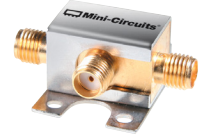


# Frequency Mixer WIDE BAND

## Level 10 (LO Power +10 dBm) 750 to 6000 MHz

## ZX05-63LH-S+



CASE STYLE: FL905

| Connectors | Model        |
|------------|--------------|
| SMA        | ZX05-63LH-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                                                        | 50mW           |
| Permanent damage may occur if any of these limits are exceeded. |                |

### Coaxial Connections

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

### Features

- wide bandwidth, 750 to 6000 MHz
- low conversion loss, 6.2 dB typ.
- excellent L-R isolation, 34 dB typ.
- rugged construction
- small size
- useable as up and down converter
- protected by US patents, 6,790,049 and 7,027,795

### Applications

- cellular
- defense and weather radar
- defense communications
- PCN
- WCDMA
- WIFI
- blue tooth
- VSAT

### Electrical Specifications

| FREQUENCY<br>(MHz)   |         | CONVERSION LOSS*<br>(dB) |          |      | LO-RF ISOLATION<br>(dB) |      | LO-IF ISOLATION<br>(dB) |      | IP3<br>at center<br>band<br>(dBm) |
|----------------------|---------|--------------------------|----------|------|-------------------------|------|-------------------------|------|-----------------------------------|
|                      |         | Typ.                     | $\sigma$ | Max. | Typ.                    | Min. | Typ.                    | Min. |                                   |
| LO/RF<br>$f_c - f_u$ | IF      |                          |          |      |                         |      |                         |      |                                   |
| 750-6000             | DC-1000 |                          |          |      |                         |      |                         |      |                                   |
| 750-1700             |         | 6.3                      | 0.1      | 7.5  | 37                      | 27   | 30                      | 20   | 10                                |
| 1700-2000            |         | 6.6                      | 0.1      | 7.5  | 34                      | 29   | 17                      | 10   | 16                                |
| 2000-3100            |         | 5.8                      | 0.1      | 7.4  | 30                      | 22   | 20                      | 10   | 8                                 |
| 3100-3800            |         | 6.0                      | 0.1      | 7.7  | 26                      | 21   | 24                      | 16   | 13                                |
| 3800-6000            |         | 8.0                      | 0.2      | 9.6  | 25                      | 20   | 20                      | 12   | 15                                |

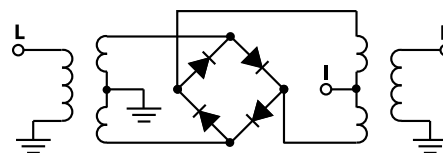
1 dB COMPR.: +3 dBm typ.

