

20dB DC Pass

High Power Bi-Directional Coupler ZGBDC20-372HP+

50Ω Up to 250W 300 to 3700 MHz

The Big Deal

- High Power Handling: 250W
- Low Insertion Loss: 0.16 dB typ.*



CASE STYLE: HT1760-1

Product Overview

The Mini-Circuits ZGBDC20-372HP+ broadband high power directional coupler offers excellent performance across a wide range of popular frequency bands. Built using low loss suspended substrate construction, the ZGBDC20-372HP+ can pass up to 3A of DC current from input to output and handle up to 250W CW. The rugged sealed construction makes this coupler ideal for use in field applications or remote monitoring sites; however, it is also ideal for high power lab testing.

Key Features

Feature	Advantages
Excellent Insertion Loss , 0.16 dB Typ*	With extremely low insertion loss, this coupler is ideal for critical high power applications.
Ultra High Return Loss, 25 dB Typ	Outstanding Return loss makes this coupler ideal for sensitive power measurement and other signal distribution applications.
High Power Handling, 250W	Up to 250W CW power handling, combined with low insertion loss and excellent VSWR support operation in high power applications such as transmitters, base stations and high power device characterization.
Wide bandwidth	Covering 300-3700 MHz, the ZGBDC20-372HP+ covers the most popular Cellular, PCS, DCS, WiMAX, and LTE bands.
Excellent Directivity and Coupling Flatness	Typical 18 dB directivity and ± 1.1 dB of Coupling flatness provides accurate signal sampling of forward or reflected power.
Passes DC Current, 3A	Capable of passing 3A current, input to output; this coupler is suited for application using remote antenna control or other remote motorized requirements.

*Does not include coupling loss

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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Maximum Ratings

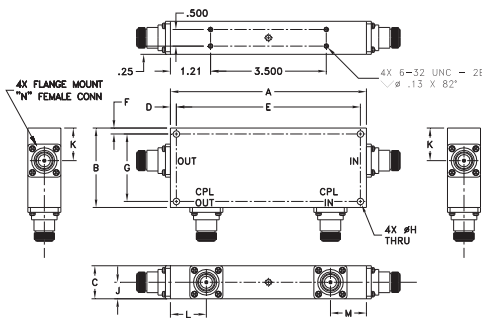
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	3A

Permanent damage may occur if any of these limits are exceeded

Coaxial Connections

INPUT	IN
OUTPUT	OUT
COUPLED FORWARD	CPL IN
COUPLED REVERSE	CPL OUT

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
5.93	2.4	1.00	0.18	5.565	0.18	2.040
150.62	60.96	25.40	4.57	141.35	4.57	51.82
H	J	K	L	M	wt	
0.200	0.50	0.99	1.09	1.09	grams	
5.08	12.70	25.15	27.69	27.69	700	

Features

- wide frequency range, 300 - 3700 MHz
- good coupling flatness, ± 0.3 dB typ. (600-3700 MHz)
- high directivity, 18 dB typ.
- very good return loss, 18 dB typ.
- high power, up to 250W
- DC current pass through input to output

Applications

- cellular
- lab use
- WiMAX
- PCN
- GSM
- ISM



Generic photo used for illustration purposes only

CASE STYLE: HT1760-1

Connectors	Model
N-Type	ZGBDC20-372HP+

+RoHS Compliant

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

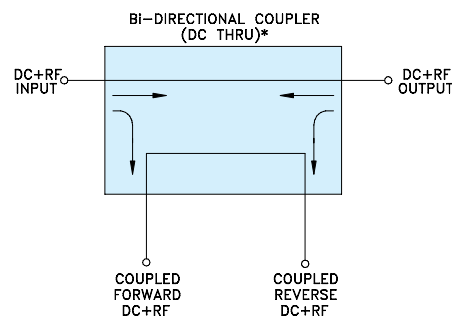
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Operating Frequency		300		3700	MHz
Coupling	300-380	—	22.6 \pm 2.5	—	dB
	380-600	—	21.9 \pm 2.5	—	
	600-2700	—	20.5 \pm 1.0	—	
	2700-3700	—	20.7 \pm 1.0	—	
Coupling Flatness	300-380	—	0.8	± 1.5	dB
	380-600	—	1.1	± 2.00	
	600-2700	—	0.3	± 0.75	
	2700-3700	—	0.1	± 0.50	
Mainline Loss ¹	300-380	—	0.03	0.2	dB
	380-600	—	0.03	0.20	
	600-2700	—	0.09	0.30	
	2700-3700	—	0.16	0.35	
Directivity	300-380	20	31	—	dB
	380-600	20	28	—	
	600-2700	15	23	—	
	2700-3700	14	18	—	
Return Loss	300-380	—	31	—	dB
	380-600	—	30	—	
	600-2700	—	29	—	
	2700-3700	—	23	—	
Input Power ²	300-380	—	—	250	W
	380-600	—	—	250	
	600-2700	—	—	250	
	2700-3700	—	—	150	

