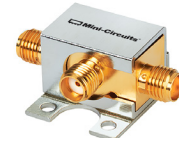


# Coaxial Frequency Mixer

## ZX05-1MHW-S+

Level 13 (LO Power +13 dBm) 0.5 to 600 MHz



Generic photo used for illustration purposes only

CASE STYLE: FL905

| Connectors | Model        |
|------------|--------------|
| SMA        | ZX05-1MHW-S+ |

**+RoHS Compliant**

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

### Maximum Ratings

|   |                |
|---|----------------|
| Operating Temperature   | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power  | 200mW          |
| IF Current  | 40mA           |
| Permanent damage may occur if any of these limits are exceeded. |                |

### Coaxial Connections

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

### Features

- rugged construction
- small size
- low conversion loss
- high L-R isolation
- protected by US Patents 6,133,525 & 6,790,049

### Applications

- cellular
- PCS
- instrumentation
- satellite communication

### Electrical Specifications (T<sub>AMB</sub>=25°C)

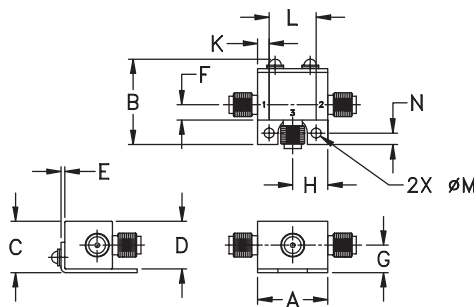
| FREQUENCY (MHz)                | CONVERSION LOSS (dB) |    |            |               | LO-RF ISOLATION (dB) |      |      |      |      |      | LO-IF ISOLATION (dB) |      |      |      |      |      | IP3 at center band (dBm) |
|--------------------------------|----------------------|----|------------|---------------|----------------------|------|------|------|------|------|----------------------|------|------|------|------|------|--------------------------|
|                                | LO/RF                | IF | Mid-Band m | Total Range   | L                    |      | M    |      | U    |      | L                    |      | M    |      | U    |      |                          |
| f <sub>L</sub> -f <sub>U</sub> |                      |    | $\bar{X}$  | $\sigma$ Max. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. | Typ.                 | Min. | Typ. | Min. | Typ. | Min. | Typ.                     |
| 0.5-600                        | DC-600               |    | 5.2        | 0.1 6.9 8.0   | 63                   | 50   | 53   | 32   | 43   | 20   | 56                   | 40   | 44   | 25   | 30   | 20   | 17                       |

1 dB COMP.: +9 dBm typ.

L = low range [f<sub>L</sub> to 10 f<sub>L</sub>]  
m = mid band [2f<sub>L</sub> to f<sub>U</sub>/2]

M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

### Outline Drawing



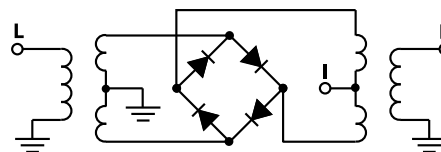
### Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F    | G     |
|-------|-------|-------|-------|------|------|-------|
| .74   | .90   | .54   | .50   | .04  | .16  | .29   |
| 18.80 | 22.86 | 13.72 | 12.70 | 1.02 | 4.06 | 7.37  |
| H     | J     | K     | L     | M    | N    | wt    |
| .37   | --    | .122  | .496  | .106 | .122 | grams |
| 9.40  | --    | 3.10  | 12.60 | 2.69 | 3.10 | 20.0  |

### 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 +13dBm            | LO +13dBm          | LO +13dBm          | LO +13dBm         | LO +13dBm         |
| 0.51            | 30.51  | 6.90                 | 65.03              | 59.15              | 1.94              | 2.72              |
| 35.10           | 65.10  | 5.20                 | 57.24              | 54.53              | 1.07              | 2.37              |
| 75.10           | 45.10  | 5.20                 | 51.59              | 49.29              | 1.09              | 2.32              |
| 100.10          | 70.10  | 5.21                 | 49.55              | 46.80              | 1.10              | 2.34              |
| 136.65          | 106.65 | 5.14                 | 47.71              | 44.52              | 1.13              | 2.36              |
| 186.31          | 156.31 | 5.20                 | 45.43              | 42.16              | 1.17              | 2.37              |
| 219.41          | 189.41 | 5.21                 | 44.63              | 41.28              | 1.20              | 2.43              |
| 252.51          | 222.51 | 5.25                 | 43.63              | 40.19              | 1.23              | 2.44              |
| 285.62          | 255.62 | 5.27                 | 42.50              | 39.17              | 1.26              | 2.44              |
| 318.72          | 288.72 | 5.26                 | 42.63              | 38.66              | 1.28              | 2.53              |
| 351.82          | 321.82 | 5.35                 | 41.96              | 37.65              | 1.31              | 2.44              |
| 384.93          | 354.93 | 5.41                 | 40.38              | 36.31              | 1.34              | 2.52              |
| 418.03          | 388.03 | 5.39                 | 39.35              | 34.63              | 1.39              | 2.58              |
| 451.13          | 421.13 | 5.53                 | 37.97              | 34.45              | 1.43              | 2.52              |
| 484.24          | 454.24 | 5.58                 | 36.94              | 33.38              | 1.45              | 2.63              |
| 500.79          | 470.79 | 5.58                 | 36.54              | 33.15              | 1.45              | 2.59              |
| 533.89          | 503.89 | 5.69                 | 35.79              | 32.80              | 1.43              | 2.46              |
| 550.45          | 520.45 | 5.74                 | 35.31              | 32.18              | 1.41              | 2.49              |
| 583.55          | 553.55 | 5.74                 | 35.05              | 30.26              | 1.38              | 2.66              |
| 600.10          | 570.10 | 5.72                 | 35.01              | 29.30              | 1.38              | 2.64              |

