

# Coaxial Directional Coupler

## ZDC-20-3

50Ω

0.2 to 250 MHz



CASE STYLE: M22

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

### Coaxial Connections

INPUT	3
OUTPUT	2
COUPLED	1

### Features

- excellent directivity, 33 dB typ.
- excellent mainline loss, 0.25 dB typ.
- rugged shielded case

### Applications

- HF/VHF/UHF
- instrumentation
- communication receivers & transmitters
- amateur radio

Connectors	Model	Price	Qty.
BNC	ZDC-20-3	\$44.95 ea.	(1-9)
BRACKET (OPTION "B")		\$5.00	(1+)
BRACKET (OPTION "BR")		\$1.50	(1+)

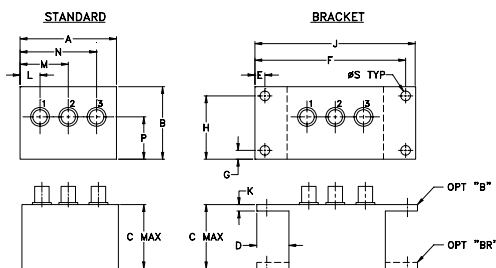
### Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT (W)		
	Nom.	Flatness	L		M		U		L		M		U			Typ.	L	MU
			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.				
0.2-250	19.5±0.5	±0.5	0.35	0.6	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.

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
2.25	1.38	1.24	.50	.150	3.100	.138	1.238
57.15	35.05	31.50	12.70	3.81	78.74	3.51	31.45

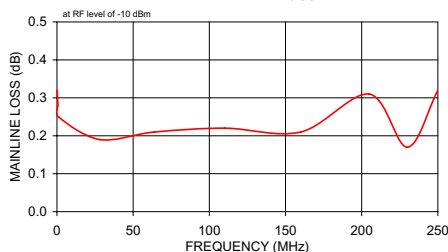
  

J	K	L	M	N	P	S	wt
3.25	.10	.40	1.15	1.86	.64	.150	grams
82.55	2.54	10.16	29.21	47.24	16.26	3.81	74.0

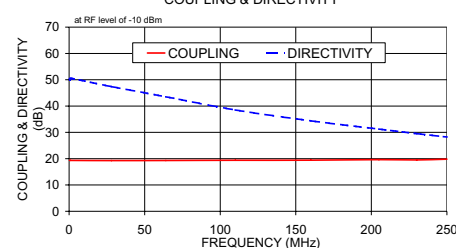
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
0.20	0.32	19.34	50.22	21.46	21.09	20.80
0.60	0.28	19.37	49.85	28.15	26.69	26.38
1.00	0.25	19.33	50.58	30.85	28.75	28.35
28.00	0.19	19.29	47.42	38.60	33.01	28.36
64.00	0.21	19.31	43.53	33.07	30.00	22.73
110.00	0.22	19.40	38.54	28.85	26.79	18.52
160.00	0.21	19.42	34.38	25.72	24.09	15.58
205.00	0.31	19.64	31.27	23.51	22.14	13.69
230.00	0.17	19.51	29.52	22.48	21.25	12.86
250.00	0.32	19.82	28.26	21.75	20.60	12.29

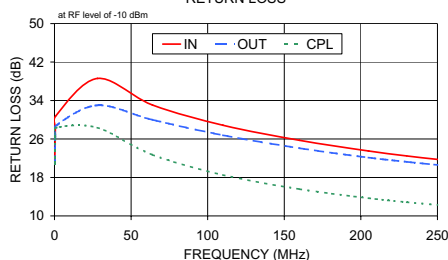
ZDC-20-3 MAINLINE LOSS



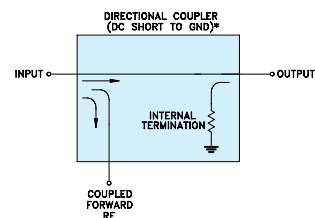
ZDC-20-3 COUPLING & DIRECTIVITY



ZDC-20-3 RETURN LOSS



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

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IF/RF MICROWAVE COMPONENTS

REV. A  
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ZDC-20-3  
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