

# Coaxial Frequency Mixer

Level 23 (LO Power +23 dBm) 0.07 to 200 MHz

## ZAY-3+ ZAY-3



CASE STYLE: M22

Connectors Model  
**BNC** ZAY-3(+)  
**BRACKET (OPTION "B")**  
**BRACKET (OPTION "BR")**

**+RoHS Compliant**

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

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 350mW          |
| IF Current            | 40mA           |

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

### Coaxial Connections

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

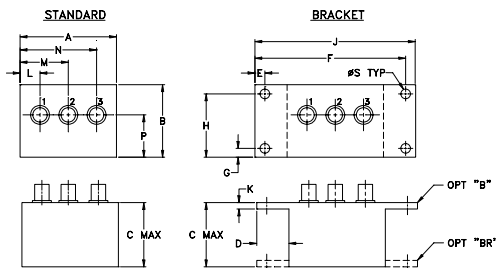
### Features

- low conversion, 5.53
- high L-R & L-I isolation, 40 dB typ.
- rugged shielded case

### Applications

- VHF
- FM radio
- instrumentation

### Outline Drawing



### Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F     | G    | H     |
|-------|-------|-------|-------|------|-------|------|-------|
| 2.25  | 1.38  | 1.24  | .50   | .150 | 3.100 | .138 | 1.238 |
| 57.15 | 35.05 | 31.50 | 12.70 | 3.81 | 78.74 | 3.51 | 31.45 |

| J     | K    | L     | M     | N     | P     | S    | wt    |
|-------|------|-------|-------|-------|-------|------|-------|
| 3.25  | .10  | .40   | 1.15  | 1.86  | .64   | .150 | grams |
| 82.55 | 2.54 | 10.16 | 29.21 | 47.24 | 16.26 | 3.81 | 74.0  |

### Electrical Specifications

| FREQUENCY (MHz) | CONVERSION LOSS (dB) | LO-RF ISOLATION (dB) |      |     | LO-IF ISOLATION (dB) |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----------------------|----------------------|------|-----|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|
|                 |                      | L                    | M    | U   | L                    | M  | U  |    |    |    |    |    |    |    |    |    |    |
| 0.07-200        | DC-200               | 5.53                 | 0.08 | 7.5 | 8.0                  | 55 | 45 | 40 | 30 | 30 | 25 | 55 | 45 | 40 | 30 | 30 | 20 |

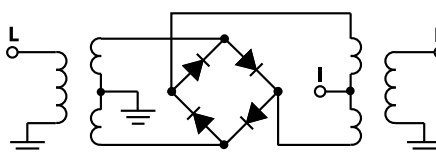
1 dB COMP.: +15 dBm typ.

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 [ $2f_L$  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 +23dBm            | LO +23dBm          | LO +23dBm          | LO +23dBm         | LO +23dBm         |
| 0.07            | 30.07  | 5.77                 | 55.55              | 56.68              | 1.17              | 2.42              |
| 0.20            | 30.20  | 5.58                 | 53.15              | 57.09              | 1.18              | 2.40              |
| 1.00            | 31.00  | 5.29                 | 52.74              | 57.07              | 1.18              | 2.23              |
| 5.00            | 35.00  | 5.23                 | 52.57              | 56.88              | 1.17              | 2.21              |
| 20.00           | 50.00  | 5.27                 | 52.28              | 56.59              | 1.17              | 2.19              |
| 34.54           | 64.54  | 5.24                 | 51.27              | 54.69              | 1.16              | 2.20              |
| 48.33           | 78.33  | 5.26                 | 48.91              | 51.06              | 1.15              | 2.20              |
| 62.12           | 92.12  | 5.28                 | 46.28              | 47.85              | 1.15              | 2.27              |
| 69.01           | 99.01  | 5.29                 | 44.38              | 45.65              | 1.14              | 2.27              |
| 82.80           | 128.80 | 5.28                 | 42.67              | 43.88              | 1.13              | 2.28              |
| 96.59           | 158.59 | 5.28                 | 41.29              | 41.90              | 1.13              | 2.25              |
| 103.48          | 165.53 | 5.25                 | 39.95              | 40.89              | 1.13              | 2.14              |
| 117.27          | 179.32 | 5.28                 | 39.22              | 39.90              | 1.12              | 2.10              |
| 131.06          | 193.10 | 5.29                 | 39.37              | 39.78              | 1.12              | 2.17              |
| 144.85          | 200.00 | 5.34                 | 38.04              | 37.10              | 1.12              | 2.25              |
| 158.63          | 128.63 | 5.43                 | 36.70              | 33.79              | 1.12              | 2.29              |
| 165.53          | 135.53 | 5.47                 | 36.49              | 31.41              | 1.13              | 2.22              |
| 179.32          | 149.32 | 5.47                 | 36.22              | 30.50              | 1.14              | 2.16              |
| 193.10          | 163.10 | 5.54                 | 36.47              | 29.43              | 1.16              | 2.18              |
| 200.00          | 170.00 | 5.51                 | 36.43              | 29.00              | 1.16              | 2.21              |

