

# Coaxial Frequency Mixer

Level 7 (LO Power +7 dBm) 1 to 1500 MHz

## Maximum Ratings

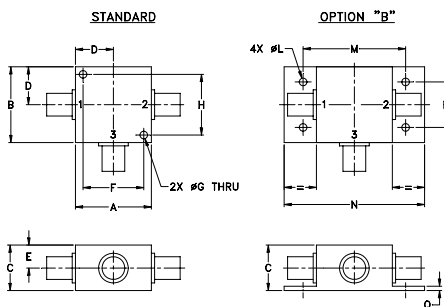
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 50mW           |
| IF Current            | 40mA           |

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

## Coaxial Connections

|    |   |
|----|---|
| LO | 1 |
| RF | 3 |
| IF | 2 |

## Outline Drawing



## Outline Dimensions (inch)

|       |       |       |       |       |       |      |       |
|-------|-------|-------|-------|-------|-------|------|-------|
| A     | B     | C     | D     | E     | F     | G    | H     |
| 1.25  | 1.25  | .75   | .63   | .38   | 1.00  | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65  | 25.40 | 3.18 | 25.40 |
| J     | K     | L     | M     | N     | P     | Q    | wt    |
| --    | --    | .125  | 1.688 | 2.18  | .75   | .07  | grams |
| --    | --    | 3.18  | 42.88 | 55.37 | 19.05 | 1.78 | 70.0  |

## Features

- low conversion loss, 5.9 dB typ.
- high L-R isolation, 40 dB typ, L-I, 45 dB typ.
- wideband, 1 to 1500 MHz
- rugged shielded case

## Applications

- VHF/UHF
- cellular
- satellite distribution
- instrumentation

**ZFM-5X+**  
**ZFM-5X**



SMA version shown  
CASE STYLE: K18

| Connectors           | Model       | Price       | Qty.  |
|----------------------|-------------|-------------|-------|
| BNC                  | ZFM-5X(+)   | \$59.95 ea. | (1-9) |
| SMA                  | ZFM-5X-S(+) | \$64.95 ea. | (1-9) |
| BRACKET (OPTION "B") |             | \$5.00      | (1+)  |

+ 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.  | Max. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. |
| 1-1500          | 1-1000 | 5.9                  | 0.10     | 7.0   | 9.0  | 60                   | 40   | 40   | 20   | 28   | 17   | 60                   | 45   | 45   | 25   | 38   | 20   |

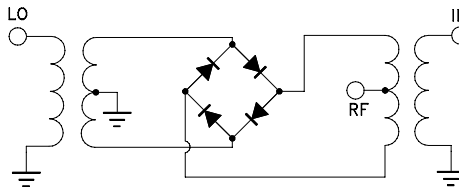
1 dB COMP.: +1 dBm typ.

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          |
| 1.01            | 31.01   | 5.81                 | 76.49              | 72.03              | 1.25              | 2.94              |
| 2.13            | 32.13   | 5.83                 | 74.70              | 73.03              | 1.25              | 2.78              |
| 10.96           | 40.96   | 5.80                 | 63.50              | 69.26              | 1.26              | 2.54              |
| 56.50           | 86.50   | 5.80                 | 50.82              | 61.44              | 1.28              | 2.46              |
| 160.38          | 130.38  | 5.88                 | 43.16              | 54.92              | 1.37              | 2.37              |
| 216.07          | 186.07  | 5.81                 | 40.68              | 53.11              | 1.43              | 2.38              |
| 250.80          | 220.80  | 5.85                 | 39.60              | 53.11              | 1.48              | 2.36              |
| 337.90          | 307.90  | 5.93                 | 36.86              | 51.90              | 1.58              | 2.37              |
| 455.25          | 425.25  | 6.15                 | 33.77              | 50.56              | 1.70              | 2.44              |
| 528.42          | 498.42  | 6.01                 | 31.68              | 49.21              | 1.75              | 2.45              |
| 613.35          | 583.35  | 6.23                 | 30.05              | 50.49              | 1.78              | 2.49              |
| 750.00          | 720.00  | 6.34                 | 27.83              | 48.82              | 1.78              | 2.64              |
| 826.36          | 796.36  | 6.30                 | 26.21              | 49.29              | 1.75              | 2.69              |
| 900.00          | 870.00  | 6.30                 | 25.22              | 49.14              | 1.69              | 2.79              |
| 1000.00         | 970.00  | 6.43                 | 24.31              | 49.77              | 1.59              | 2.85              |
| 1200.00         | 1170.00 | 6.37                 | 24.48              | 44.45              | 1.40              | 2.84              |
| 1292.29         | 1262.29 | 6.29                 | 24.10              | 42.55              | 1.34              | 3.11              |
| 1400.00         | 1370.00 | 6.43                 | 24.34              | 41.19              | 1.31              | 3.52              |
| 1450.00         | 1420.00 | 6.56                 | 24.29              | 40.04              | 1.32              | 3.68              |
| 1500.00         | 1470.00 | 6.77                 | 25.14              | 40.04              | 1.38              | 3.90              |

