

Plug-In

# Frequency Mixer

Level 7 (LO Power +7 dBm) 750 to 2400 MHz

## TFM-2400+



CASE STYLE: B13  
PRICE: \$34.50 ea. QTY (1-9)

**+RoHS Compliant**

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

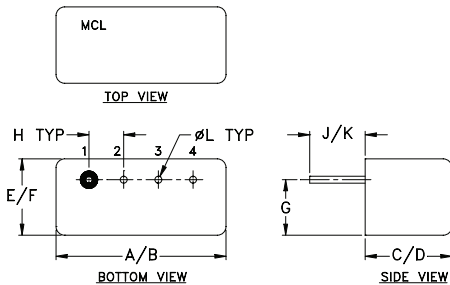
### Maximum Ratings

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

### Pin Connections

|             |   |
|-------------|---|
| LO          | 1 |
| RF          | 4 |
| IF          | 2 |
| GROUND      | 3 |
| CASE GROUND | 3 |

### Outline Drawing



### Outline Dimensions (inch/mm)

| A     | B     | C    | D     | E    | F     |
|-------|-------|------|-------|------|-------|
| .480  | .500  | .390 | .405  | .210 | .230  |
| 12.19 | 12.70 | 9.91 | 10.29 | 5.33 | 5.84  |
| G     | H     | J    | K     | L    | wt    |
| .16   | .100  | .14  | .20   | .020 | grams |
| 4.06  | 2.54  | 3.56 | 5.08  | 0.51 | 2.3   |

### Features

- low conversion loss, 6.65 dB typ.
- wideband, 700 to 2400 MHz
- rugged welded construction
- hermetically sealed

### Applications

- base station
- cellular
- DCS, PCS
- communications systems

### Electrical Specifications

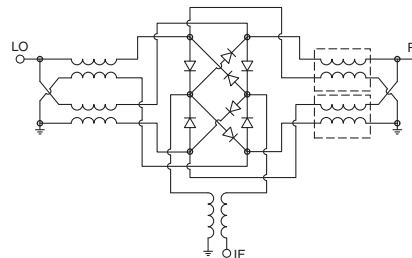
| FREQUENCY (MHz) |        | CONVERSION LOSS (dB) |          |      | LO-RF ISOLATION (dB) |      | LO-IF ISOLATION (dB) |      |
|-----------------|--------|----------------------|----------|------|----------------------|------|----------------------|------|
| LO/RF           | IF     | $\bar{X}$            | $\sigma$ | Max. | Typ.                 | Min. | Typ.                 | Min. |
| 750-2400        | DC-400 | 6.65                 | 0.20     | 9.0  | 30                   | 20   | 30                   | 10   |

1 dB COMP.: +1 dBm typ.

### 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          |
| 500.00          | 530.00  | 5.45                 | 54.10              | 25.42              | 1.90              | 2.44              |
| 650.00          | 680.00  | 5.24                 | 46.72              | 24.17              | 1.19              | 2.42              |
| 800.00          | 830.00  | 5.18                 | 50.53              | 24.04              | 1.21              | 2.60              |
| 950.00          | 980.00  | 5.34                 | 39.92              | 22.92              | 1.56              | 2.84              |
| 1000.00         | 1030.00 | 5.61                 | 38.68              | 21.93              | 1.74              | 2.92              |
| 1100.00         | 1070.00 | 6.52                 | 35.67              | 19.02              | 1.90              | 2.94              |
| 1150.00         | 1120.00 | 6.54                 | 35.25              | 17.69              | 2.78              | 2.95              |
| 1250.00         | 1220.00 | 6.21                 | 35.47              | 16.09              | 3.17              | 2.82              |
| 1350.00         | 1320.00 | 6.10                 | 38.09              | 15.24              | 3.20              | 2.88              |
| 1500.00         | 1470.00 | 6.10                 | 40.51              | 17.24              | 3.59              | 3.05              |
| 1650.00         | 1620.00 | 6.97                 | 39.61              | 20.00              | 3.82              | 3.00              |
| 1750.00         | 1720.00 | 7.73                 | 40.56              | 21.79              | 4.92              | 2.60              |
| 1800.00         | 1770.00 | 7.87                 | 41.20              | 23.27              | 5.75              | 2.00              |
| 1950.00         | 1920.00 | 7.91                 | 37.08              | 25.03              | 6.73              | 1.71              |
| 2000.00         | 1970.00 | 7.83                 | 36.28              | 24.82              | 6.63              | 1.59              |
| 2150.00         | 2120.00 | 7.95                 | 34.61              | 21.63              | 7.22              | 1.54              |
| 2300.00         | 2270.00 | 8.12                 | 34.07              | 19.31              | 7.66              | 1.68              |
| 2400.00         | 2370.00 | 8.32                 | 33.85              | 18.30              | 8.43              | 2.03              |
| 2450.00         | 2420.00 | 7.93                 | 33.63              | 17.81              | 8.60              | 2.45              |
| 2500.00         | 2470.00 | 7.98                 | 34.92              | 18.95              | 8.16              | 2.65              |

