6dB DC Pass

High Power Bi-Directional Coupler ZGBDC6-521-N+

50Ω Up to 60W 130 to 520 MHz

The Big Deal

- High Power Handling: 60W
- Low Insertion Loss: 0.2 dB typ.*

CASE STYLE: HT3025-1

Product Overview

The Mini-Circuits ZGBDC6-521-N+ broadband high power bi-directional coupler offers excellent performance across a wide range of popular frequency bands. The ZGBDC6-521-N+ can pass up to 1A of DC current from input to output and handle up to 60W CW. The rugged construction makes this coupler ideal for use in field applications or remote monitoring sites; It is also ideal for high power lab testing.

Key Features

Feature	Advantages
Excellent Insertion Loss , 0.2 dB Typ*	With extremely low insertion loss, this coupler is ideal for critical high power applications.
Ultra High Return Loss, 28 dB Typ	Outstanding Return loss makes this coupler ideal for sensitive power measurement and other signal distribution applications.
High Power Handling, 60W	Up to 60W 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.
Excellent Directivity and Coupling Flatness	Typical 28 dB directivity and ±0.7 dB of Coupling flatness provides accurate signal sampling of forward or reflected power.
Passes DC Current, 1A	Capable of passing 1A current, input to output; this coupler is suited for application using remote antenna control or other remote motorized requirements.

*Does not include coupling loss

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Generic photo used for illustration purposes only

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Connectors	Model
N-Type	ZGBDC6-521-N+

+RoHS Compliant
The +Suffix identifies 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
DC Current	1A

Permanent damage may occur if any of these limits are exceeded

Coaxial Connections

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

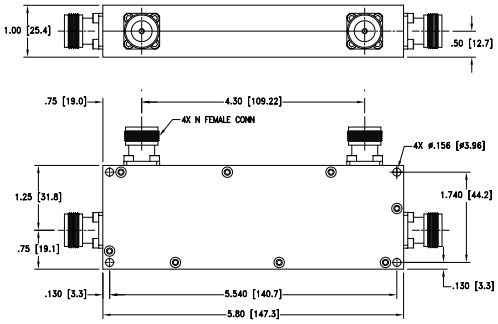
Features

- good coupling flatness, ±0.7 dB typ.
- high directivity, 28 dB typ.
- very good return loss, 28 dB typ.
- high power, up to 60W
- DC current pass through input to output

Applications

- lab use
- defense
- VHF and UHF

Outline Drawing



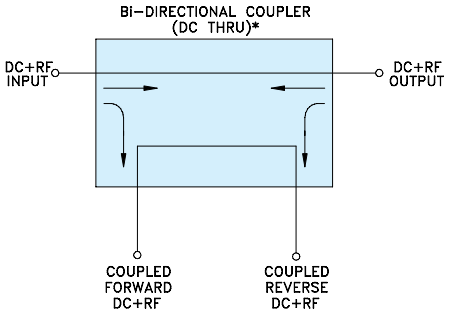
Weight: 570 grams
Dimensions are in inches [mm]

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Operating Frequency		130		520	MHz
Coupling	130-520	—	6±1.0	—	dB
Coupling Flatness (±)	130-520	—	±0.7	±1.0	dB
Mainline Loss[1]	130-520	—	0.2	0.6	dB
Directivity	130-520	18	28	—	dB
Return Loss (In & Out)	130-520	17.6	28	—	dB
Return Loss (Coupling)	130-520	17.6	29	—	dB
Input Power [2]	130-520	—	—	60	W

1. Does not include coupling loss.
2. At 25°C with no DC current. Derate linearly to 5W at 100°C.

Electrical Schematic



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

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.
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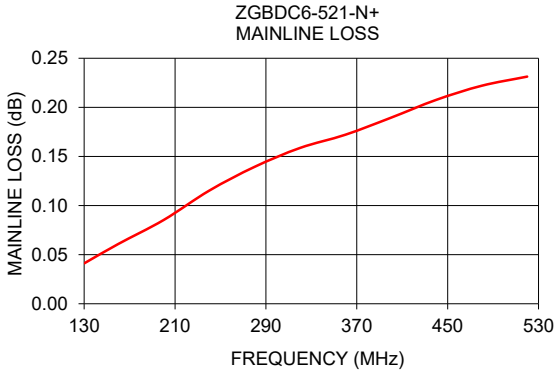
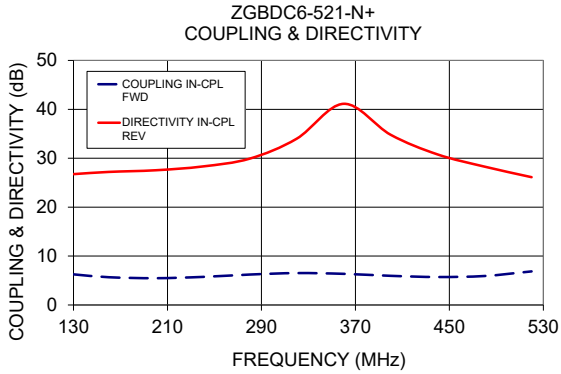
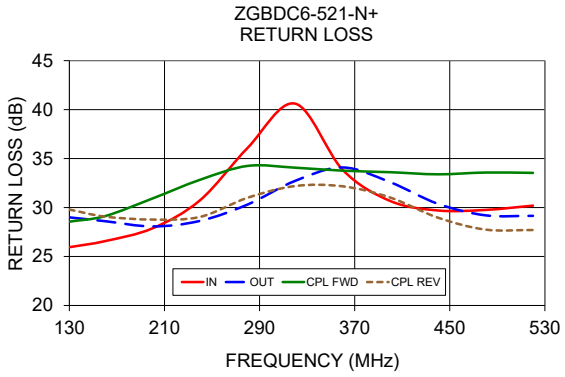
Typical Performance Data

Frequency (MHz)	Mainline Loss[1] (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
130	0.04	6.25	6.21	29.75	26.75	25.95	28.99	28.55	29.79
160	0.06	5.66	5.65	30.02	27.20	26.57	28.60	29.12	29.07
200	0.09	5.47	5.49	30.51	27.54	27.88	28.07	30.92	28.77
240	0.12	5.73	5.79	30.76	28.32	30.75	28.64	32.84	29.04
280	0.14	6.21	6.33	30.87	29.91	36.10	30.31	34.25	31.00
320	0.16	6.51	6.68	30.63	33.99	40.61	32.72	34.07	32.19
360	0.17	6.36	6.53	29.83	41.13	33.84	34.09	33.76	32.16
400	0.19	5.95	6.09	28.91	34.80	30.66	32.58	33.60	31.01
440	0.21	5.71	5.82	28.06	30.77	29.70	30.38	33.39	28.96
480	0.22	5.92	6.02	27.52	28.28	29.75	29.20	33.57	27.74
520	0.23	6.86	6.95	26.36	26.12	30.19	29.15	33.53	27.70

1. Does not include coupling loss.







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