

# Coaxial Directional Coupler

## ZDC-10-1-75+

75Ω

1 to 250 MHz



CASE STYLE: M22

### 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.

### Coaxial Connections

INPUT	3
OUTPUT	2
COUPLED	1

### Features

- excellent directivity, 30 dB typ.
- rugged shielded case

### Applications

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

Connectors	Model	Price	Qty.
BNC	ZDC-10-1-75+	\$44.95 ea.	(1-9)
BRACKET (OPTION "B")		\$5.00	(1+)
BRACKET (OPTION "BR")		\$1.50	(1+)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

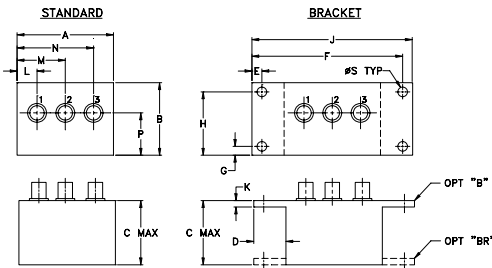
### Directional Coupler Electrical Specifications

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.				
1-250	10.5±0.5	±0.75	1.1	1.5	1.1	1.5	1.1	1.5	30	20	30	20	30	20	2.0	2.0	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. Below 5 MHz. Insertion loss increases to 2.0 dB @ -55°C.

### Outline Drawing



### Outline Dimensions (inch/mm)

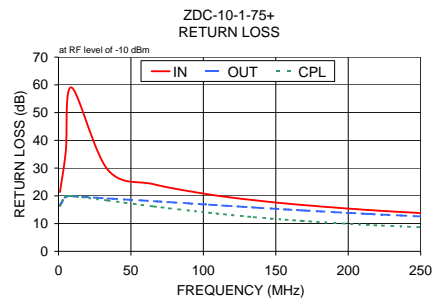
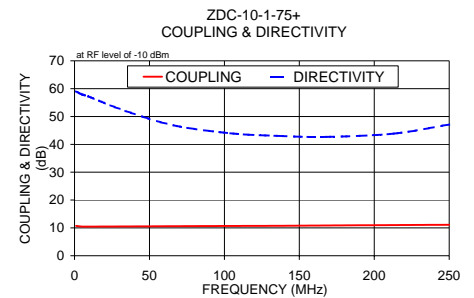
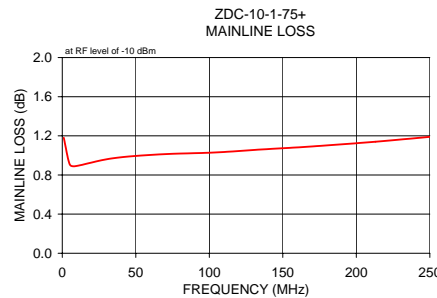
A	B	C	D	E	F	G	H
2.25	1.38	1.24	.50	.150	3.100	.138	1.238
57.15	35.05	31.50	12.70	3.81	78.74	3.51	31.45

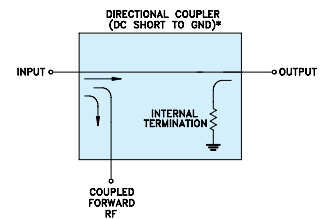
J	K	L	M	N	P	S	wt
3.25	.10	.40	1.15	1.86	.64	.150	grams
82.55	2.54	10.16	29.21	47.24	16.26	3.81	74.0

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
1.00	1.18	10.73	59.03	21.38	16.52	16.51
5.00	0.91	10.47	57.90	35.71	19.69	19.82
9.00	0.89	10.46	57.24	59.04	19.88	19.96
34.00	0.97	10.53	52.00	29.42	19.04	18.32
66.00	1.01	10.60	46.85	24.14	18.06	16.17
104.00	1.03	10.68	43.98	20.51	16.82	13.89
135.00	1.06	10.76	43.05	18.43	15.79	12.32
168.00	1.09	10.86	42.67	16.71	14.77	10.97
213.00	1.14	11.00	43.85	14.92	13.50	9.56
250.00	1.19	11.13	47.13	13.77	12.57	8.67



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMERS THAT ROUTES DC FROM RF PORTS TO GROUND.



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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WZ/TD/CP/AM  
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