### Electrical Schematic



### 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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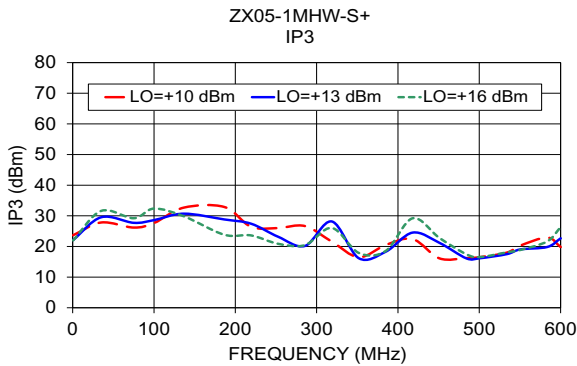
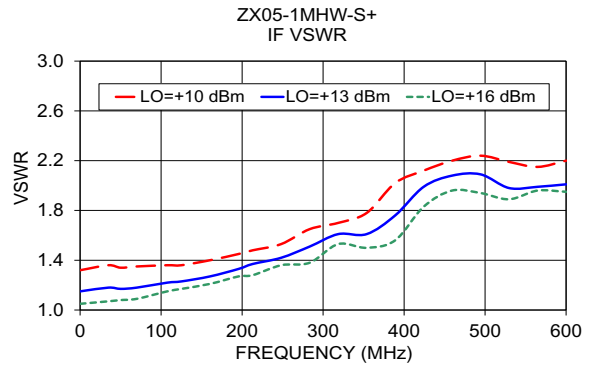
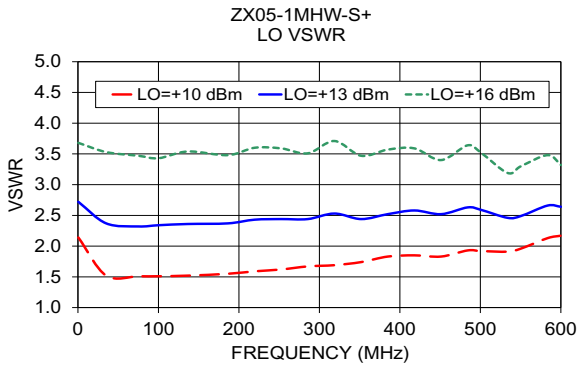
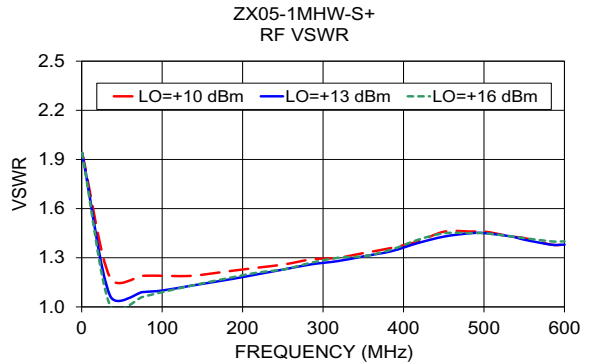
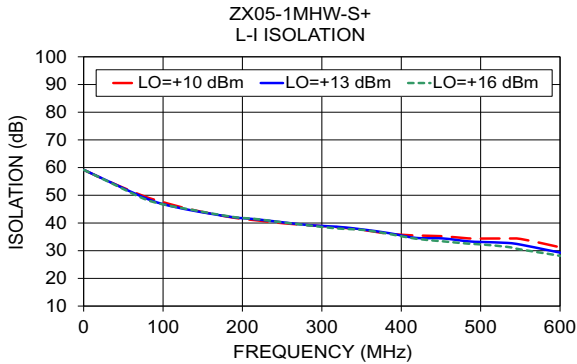
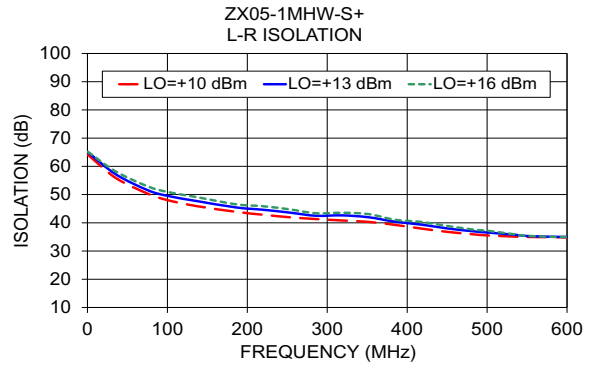
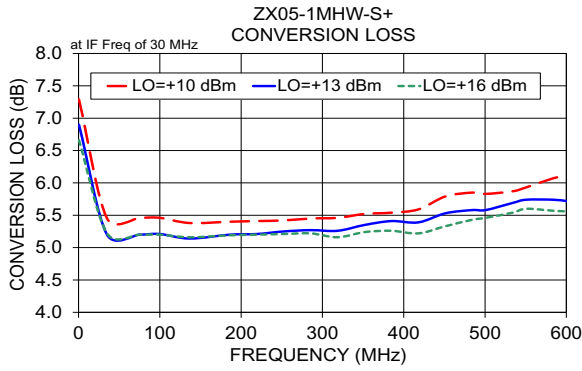


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Page 1 of 2

# Performance Charts

# ZX05-1MHW-S+



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