

6dB DC Pass

High Power Directional Coupler

ZGDC6-372HP+

50Ω 6dB 380 to 3700 MHz

The Big Deal

- High Power Handling: 250W
- Low Insertion Loss: 0.20 dB typ.*



CASE STYLE: HT1398-3

Product Overview

The Mini-Circuits ZGDC6-372HP+ broadband high power directional coupler offers excellent performance across a wide range of popular frequency bands. Built using low loss suspended substrate construction, the ZGDC6-372HP+ 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 , 0.20 dB Typ* | With extremely low insertion loss, this coupler is ideal for critical high power applications. |
| Ultra High Return Loss, 27 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 380-3700 MHz, the ZGDC6-372HP+ covers the most popular Cellular, PCS, DCS, WiMAX, and LTE bands. |
| Excellent Directivity and Coupling Flatness | Typical 23 dB directivity and ± 0.8 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

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6dB DC Pass

High Power Directional Coupler

ZGDC6-372HP+

50Ω Up to 250W 380 to 3700 MHz

Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 3A |
| Supplied Termination | 10W* |

*Derate linearly by 0.18W/°C from 70°C to 100°C
Permanent damage may occur if any of these limits are exceeded

Coaxial Connections

| | |
|-----------------------------|------|
| INPUT | IN |
| OUTPUT | OUT |
| COUPLED | CPL |
| TERMINATION (50Ω), INTERNAL | TERM |

Features

- wide frequency range, 380-3700 MHz
- good coupling flatness, ±0.2 dB typ. (600-3700 MHz)
- high directivity, 23 dB typ.
- very good VSWR, 1.09:1 typ.
- high power, up to 250W
- DC current pass through input to output

Applications

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



CASE STYLE: HT1398-3

Connectors Model
N-Type ZGDC6-372HP+

+RoHS Compliant

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

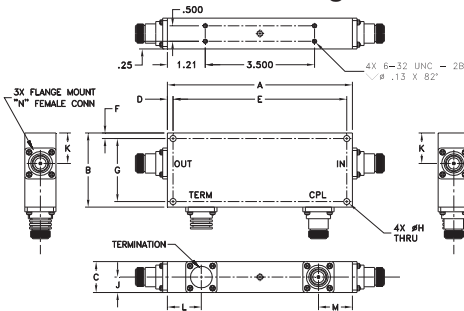
Electrical Specifications at 25°C

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Units |
|----------------------------|-----------------|------|---------|-------|-------|
| Operating Frequency | | 380 | | 3700 | MHz |
| Coupling | 380-600 | — | 7.3±1.5 | — | dB |
| | 600-2700 | — | 6.3±0.6 | — | |
| | 2700-3700 | — | 6.4±0.6 | — | |
| Coupling Flatness | 380-600 | — | ±0.8 | ±1.25 | dB |
| | 600-2700 | — | ±0.2 | ±0.75 | |
| | 2700-3700 | — | ±0.1 | ±0.4 | |
| Mainline Loss ¹ | 380-600 | — | 0.01 | 0.2 | dB |
| | 600-2700 | — | 0.1 | 0.5 | |
| | 2700-3700 | — | 0.2 | 0.6 | |
| Directivity | 380-600 | 20 | 32 | — | dB |
| | 600-2700 | 18 | 31 | — | |
| | 2700-3700 | 16 | 26 | — | |
| VSWR | 380-600 | — | 1.02 | — | :1 |
| | 600-2700 | — | 1.05 | — | |
| | 2700-3700 | — | 1.09 | — | |
| Input Power ² | 380-600 | — | — | 250 | W |
| | 600-2700 | — | — | 250 | |
| | 2700-3700 | — | — | 150 | |

1. Does not include coupling loss.

2. At 25°C with no DC current. Derate linearly to 100W (380-2700 MHz) and to 64W (2700-3600 MHz) from 25°C to 100°C. Output load VSWR 2.0:1 max.

