

Coaxial Bi-Directional Coupler

50Ω Up to 25W 30 to 400 MHz

ZFDC-20-1H+
ZFDC-20-1H



BNC version shown
CASE STYLE: J17

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	S
OUTPUT	1
COUPLED (forward)	3
COUPLED (reverse)	2

Features

- high power, up to 25W
- wideband, 30 to 400 MHz
- excellent directivity, 30 dB typ.
- low mainline loss, 0.15 dB typ.
- rugged shielded case

Applications

- VHF/UHF
- instrumentation
- communication receivers & transmitters
- power leveling

Connectors	Model	Price	Qty.
BNC	ZFDC-20-1H+	\$58.95	(1-9)
SMA	ZFDC-20-1H-S(+)	\$63.95	(1-9)
N-TYPE	ZFDC-20-1H-N(+)	\$63.95	(1-9)
BRACKET (OPTION "B")		\$5.00	(1+)

+RoHS Compliant

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

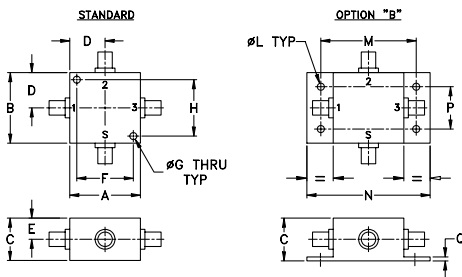
Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (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.		
30-400	20.5±0.5	±0.4	0.15	0.4	0.15	0.4	0.3	0.4	30	25	30	25	30	23	1.2	25	25

L= 30-100 MHz M= 100-200 MHz U= 200-400 MHz

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

Outline Drawing



Outline Dimensions (inch/mm)

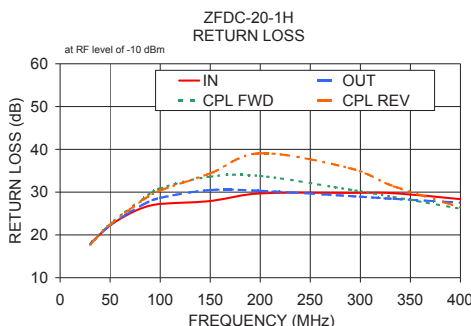
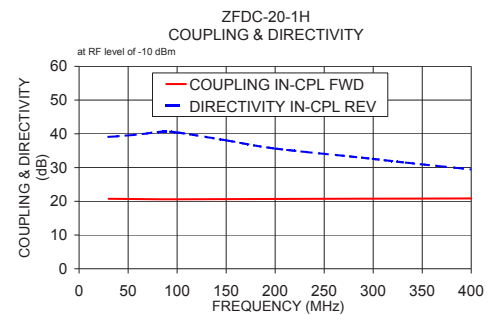
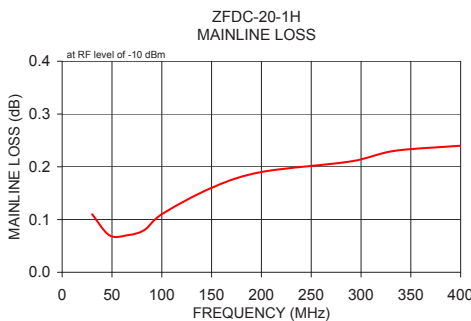
A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40

J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	75.0

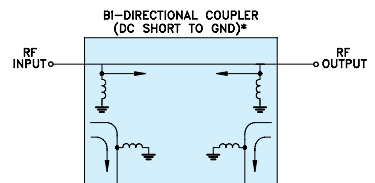
For option "B" with N-type connectors, dimension "C" increases to 0.94 inches.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)		Directivity (dB)		Return Loss (dB)		
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
30.00	0.11	20.74	20.73	36.33	39.08	17.88	17.93	17.83	17.78
47.50	0.07	20.68	20.66	36.66	39.46	21.75	21.84	22.02	21.88
65.00	0.07	20.63	20.62	36.97	39.93	24.43	24.65	25.33	25.13
82.50	0.08	20.59	20.58	37.14	40.58	26.31	27.05	28.32	28.10
100.00	0.11	20.59	20.58	37.19	40.42	27.24	28.65	30.88	30.36
150.00	0.16	20.63	20.62	38.74	38.06	27.92	30.48	33.62	34.39
200.00	0.19	20.69	20.67	36.80	35.64	29.69	30.30	33.78	39.07
288.89	0.21	20.77	20.74	33.49	32.92	29.81	29.10	30.60	35.64
333.33	0.23	20.80	20.77	31.88	31.46	29.73	28.43	28.85	31.36
400.00	0.24	20.83	20.80	29.81	29.45	28.38	27.54	26.14	26.41



Electrical Schematic



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

For detailed performance specs & shipping online see web site



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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.

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