

# Frequency Mixer WIDE BAND

## ZX05-153MH+

Level 13 (LO Power +13 dBm) 3200 to 15000 MHz



### Maximum Ratings

|   |                |
|---|----------------|
| Operating Temperature   | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power  | 50mW           |
| Permanent damage may occur if any of these limits are exceeded. |                |

### Coaxial Connections

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

### Features

- wide bandwidth, 3200 to 15000 MHz
- low conversion loss, 6.5 dB typ.
- high L-R isolation, 36 dB typ.
- excellent IF BW, DC to 4000 MHz
- rugged construction
- small size
- useable as up and down converter
- protected by US patents, 6,790,049 and 7,027,795

### Applications

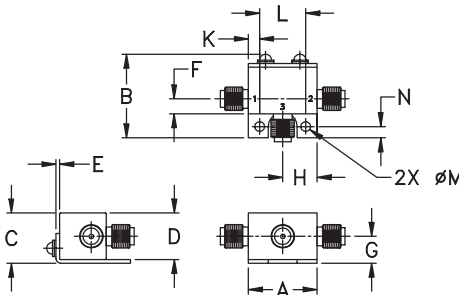
- satellite up and down converters
- defense radar and communications
- line of sight links
- federal fixed service
- WIFI
- blue tooth
- VSAT
- ISM

CASE STYLE: FL905

|            |               |
|------------|---------------|
| Connectors | Model         |
| SMA        | ZX05-153MH-S+ |

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

### 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  |

### Electrical Specifications

| FREQUENCY (MHz)                         | CONVERSION LOSS* (dB) | LO-RF ISOLATION (dB) |      | LO-IF ISOLATION (dB) |      | IP3 at center band (dBm) |      |    |    |
|---|-----------------------|----------------------|------|----------------------|------|--------------------------|------|----|----|
|   |                       | Typ.                 | Min. | Typ.                 | Min. |                          |      |    |    |
| LO/RF<br>f <sub>L</sub> -f <sub>U</sub> | IF                    | Typ.                 | σ    | Max.                 | Typ. | Min.                     | Typ. |    |    |
| 3200-15000                              | DC-4000               |                      |      |                      |      |                          |      |    |    |
| 3200-4500                               |                       | 6.4                  | 0.2  | 9.3                  | 40   | 34                       | 19   | 13 | 15 |
| 4500-5100                               |                       | 6.2                  | 0.2  | 8.0                  | 35   | 32                       | 14   | 10 | 18 |
| 5100-14000                              |                       | 7.5                  | 0.4  | 13.6                 | 34   | 22                       | 17   | 9  | 17 |
| 14000-15000                             |                       | 7.0                  | 0.3  | 10.5                 | 26   | 14                       | 24   | 11 | 13 |

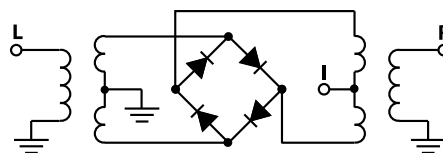
1 dB COMP.R.: +5 dBm typ.

\* Conversion loss at 30 MHz IF. σ is a measure of repeatability from unit to unit.