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

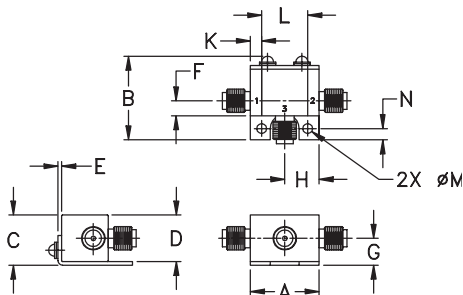
### Typical Performance Data

| Frequency<br>(MHz) |         | Conversion<br>Loss<br>(dB) | Isolation<br>L-R<br>(dB) | Isolation<br>L-I<br>(dB) | VSWR<br>RF Port<br>(:1) | VSWR<br>LO Port<br>(:1) |
|--------------------|---------|----------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| RF                 | LO      | LO<br>+10dBm               | LO<br>+10dBm             | LO<br>+10dBm             | LO<br>+10dBm            | LO<br>+10dBm            |
| 750.00             | 780.00  | 6.60                       | 40.63                    | 26.74                    | 2.25                    | 8.35                    |
| 910.00             | 940.00  | 6.25                       | 39.15                    | 28.45                    | 1.72                    | 4.37                    |
| 1110.00            | 1140.00 | 6.07                       | 42.18                    | 31.98                    | 2.92                    | 2.27                    |
| 1510.00            | 1540.00 | 5.90                       | 32.02                    | 33.61                    | 2.72                    | 1.84                    |
| 1690.00            | 1720.00 | 6.08                       | 33.84                    | 24.01                    | 2.75                    | 2.49                    |
| 1990.00            | 2020.00 | 6.34                       | 33.41                    | 13.04                    | 2.95                    | 2.53                    |
| 2210.00            | 2240.00 | 6.41                       | 33.26                    | 13.81                    | 2.98                    | 2.46                    |
| 2410.00            | 2440.00 | 5.71                       | 30.45                    | 17.02                    | 1.93                    | 2.35                    |
| 2610.00            | 2640.00 | 6.07                       | 27.96                    | 19.56                    | 2.17                    | 2.02                    |
| 2850.00            | 2880.00 | 5.09                       | 26.10                    | 19.91                    | 1.32                    | 1.24                    |
| 3090.00            | 3120.00 | 5.13                       | 25.33                    | 22.29                    | 1.61                    | 1.17                    |
| 3250.00            | 3280.00 | 5.48                       | 25.13                    | 24.67                    | 1.66                    | 1.39                    |
| 3790.00            | 3820.00 | 6.60                       | 25.66                    | 19.37                    | 2.74                    | 2.42                    |
| 4010.00            | 4040.00 | 7.22                       | 26.37                    | 19.41                    | 3.74                    | 2.95                    |
| 4250.00            | 4280.00 | 7.55                       | 26.01                    | 16.82                    | 3.78                    | 3.26                    |
| 4500.00            | 4530.00 | 6.96                       | 26.36                    | 15.62                    | 2.69                    | 3.90                    |
| 4800.00            | 4830.00 | 7.22                       | 26.30                    | 21.35                    | 2.74                    | 4.17                    |
| 5040.00            | 5070.00 | 7.63                       | 25.78                    | 31.97                    | 3.25                    | 3.73                    |
| 5500.00            | 5530.00 | 8.10                       | 24.40                    | 21.73                    | 4.25                    | 3.14                    |
| 6000.00            | 6030.00 | 8.09                       | 23.12                    | 18.03                    | 3.37                    | 2.21                    |