### Electrical Schematic



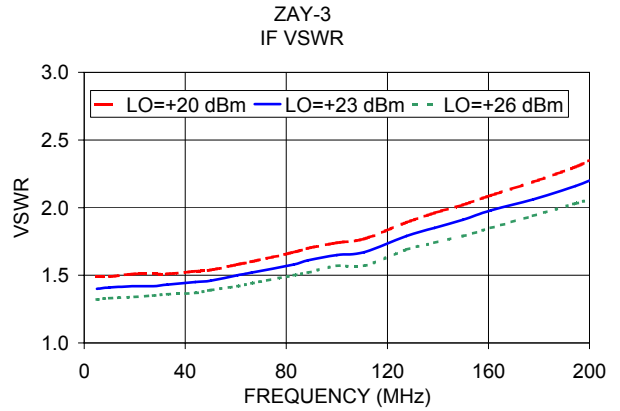
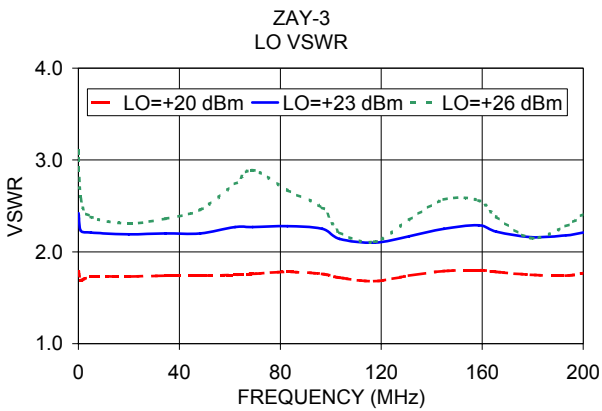
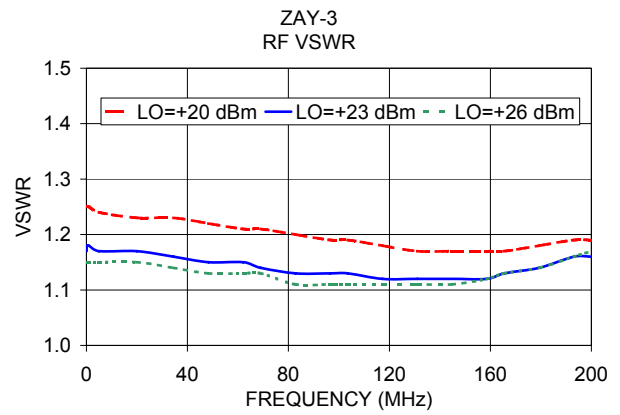
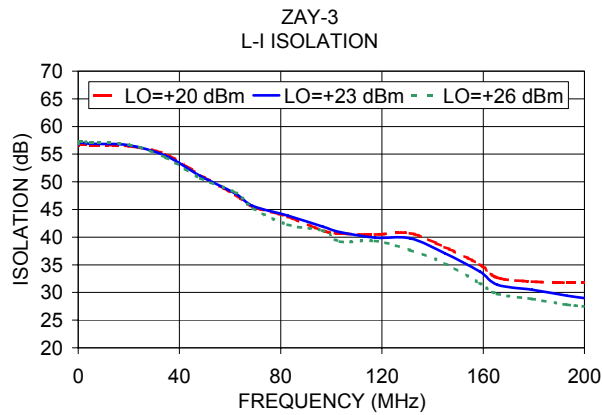
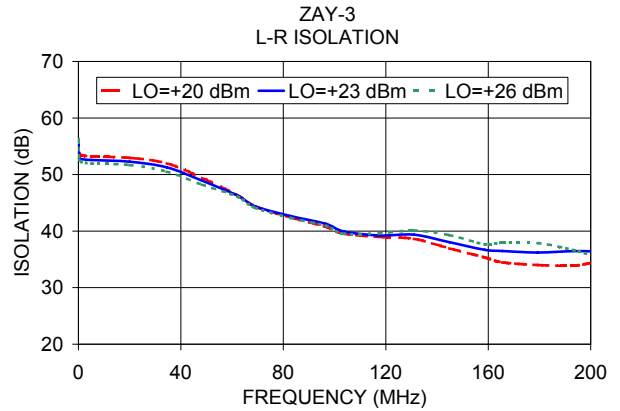
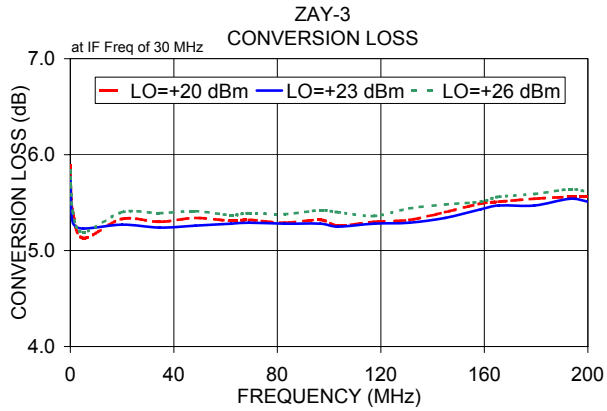
#### Notes

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# Performance Charts

# ZAY-3+ ZAY-3



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