### Typical Performance Data

| Frequency (MHz) | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |           |
|-----------------|----------------------|--------------------|--------------------|-------------------|-------------------|-----------|
|                 |                      |                    |                    |                   |                   | LO +13dBm |
| RF              | LO                   | LO +13dBm          | LO +13dBm          | LO +13dBm         | LO +13dBm         |           |
| 3193.10         | 3223.10              | 7.79               | 47.11              | 20.82             | 2.39              | 17.57     |
| 3791.60         | 3821.60              | 6.32               | 51.86              | 19.59             | 2.88              | 7.44      |
| 4484.60         | 4514.60              | 5.92               | 41.93              | 16.09             | 2.33              | 3.48      |
| 5083.10         | 5113.10              | 5.94               | 40.95              | 12.87             | 2.75              | 1.90      |
| 5618.60         | 5648.60              | 6.29               | 38.97              | 14.17             | 3.46              | 2.65      |
| 6217.10         | 6247.10              | 5.90               | 40.72              | 16.68             | 2.79              | 3.90      |
| 6815.60         | 6845.60              | 5.61               | 39.73              | 18.51             | 2.14              | 4.30      |
| 7414.10         | 7444.10              | 5.33               | 37.25              | 16.36             | 1.52              | 3.19      |
| 8012.60         | 8042.60              | 5.50               | 30.38              | 12.32             | 1.56              | 2.13      |
| 8611.10         | 8641.10              | 5.72               | 37.50              | 19.00             | 2.22              | 1.83      |
| 9209.60         | 9239.60              | 6.31               | 33.03              | 22.52             | 3.30              | 1.99      |
| 10028.60        | 10058.60             | 8.48               | 31.28              | 17.81             | 4.62              | 1.90      |
| 10627.10        | 10657.10             | 8.76               | 36.89              | 23.65             | 4.95              | 2.47      |
| 11225.60        | 11255.60             | 8.77               | 37.44              | 29.08             | 5.33              | 3.65      |
| 11824.10        | 11854.10             | 8.51               | 32.31              | 34.91             | 4.78              | 4.83      |
| 12422.60        | 12452.60             | 8.67               | 30.24              | 37.24             | 4.13              | 4.80      |
| 13021.10        | 13051.10             | 7.66               | 26.56              | 37.10             | 3.67              | 3.60      |
| 13997.60        | 14027.60             | 7.84               | 29.74              | 30.66             | 3.20              | 4.00      |
| 14627.60        | 14657.60             | 8.55               | 26.54              | 22.01             | 2.75              | 3.80      |
| 15005.60        | 15035.60             | 8.82               | 19.09              | 16.55             | 2.05              | 3.01      |

