

Plug-In Directional Coupler

50Ω 0.2 to 250 MHz

PDC-20-3+

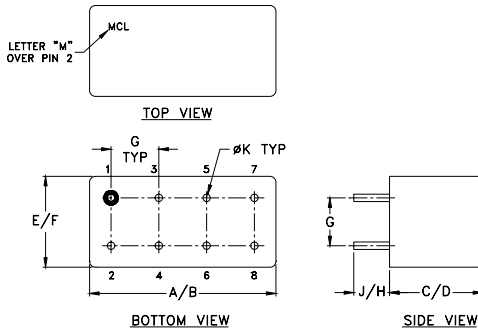
Maximum Ratings

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

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		
f_L - f_U	Nom.	Flatness	L		M		U		L		M		U		Typ.	L MU		Typ.
			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		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	

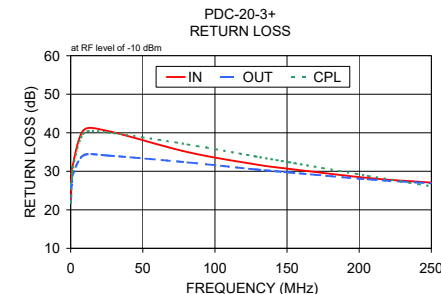
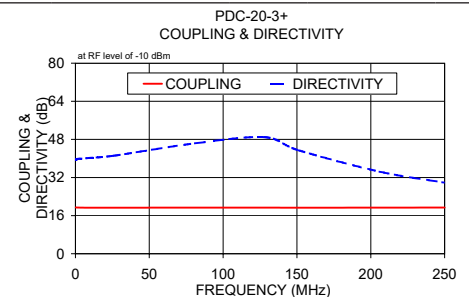
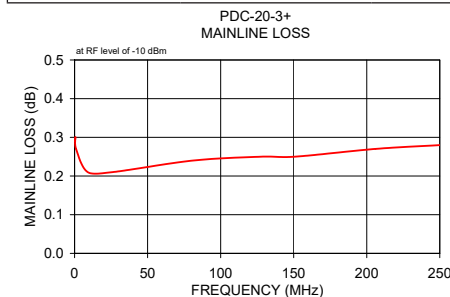
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

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

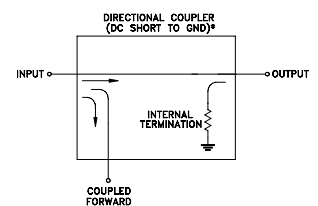
* Insertion loss specification in L range may degrade up to 1.3 dB at cold temperature, -55°C

Typical Performance Data

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



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.
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