

# Coaxial Frequency Mixer

Level 7 (LO Power +7 dBm) 20 to 1500 MHz

ZP-5+  
ZP-5



## Maximum Ratings

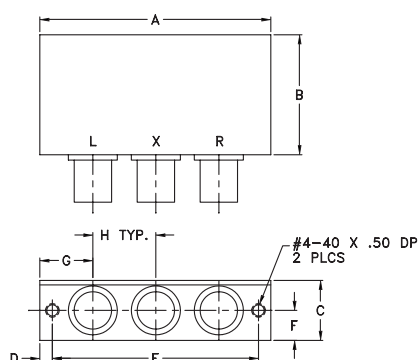
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 50mW           |
| IF Current            | 40mA           |

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

## Coaxial Connections

|    |   |
|----|---|
| LO | L |
| RF | R |
| IF | X |

## Outline Drawing



## Outline Dimensions (inch)

| A     | B     | C     | D    | E     | F    | G     | H     | wt    |
|-------|-------|-------|------|-------|------|-------|-------|-------|
| 2.31  | 1.20  | .60   | .125 | 2.062 | .30  | .53   | .63   | grams |
| 58.67 | 30.48 | 15.24 | 3.18 | 52.37 | 7.62 | 13.46 | 16.00 | 75.0  |

## Features

- low conversion loss, 5.7 dB typ.
- excellent L-R isolation, 42 dB typ.
- wideband, 20 to 1500 MHz
- rugged shielded case

## Applications

- VHF/UHF
- satellite distribution
- instrumentation

BNC version shown  
CASE STYLE: GG60

| Connectors | Model     | Price       | Qty.  |
|------------|-----------|-------------|-------|
| BNC        | ZP-5(+)   | \$47.95 ea. | (1-9) |
| SMA        | ZP-5-S(+) | \$52.95 ea. | (1-9) |

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

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

## Electrical Specifications

| FREQUENCY (MHz) |         | CONVERSION LOSS (dB) |          |       |            | LO-RF ISOLATION (dB) |      |      |      |      |      | LO-IF ISOLATION (dB) |      |      |      |      |      |
|-----------------|---------|----------------------|----------|-------|------------|----------------------|------|------|------|------|------|----------------------|------|------|------|------|------|
| LO/RF           | IF      | Mid-Band             |          | Total |            | L                    |      | M    |      | U    |      | L                    |      | M    |      | U    |      |
| $f_L$ - $f_U$   |         | $\bar{X}$            | $\sigma$ | Max.  | Range Max. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. |
| 20-1500         | DC-1000 | 5.7                  | 0.10     | 9.0   | 9.0        | 54                   | 40   | 42   | 30   | 39   | 25   | 40                   | 25   | 32   | 18   | 23   | 8    |

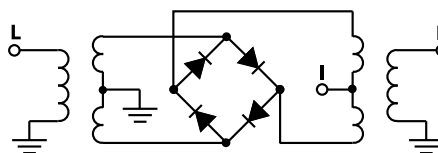
1 dB COMP.: +1 dBm typ.

L = low range [ $f_L$  to  $10 f_L$ ] M = mid range [ $10 f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]  
m = mid band [ $2 f_L$  to  $f_U/2$ ]

## Typical Performance Data

| Frequency (MHz) |         | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |
|-----------------|---------|----------------------|--------------------|--------------------|-------------------|-------------------|
| RF              | LO      | LO +7dBm             | LO +7dBm           | LO +7dBm           | LO +7dBm          | LO +7dBm          |
| 20.00           | 50.00   | 5.76                 | 69.06              | 50.01              | 1.56              | 2.37              |
| 40.00           | 70.00   | 5.54                 | 63.75              | 45.70              | 1.44              | 2.31              |
| 50.00           | 80.00   | 5.44                 | 61.73              | 43.88              | 1.56              | 2.17              |
| 100.00          | 70.00   | 5.38                 | 56.05              | 38.99              | 1.62              | 2.16              |
| 158.75          | 128.75  | 5.40                 | 52.30              | 36.23              | 1.89              | 2.18              |
| 200.00          | 170.00  | 5.41                 | 49.90              | 34.38              | 2.12              | 2.20              |
| 297.50          | 267.50  | 5.58                 | 46.54              | 31.36              | 2.25              | 2.23              |
| 436.25          | 406.25  | 5.81                 | 46.39              | 28.70              | 2.65              | 2.27              |
| 500.00          | 470.00  | 5.94                 | 46.35              | 27.70              | 3.02              | 2.33              |
| 575.00          | 545.00  | 6.28                 | 45.43              | 26.65              | 3.26              | 2.35              |
| 713.75          | 683.75  | 6.65                 | 43.76              | 25.47              | 3.36              | 2.38              |
| 750.00          | 720.00  | 6.73                 | 43.43              | 25.18              | 3.43              | 2.42              |
| 852.50          | 822.50  | 6.83                 | 42.21              | 24.77              | 3.60              | 2.54              |
| 991.25          | 961.25  | 7.20                 | 40.31              | 22.85              | 3.65              | 2.71              |
| 1000.00         | 970.00  | 7.15                 | 40.23              | 22.65              | 3.65              | 2.84              |
| 1130.00         | 1100.00 | 7.28                 | 38.87              | 19.85              | 3.62              | 2.90              |
| 1268.75         | 1238.00 | 7.27                 | 38.46              | 17.22              | 3.58              | 3.10              |
| 1407.50         | 1377.50 | 7.29                 | 37.61              | 14.48              | 3.50              | 3.39              |
| 1453.75         | 1423.75 | 7.22                 | 37.14              | 13.58              | 3.42              | 3.62              |
| 1500.00         | 1470.00 | 7.38                 | 36.87              | 12.98              | 3.39              | 3.76              |

## Electrical Schematic



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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# Performance Charts

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