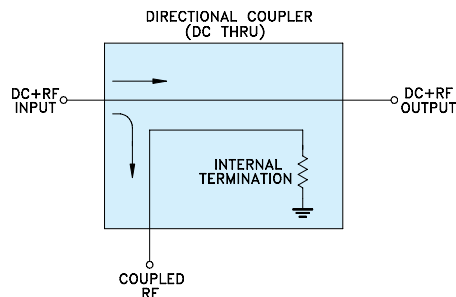
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | |
|--------|-------|-------|-------|--------|-------|-------|
| A | B | C | D | E | F | G |
| 5.93 | 2.4 | 1.00 | 0.18 | 5.57 | 0.18 | 2.04 |
| 150.62 | 60.96 | 25.40 | 4.57 | 141.35 | 4.57 | 51.82 |
| H | J | K | L | M | wt | |
| 0.2 | 0.5 | 0.99 | 1.09 | 1.09 | grams | |
| 5.08 | 12.70 | 25.15 | 27.69 | 27.69 | 700 | |

Electrical Schematic



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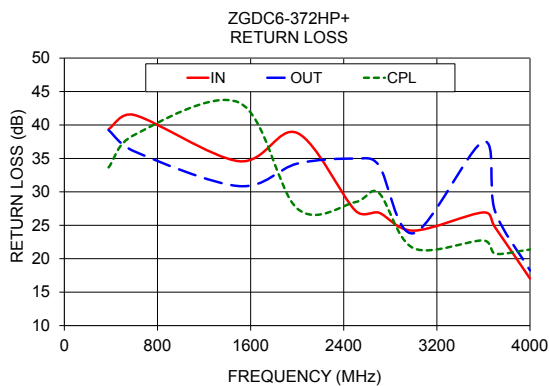
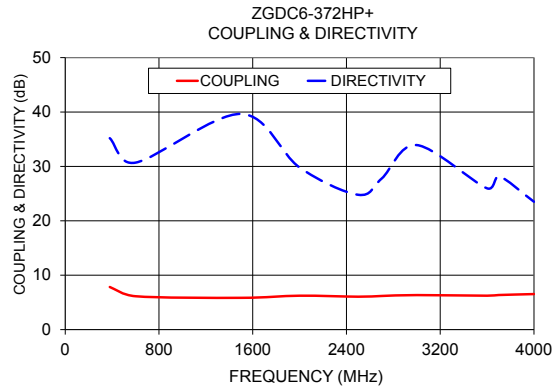
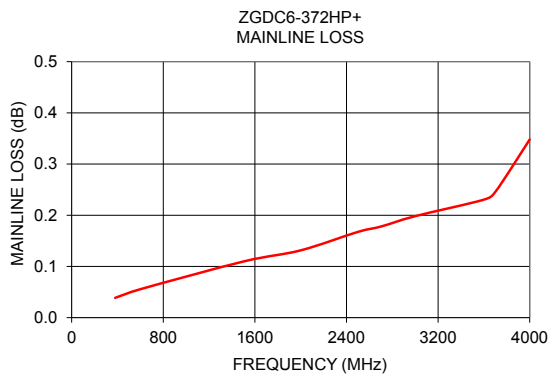
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Typical Performance Data

| Frequency (MHz) | Mainline Loss ⁽¹⁾ (dB) | | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|-----------------------------------|--|----------------------|------------------|------------------|------|------|
| | In-Out | | | | In | Out | Cpl |
| 380 | 0.04 | | 7.8 | 35.2 | 39.4 | 39.2 | 33.7 |
| 600 | 0.06 | | 6.1 | 30.7 | 41.5 | 36.1 | 38.5 |
| 1500 | 0.11 | | 5.8 | 39.6 | 34.6 | 30.9 | 43.4 |
| 2000 | 0.13 | | 6.2 | 29.8 | 38.8 | 34.2 | 27.5 |
| 2500 | 0.17 | | 6.1 | 24.8 | 27.2 | 35.0 | 28.5 |
| 2700 | 0.18 | | 6.2 | 27.8 | 26.9 | 34.0 | 29.9 |
| 3000 | 0.20 | | 6.3 | 33.9 | 24.2 | 23.8 | 21.6 |
| 3600 | 0.23 | | 6.2 | 26.0 | 26.9 | 37.5 | 22.7 |
| 3700 | 0.25 | | 6.4 | 28.2 | 24.7 | 27.1 | 20.7 |
| 4000 | 0.35 | | 6.5 | 23.5 | 17.0 | 18.3 | 21.4 |

1. Does not include coupling loss.



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