

Plug-In Directional Coupler

PDC-20-3+

50Ω 0.2 to 250 MHz



Generic photo used for illustration purposes only

CASE STYLE: A01

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our website for 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

- excellent directivity, 33 dB typ.
- low mainline loss, 0.25 dB typ.
- up to 4W power input
- good VSWR, 1.2:1 typ.
- rugged welded construction, hermetically sealed

Applications

- HF/VHF
- defense & federal communications
- power levelling

Directional Coupler Electrical Specifications

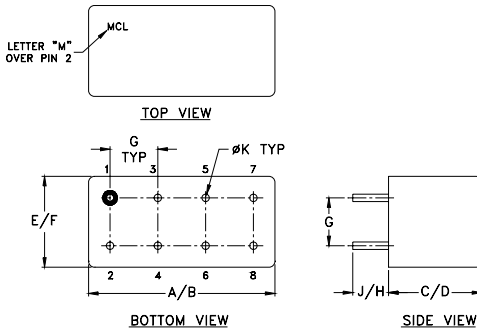
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)				DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W						
	Nom.	Flatness	L		M		U				Typ.	L	MU				
f_L - f_U			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.		
0.2-250	19.5±0.5	±0.5	0.4	0.7	0.25	0.5	0.35	0.6	36	30	33	25	25	20	1.2	1.5	4.0

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.

* Insertion loss specification in L range may degrade up to 1.3 dB at cold temperature, -55°C

Outline Drawing



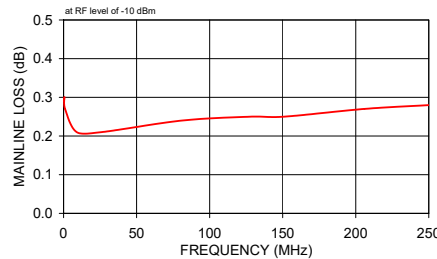
Outline Dimensions (inch/mm)

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	

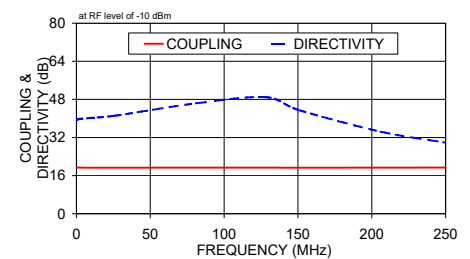
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
0.20	0.29	19.42	39.65	22.30	21.91	21.73
0.60	0.30	19.43	39.51	28.91	27.26	28.15
1.00	0.27	19.39	39.77	30.93	28.75	30.08
9.00	0.21	19.33	40.19	40.70	34.16	39.85
26.00	0.21	19.34	41.15	40.44	34.09	40.06
81.00	0.24	19.35	46.36	35.00	32.30	36.98
128.00	0.25	19.36	48.96	31.81	30.48	33.86
151.00	0.25	19.34	43.44	30.66	29.73	32.37
206.00	0.27	19.37	34.46	28.27	27.91	28.82
250.00	0.28	19.40	29.83	27.05	26.87	26.10

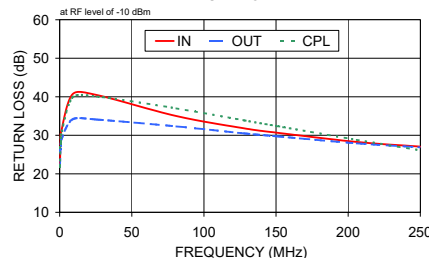
PDC-20-3+ MAINLINE LOSS



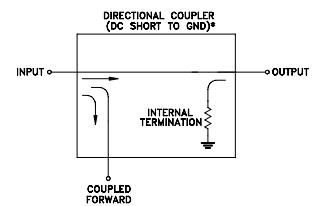
PDC-20-3+ COUPLING & DIRECTIVITY



PDC-20-3+ RETURN LOSS



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR 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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