

# Plug-In Directional Coupler

50Ω 5 to 1000 MHz

## P4DC-30A-2+ P4DC-30A-2



Generic photo used for illustration purposes only

CASE STYLE: C07

### 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	8
OUTPUT	12
COUPLED	2,1,13,14*
CASE GROUND	all other pins

\*4-coupled ports #1,#2,#3,#4 consecutively

### Features

- wideband, 5 to 1000 MHz
- 4 coupled ports
- low mainline loss, 0.7 dB typ.
- rugged welded construction

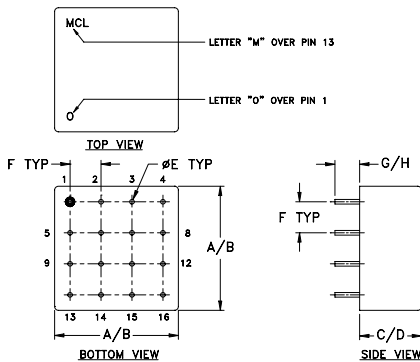
### Applications

- cellular
- power levelling
- instrumentation
- military defense communications

### +RoHS Compliant

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

### Outline Drawing



### Outline Dimensions (inch/mm)

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

### 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.	Max.
f <sub>L</sub> -f <sub>U</sub>																		
5-1000	30.5±0.5	±1.0	0.7	1.2	0.7	1.2	0.8	1.5	30	15	32	20	20	10	1.15	1.0	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>]

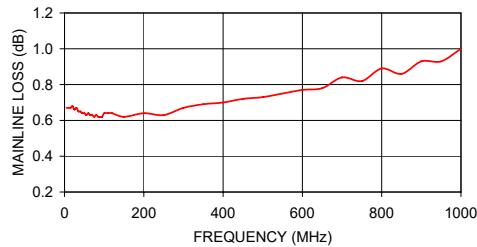
1. Mainline loss includes theoretical power loss at coupled port.

4-coupled ports, isolation between coupled ports, 25 dB min.

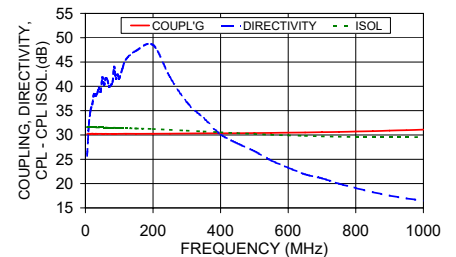
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Isolation (dB)		Return Loss (dB)		Cpl
				Cpl-Cpl	In	Out	Cpl	
5.00	0.67	30.20	25.73	31.63	18.19	18.21	33.04	
10.00	0.67	30.22	32.07	31.60	22.26	24.15	32.96	
20.00	0.68	30.26	36.24	31.59	24.30	28.27	32.83	
50.00	0.64	30.23	41.81	31.54	25.83	30.62	32.54	
100.00	0.64	30.23	41.63	31.47	25.95	29.62	32.25	
200.00	0.64	30.25	48.50	31.23	24.32	26.57	32.21	
500.00	0.73	30.39	26.67	30.21	20.72	21.35	33.32	
700.00	0.84	30.57	21.10	29.73	20.29	20.29	35.77	
900.00	0.93	30.89	17.53	29.55	21.02	20.78	42.62	
1000.00	1.00	31.11	16.48	29.58	21.28	21.76	56.05	

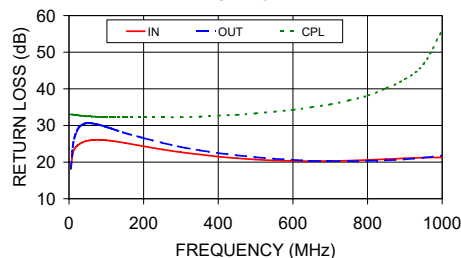
P4DC-30A-2  
MAINLINE LOSS



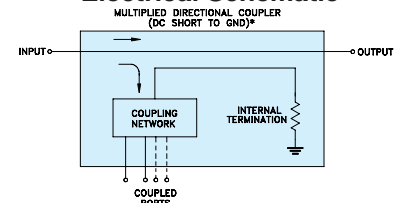
P4DC-30A-2  
COUPLING, DIRECTIVITY, CPL - CPL ISOLATION



P4DC-30A-2  
RETURN LOSS



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR MULTIPLIED COUPLING PORTS OF 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.
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