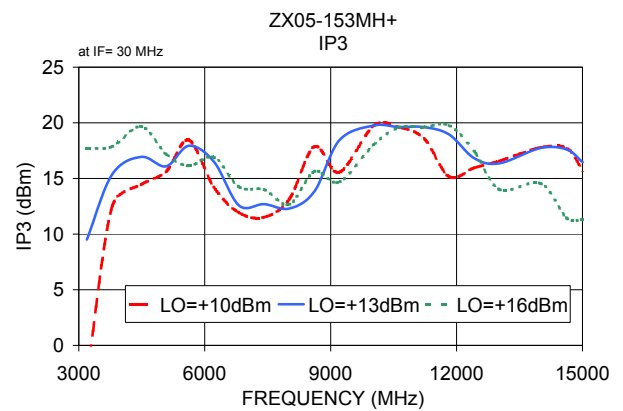
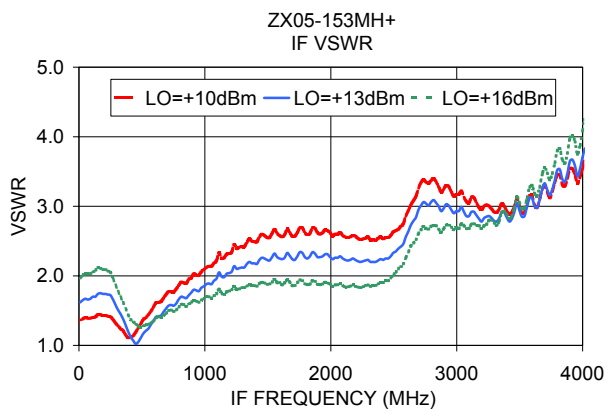
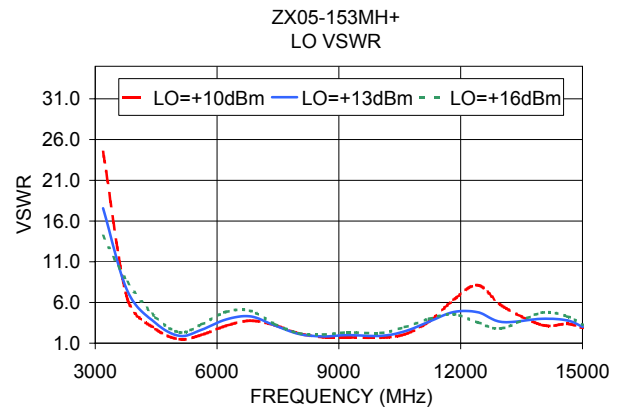
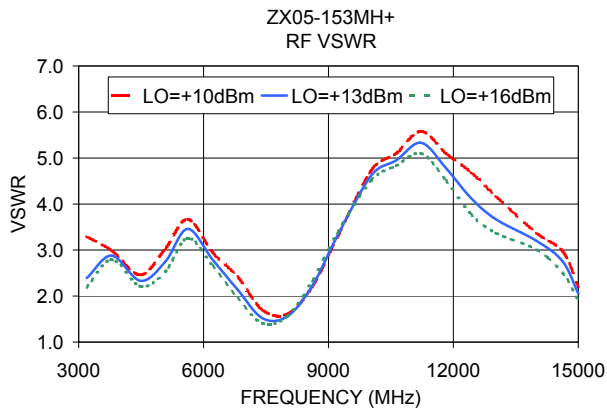
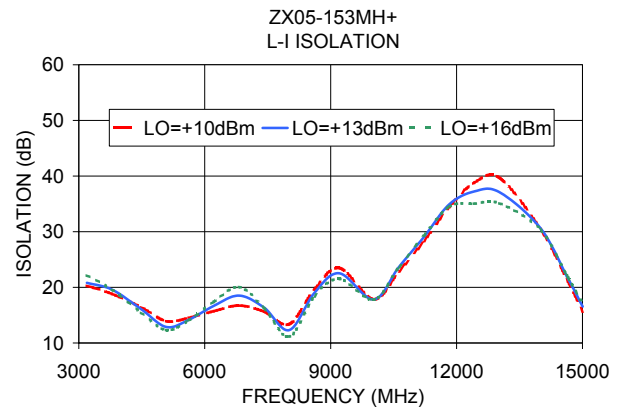
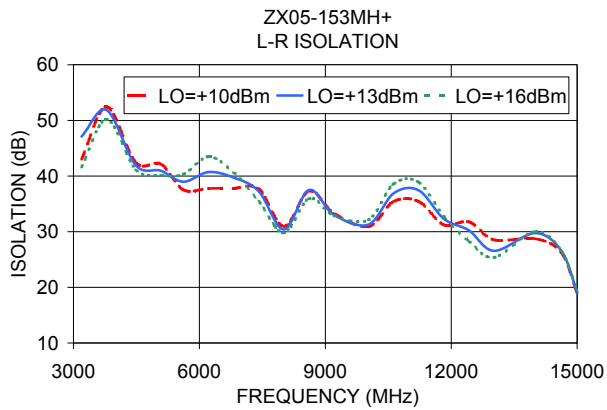
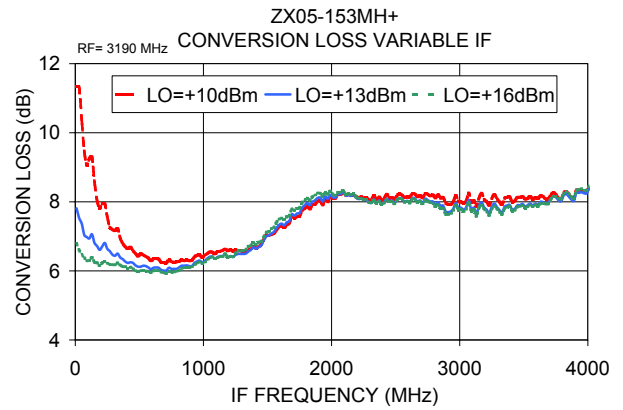
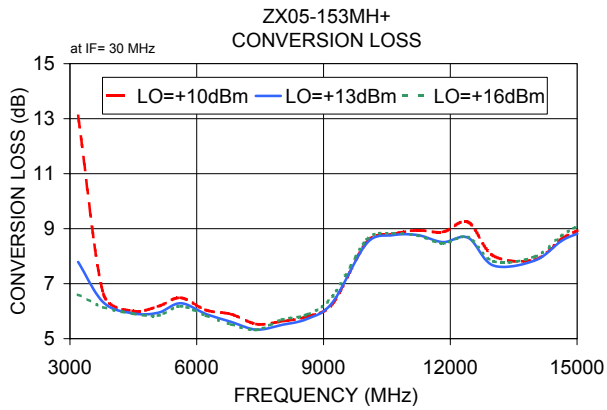
### Electrical Schematic



### 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.
- 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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