

Coaxial Bi-Directional Coupler

ZFBDC20-970HP

50Ω Up to 10W 860 to 970 MHz

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

Features

- very low mainline loss, 0.1 dB typ.
- excellent directivity, 28 dB typ.
- excellent VSWR, 1.1: typ.
- high power operation, 10W

Applications

- VSWR measurement
- power monitoring of cellular transmitters
- power levelling



Generic photo used for illustration purposes only

CASE STYLE: J17

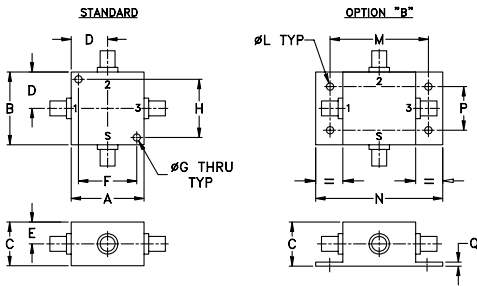
Connectors	Model
SMA	ZFBDC20-970HP
BRACKET (OPTION "B")	

Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)	
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		Typ.	L Max.
f _L -f _H									
860-970	20.4±0.6	±0.6	0.1	0.4	28	20	1.1	10	10

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

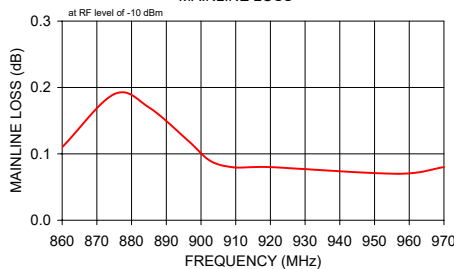
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	75.0

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

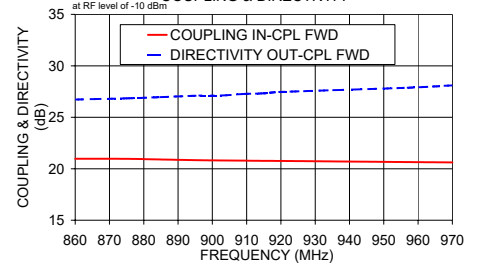
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	In-Cpl Rev	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
860.00	0.11	20.97	21.06	21.06	26.72	22.08	25.04	25.31	28.46	27.67
875.00	0.19	20.96	21.06	21.06	26.84	21.99	24.74	24.96	27.84	27.16
885.00	0.17	20.90	21.01	21.01	26.96	21.92	24.57	24.75	27.46	26.85
896.25	0.12	20.83	20.95	20.95	27.11	21.92	24.37	24.52	27.06	26.50
902.50	0.09	20.81	20.93	20.93	27.12	21.84	24.27	24.42	26.87	26.34
908.75	0.08	20.79	20.90	20.90	27.26	21.83	24.15	24.29	26.65	26.15
915.00	0.08	20.77	20.89	20.89	27.33	21.78	24.06	24.17	26.44	25.96
920.00	0.08	20.76	20.87	20.87	27.46	21.77	24.00	24.08	26.29	25.84
957.00	0.07	20.65	20.76	20.76	27.87	21.87	23.46	23.47	25.28	24.93
970.00	0.08	20.62	20.73	20.73	28.10	21.55	23.30	23.36	24.99	24.66

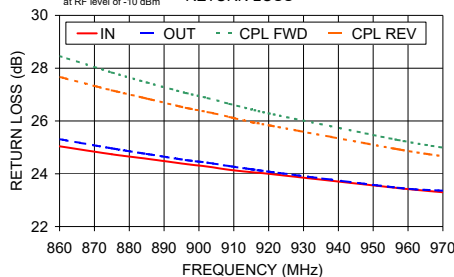
ZFBDC20-970HP MAINLINE LOSS



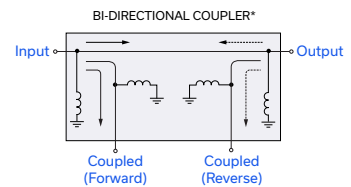
ZFBDC20-970HP COUPLING & DIRECTIVITY



ZFBDC20-970HP RETURN LOSS



Electrical Schematic



*Electrical schematic is for Bi-Directional coupler with internal transformer(s) that routes DC from all 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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