### Electrical Schematic



**Mini-Circuits**  
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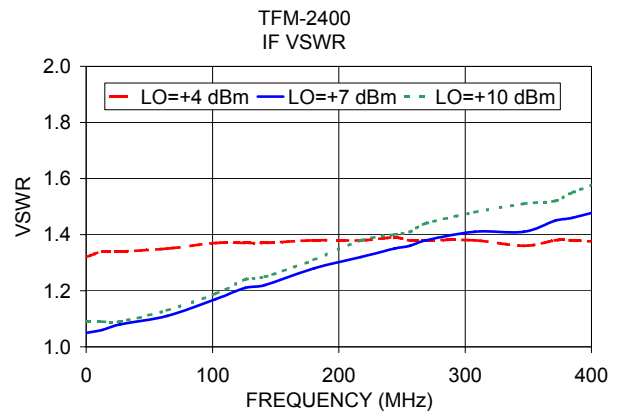
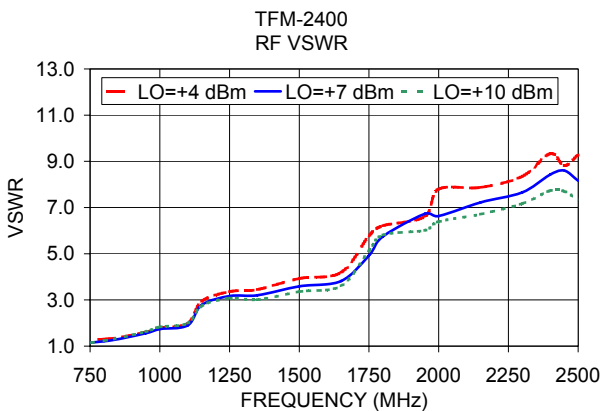
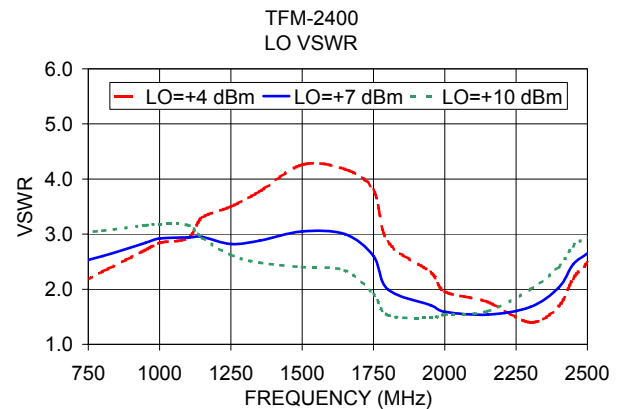
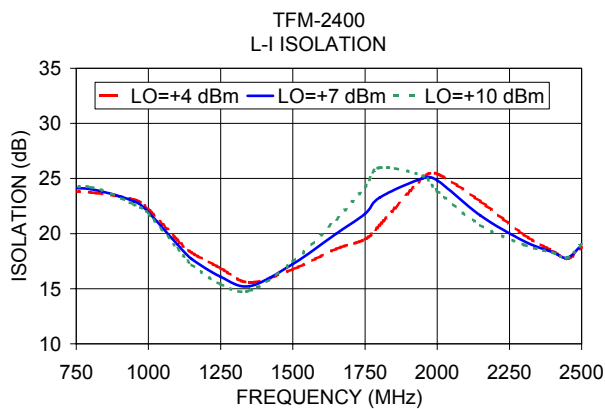
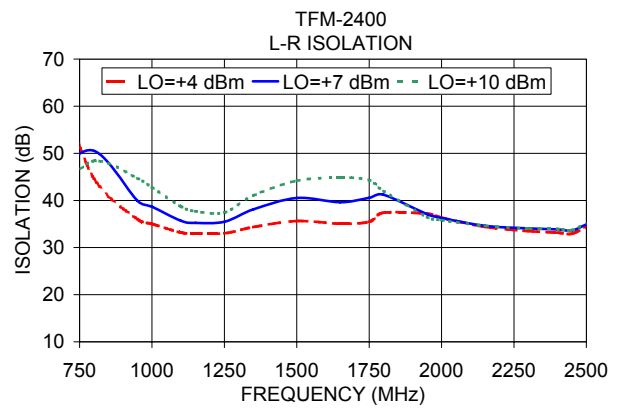
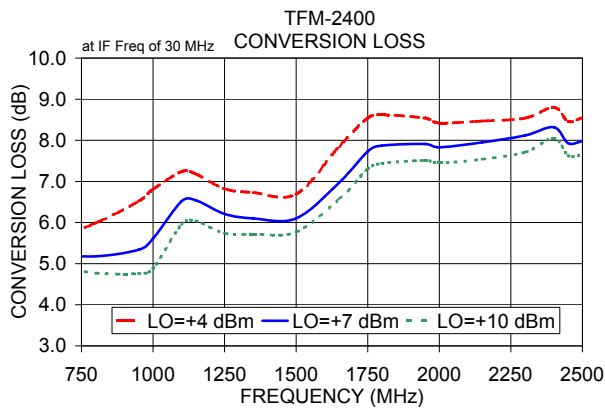
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