## Electrical Schematic



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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

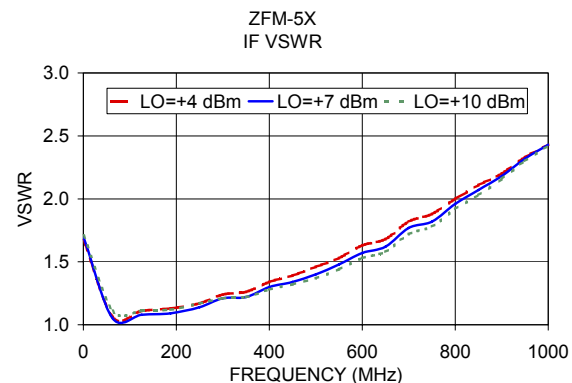
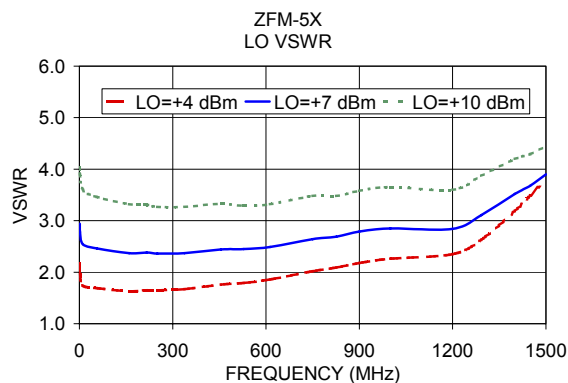
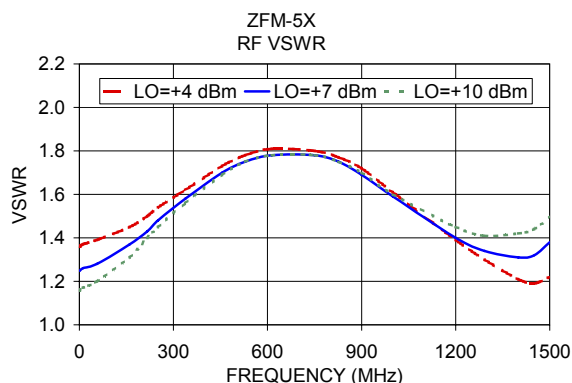
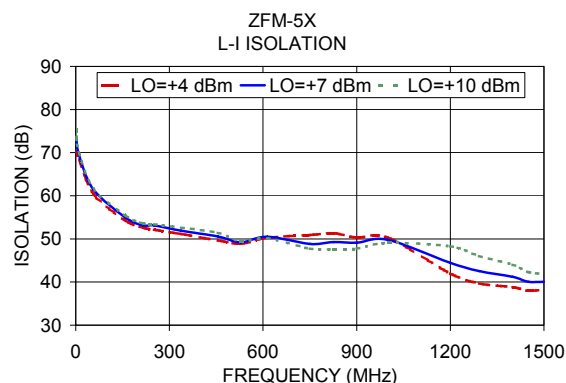
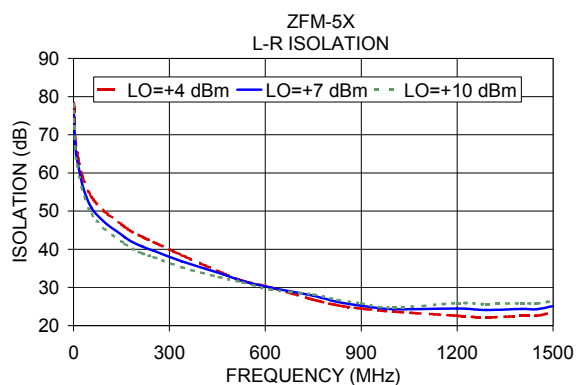
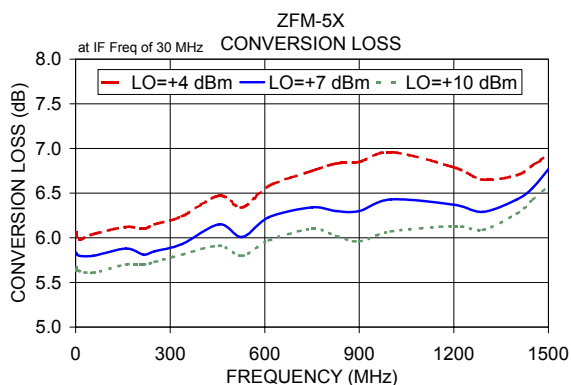
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# Performance Charts

# ZFM-5X+ ZFM-5X



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