1. Does not include coupling loss.

2. At 25°C with no DC current. Derate linearly to 100W (300-2700 MHz) and to 64W (2700-3700 MHz) from 25°C to 100°C. Output load

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITHOUT INTERNAL TRANSFORMERS AND RESISTORS.

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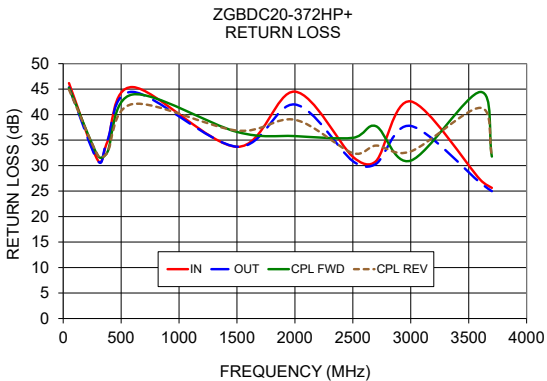
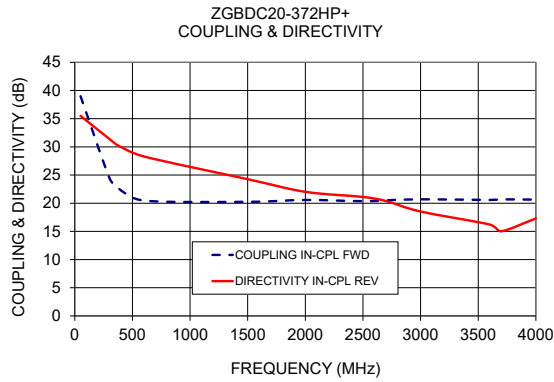
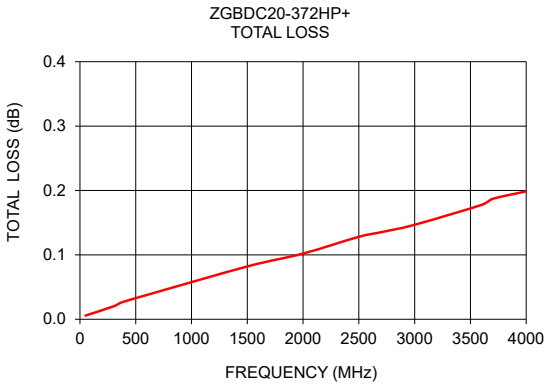
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Typical Performance Data

Frequency (MHz)	Mainline Loss ¹ (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
50	0.01	39.0	39.1	32.1	35.5	46.2	45.3	45.3	44.9
300	0.02	24.5	24.5	31.9	31.4	31.0	30.9	31.9	32.0
380	0.03	22.6	22.6	29.5	30.2	34.6	34.9	32.6	32.5
600	0.04	20.5	20.4	28.8	28.3	45.4	44.5	44.0	42.1
1500	0.08	20.2	20.2	23.1	24.3	33.7	33.7	36.6	36.9
2000	0.10	20.6	20.4	21.9	22.0	44.5	42.0	35.8	39.0
2500	0.13	20.4	20.2	19.9	21.1	31.7	30.9	35.5	32.5
2700	0.14	20.5	20.3	20.3	20.4	30.9	30.3	37.7	33.9
3000	0.15	20.7	20.5	18.6	18.5	42.6	37.8	31.0	32.8
3600	0.18	20.6	20.4	16.4	16.2	27.2	26.6	44.4	41.3
3700	0.19	20.7	20.5	16.6	15.0	25.6	25.0	31.8	32.0
4000	0.20	20.6	20.5	16.2	17.3	29.7	28.4	20.7	19.9

1. Does not include coupling loss.



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