

# Coaxial Bi-Directional Coupler

50Ω Up to 25W 1 to 60 MHz

## ZFBDC20-61HP+



SMA version shown  
CASE STYLE: JD1252

Connectors	Model	Price	Qty.
BNC	ZFBDC20-61HP+	\$61.95	(1-9)
SMA	ZFBDC20-61HP-S+	\$66.95	(1-9)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Maximum Ratings

Operating Temperature -55°C to 100°C

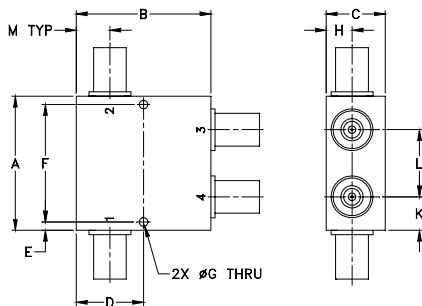
Storage Temperature -55°C to 100°C

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

### Bi-Directional Coupler Electrical Specifications

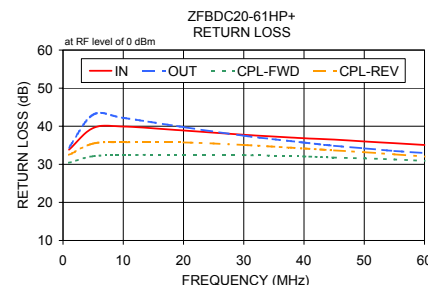
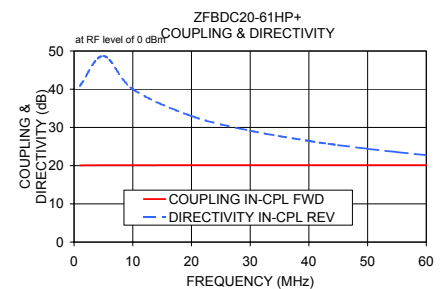
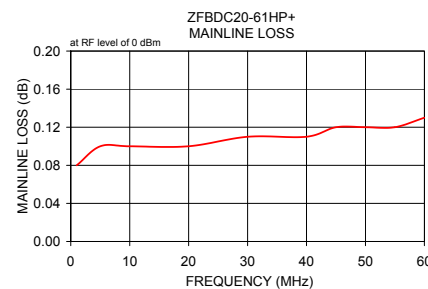
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER <sup>2</sup> INPUT (W)
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
f <sub>L</sub> -f <sub>H</sub>							Typ.	Max.
1-60	20±0.6	±0.3	0.1	0.25	30	20	1.07	15
10-60	20±0.3	±0.3	0.1	0.25	30	20	1.07	25

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

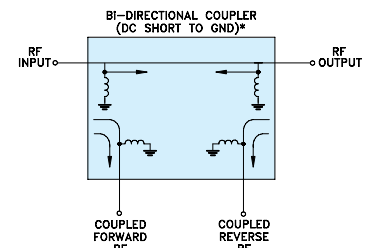
<sup>2</sup> Over +55°C derate linearly to 50% of rating at 100°C.

### 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
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	25.16	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.

For detailed performance specs & shipping online see web site

**Mini-Circuits**  
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IF/RF MICROWAVE COMPONENTS

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