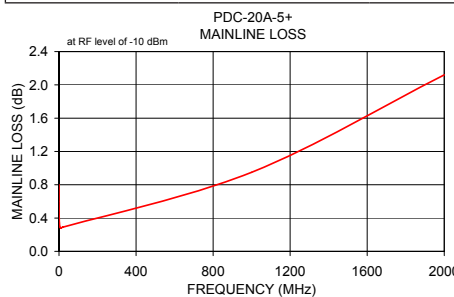


### Outline Dimensions (inch/mm)

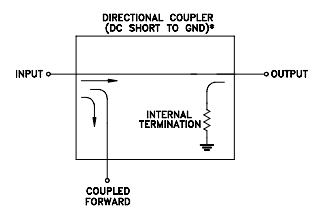
A	B	C	D	E
.770	.810	.380	.410	.030
19.56	20.57	9.65	10.41	0.76
F	G	H	wt	
.200	.20	.14	grams	
5.08	5.08	3.56	11.0	

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
0.10	0.80	19.80	42.90	22.32	18.40	15.30
0.20	0.60	19.71	41.29	22.12	19.73	17.14
0.50	0.49	19.57	37.18	23.02	23.62	22.88
1.00	0.41	19.50	35.94	26.29	27.31	26.01
2.00	0.34	19.42	34.63	29.91	31.22	29.52
5.00	0.29	19.36	33.94	35.77	38.05	33.98
10.00	0.28	19.36	34.20	38.00	43.40	35.28
20.00	0.29	19.39	34.18	38.45	46.13	34.97
1000.00	0.95	20.15	28.28	24.62	21.67	27.44
2000.00	2.12	20.22	16.58	17.72	35.28	23.10



### Electrical Schematic



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

