

Coaxial Bi-Directional Coupler

ZFDC-20-1H+

50Ω Up to 25W 30 to 400 MHz



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
BNC	ZFDC-20-1H+
SMA	ZFDC-20-1H-S+
N-TYPE	ZFDC-20-1H-N+
BRACKET (OPTION "B")	

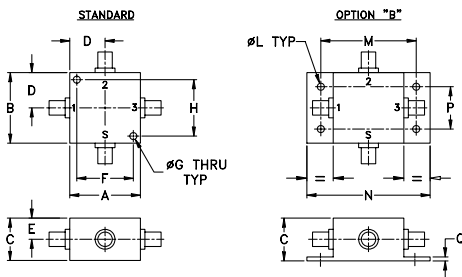
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

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)

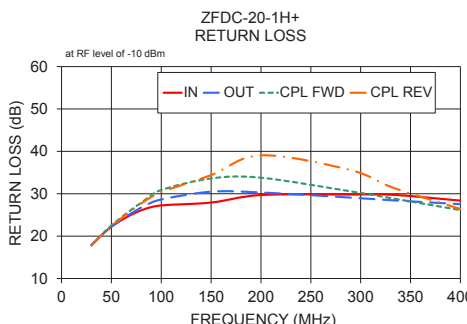
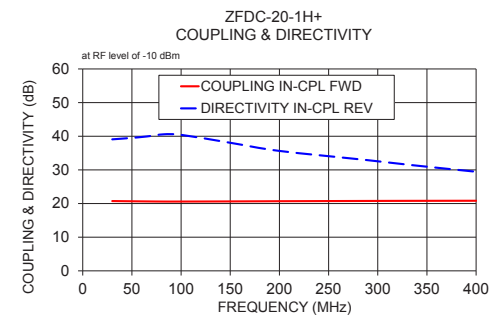
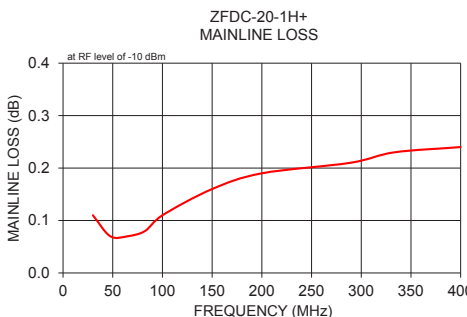
A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40

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

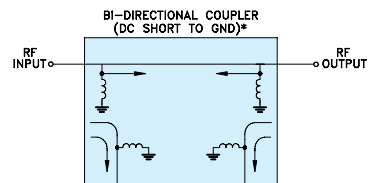
For option "B" with N-type connectors, dimension "C" increases to 0.94 inches.

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.

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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