

# Coaxial Bi-Directional Coupler

## ZFBDC20-61HP+

50Ω Up to 25W 1 to 60 MHz



Generic photo used for illustration purposes only

### Maximum Ratings

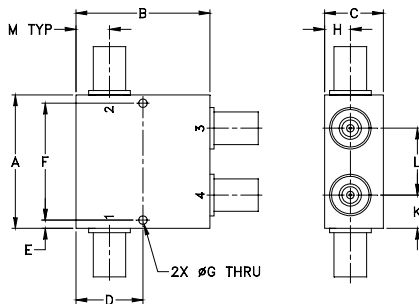
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED (forward)	4
COUPLED (reverse)	3

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
2.00	2.00	.88	1.000	0.13	1.750	0.125
50.80	50.80	22.35	25.40	3.30	44.45	3.18

H	J	K	L	M	wt
0.38	--	0.50	1.00	0.50	grams
9.65	--	12.70	25.40	12.70	250.0

### Features

- excellent mainline loss, 0.1 dB typ.
- excellent directivity, 30 dB typ.
- rugged shielded case

### Applications

- military mobile
- instrumentation
- communication receivers & transmitters

SMA version shown  
CASE STYLE: JD1252

Connectors	Model
BNC	ZFBDC20-61HP+
SMA	ZFBDC20-61HP-S+
N-Type	ZFBDC20-61HP-N+

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

### Bi-Directional Coupler Electrical Specifications

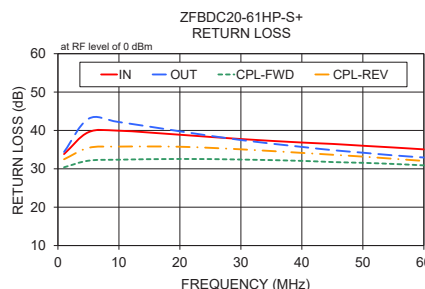
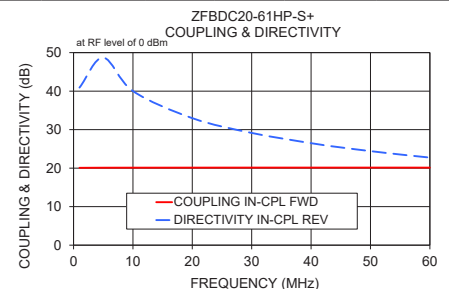
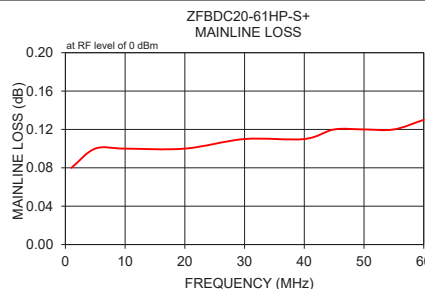
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER <sup>2</sup> INPUT (W)	
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		Typ.	Max.
$f_L$ - $f_U$									
1-60	20±0.6	±0.3	0.1	0.25	30	20	1.07	15	
10-60	20±0.3	±0.3	0.1	0.25	30	20	1.07	25	

<sup>1</sup> Mainline loss includes theoretical power loss at coupled port.

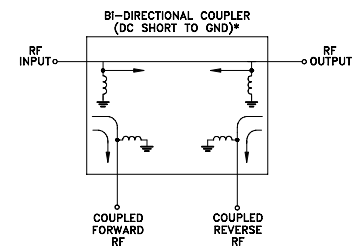
<sup>2</sup> Power rating is specified up to +55°C. Power Input Specifications at +100°C is 50% value at +55°C. For specifications limits between +55°C and +100°C, derate linearly.

### 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
1.00	0.08	20.08	20.03	40.68	40.91	33.84	34.40	30.40	32.48
5.00	0.10	20.11	20.03	47.05	48.68	39.54	43.04	32.12	35.46
10.00	0.10	20.12	20.05	39.21	40.02	39.93	42.19	32.38	35.79
20.00	0.10	20.13	20.06	32.28	32.98	38.88	39.77	32.57	35.75
30.00	0.11	20.14	20.08	28.66	29.14	37.76	37.50	32.42	35.08
40.00	0.11	20.14	20.09	26.16	26.48	36.85	35.71	32.07	34.15
45.00	0.12	20.14	20.10	25.38	25.38	36.49	34.87	31.76	33.67
50.00	0.12	20.14	20.11	24.21	24.42	36.01	34.20	31.56	33.18
55.00	0.12	20.14	20.11	23.38	23.54	35.56	33.51	31.27	32.62
60.00	0.13	20.13	20.12	22.58	22.74	35.07	32.95	30.90	32.05



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMERS 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.
- 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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