### Electrical Schematic



### 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  |

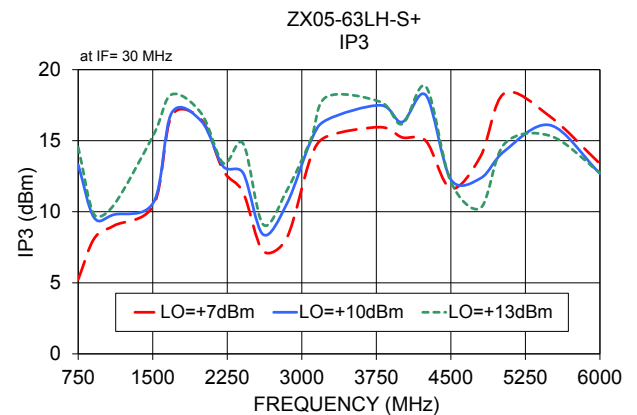
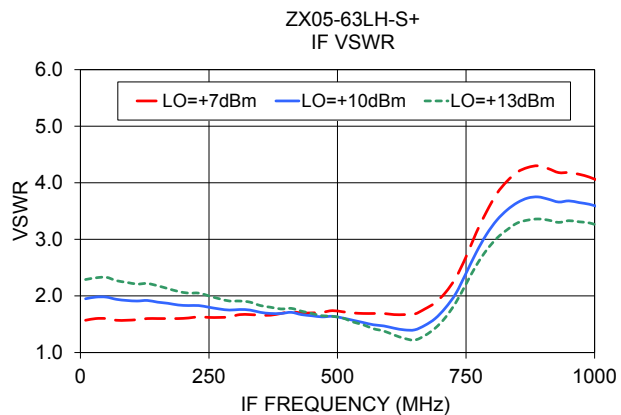
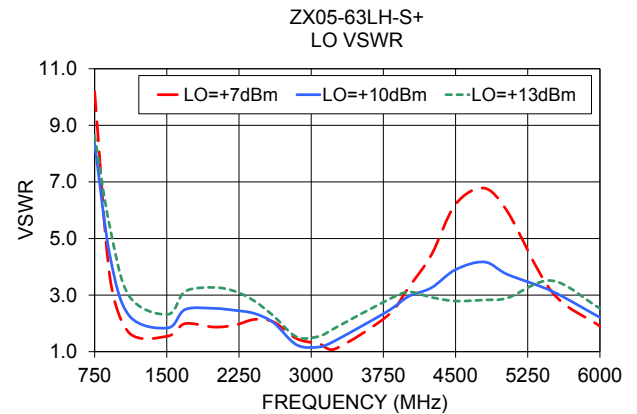
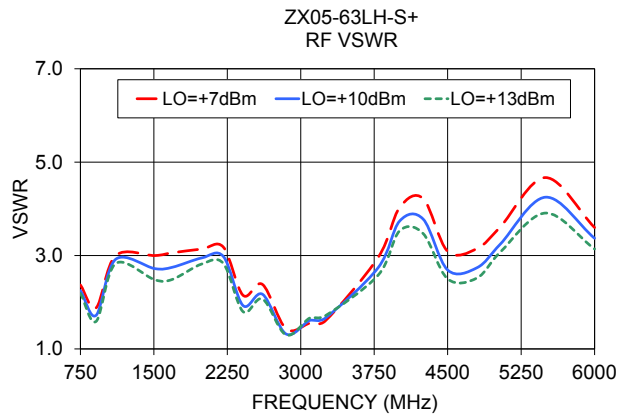
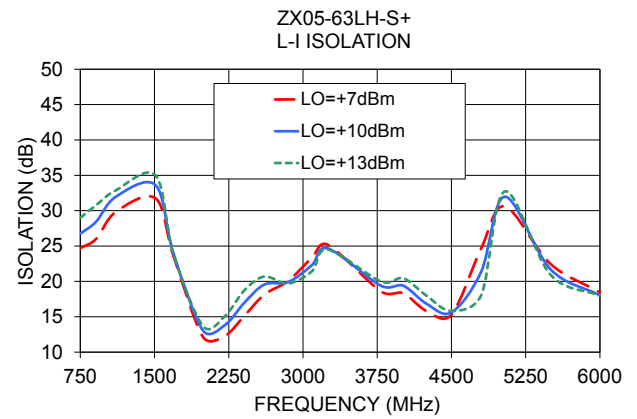
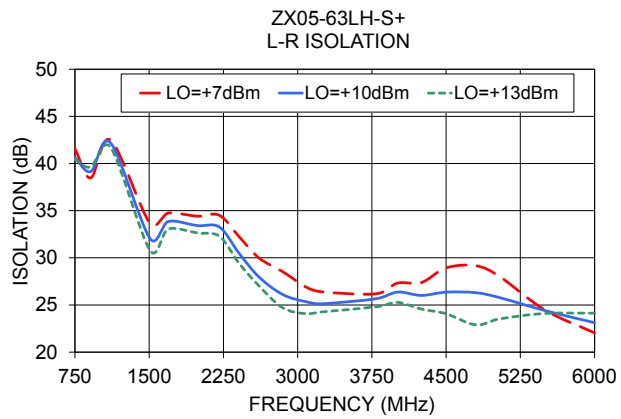
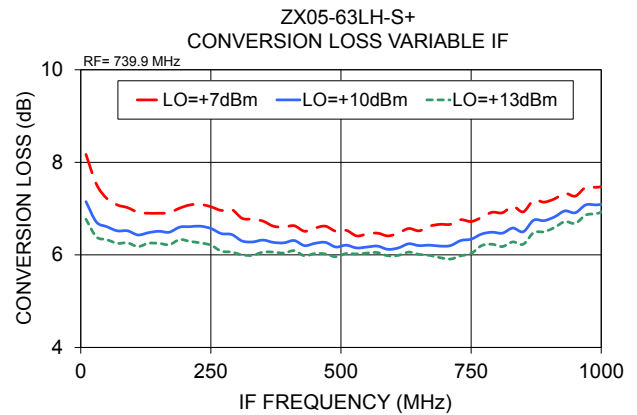
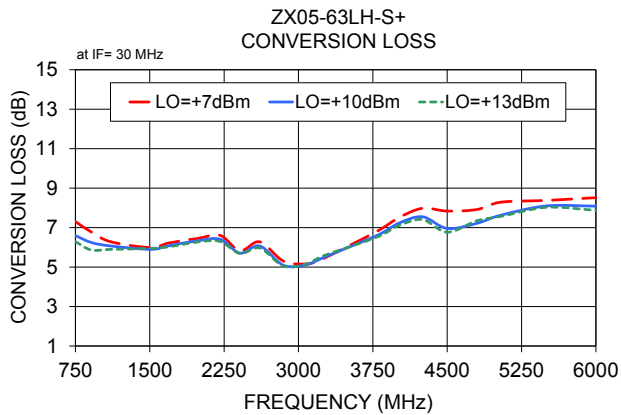
### Notes

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