



COAXIAL

Bi-Directional Coupler ZFDC-20-1H+

50Ω Up to 25W 30 to 400 MHz

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



Generic photo used for illustration purposes only

CASE STYLE: J17

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 website for methodologies and qualifications

ELECTRICAL SPECIFICATIONS

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		30		400	MHz
Mainline Loss ¹	30-100		0.15	0.4	dB
	100-200		0.15	0.4	
	200-400		0.3	0.4	
Coupling Nominal	30-400		20.5±0.5		dB
Coupling Flatness (±)	30-400		±0.4		dB
Directivity	30-100	25	30		dB
	100-200	25	30		
	200-400	23	30		
VSWR	30-400		1.2		:1
Input Power ²	30-400			25	W

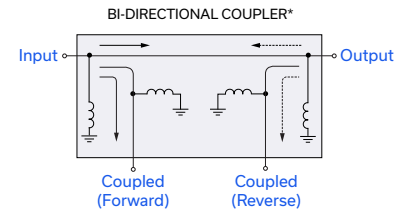
1. Mainline loss includes theoretical power loss at coupled port.
2. Power input will be derating linearly to 50% of rating at 100°C.

MAXIMUM RATINGS

Parameter	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.

ELECTRICAL SCHEMATIC



*Electrical schematic is for Bi-Directional coupler with internal transformer(s) that routes DC from all ports to ground





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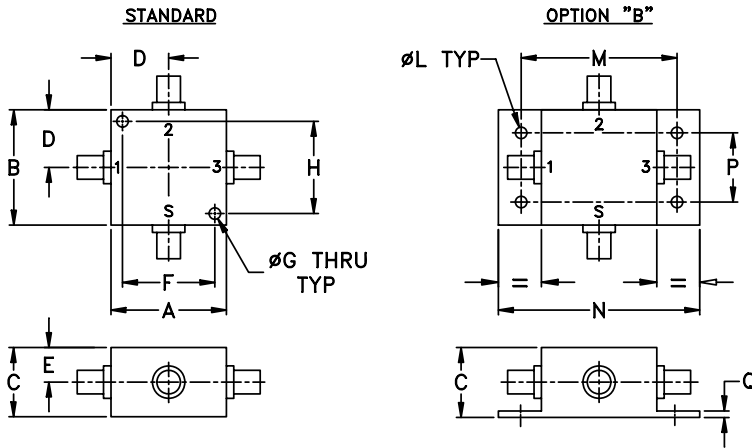
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COAXIAL CONNECTIONS

Input	S
Output	1
Coupled (Forward)	3
Coupled (Reverse)	2

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.



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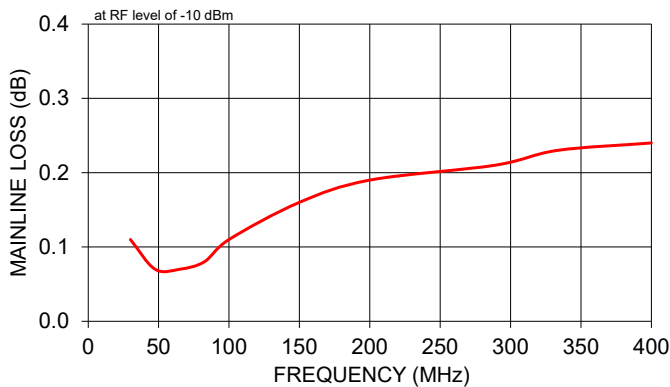
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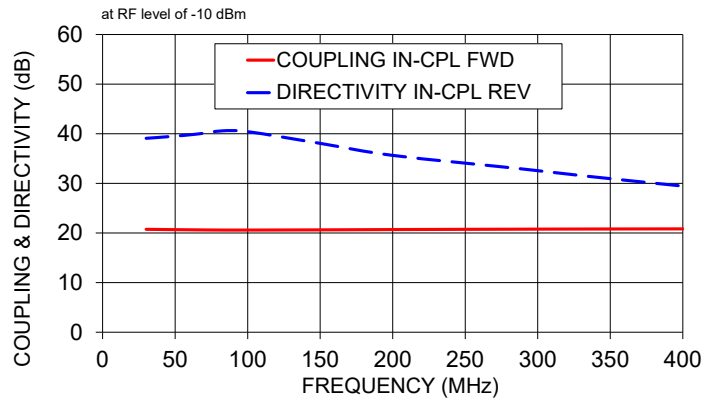
TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
		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

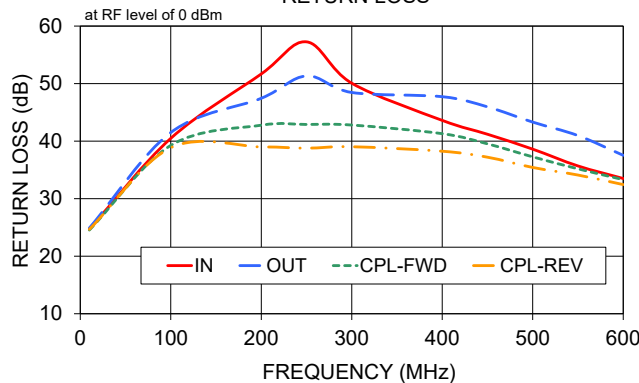
ZFDC-20-1H-S+
MAINLINE LOSS



ZFDC-20-1H-S+
COUPLING & DIRECTIVITY



ZFBDC20-62HP-S+
RETURN LOSS



NOTES

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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/terms/viewterm.html

