

Frequency Mixer

TFM-11+

Level 7 (LO Power +7 dBm) 1 to 2000 MHz



Generic photo used for illustration purposes only

CASE STYLE: B13

+RoHS Compliant

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

Maximum Ratings

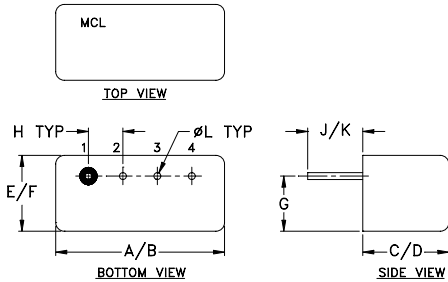
| | |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 50mW |
| IF Current | 40mA |

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

Pin Connections

| | |
|-------------|---|
| LO | 4 |
| RF | 1 |
| 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, 7.16 dB typ.
- wideband, 1 to 2000 MHz
- rugged welded construction
- hermetically sealed

Applications

- cellular
- PCS
- instrumentation

Electrical Specifications

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | | | | | | | |
|-----------------|-------|----------------------|----------|-------------|----------------------|------|------|----------------------|------|------|----|----|----|----|----|----|----|
| LO/RF | IF | Mid-Band | | Total Range | L | M | U | L | M | U | | | | | | | |
| f_c-f_u | | \bar{X} | σ | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | | | | | | |
| 1-2000 | 5-600 | 7.16 | 0.07 | 8.5 | 9.0 | 50 | 45 | 35 | 25 | 25 | 20 | 45 | 40 | 27 | 20 | 25 | 20 |

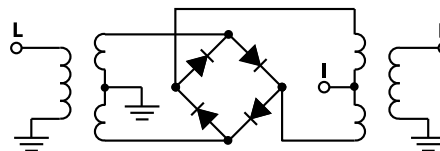
1 dB COMP.: +1 dBm typ.

L = low range [f_1 to $10 f_1$]
 M = mid range [$10 f_1$ to $f_u/2$]
 U = upper range [$f_u/2$ to f_u]

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 |
| 1.00 | 31.00 | 6.05 | 60.95 | 56.30 | 2.34 | 2.51 |
| 5.00 | 35.00 | 5.78 | 61.86 | 55.70 | 2.49 | 2.42 |
| 20.00 | 50.00 | 5.81 | 61.93 | 55.12 | 2.44 | 2.46 |
| 50.00 | 80.00 | 5.94 | 60.22 | 54.24 | 2.54 | 2.19 |
| 100.00 | 70.00 | 5.92 | 56.59 | 50.92 | 2.88 | 2.23 |
| 200.00 | 170.00 | 6.50 | 48.94 | 44.33 | 3.21 | 2.18 |
| 267.53 | 237.53 | 6.52 | 45.81 | 41.60 | 3.60 | 1.98 |
| 400.80 | 370.80 | 6.74 | 42.38 | 38.67 | 3.74 | 1.88 |
| 500.00 | 470.00 | 6.83 | 41.61 | 36.88 | 3.84 | 1.82 |
| 600.70 | 570.70 | 7.03 | 40.10 | 36.28 | 3.52 | 1.69 |
| 733.96 | 704.29 | 7.24 | 39.39 | 34.20 | 3.24 | 1.51 |
| 867.23 | 837.52 | 7.09 | 39.07 | 31.66 | 3.00 | 1.37 |
| 1000.00 | 969.69 | 7.12 | 36.76 | 29.17 | 2.77 | 1.24 |
| 1067.10 | 1037.50 | 6.97 | 35.43 | 28.56 | 2.54 | 1.14 |
| 1200.40 | 1170.40 | 6.77 | 33.71 | 27.07 | 2.23 | 1.13 |
| 1333.70 | 1303.60 | 6.72 | 32.82 | 25.51 | 2.13 | 1.39 |
| 1466.90 | 1436.90 | 6.80 | 33.13 | 24.22 | 2.16 | 1.67 |
| 1600.20 | 1570.50 | 6.93 | 32.34 | 23.42 | 2.27 | 2.36 |
| 1733.50 | 1703.70 | 6.92 | 29.41 | 27.19 | 2.54 | 2.01 |
| 2000.00 | 1970.30 | 6.99 | 30.47 | 25.17 | 2.89 | 1.93 |

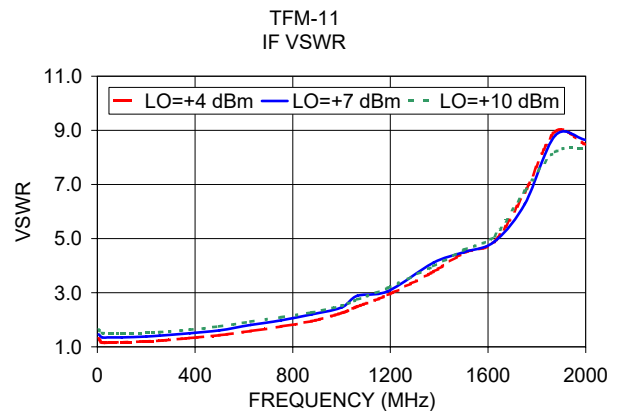
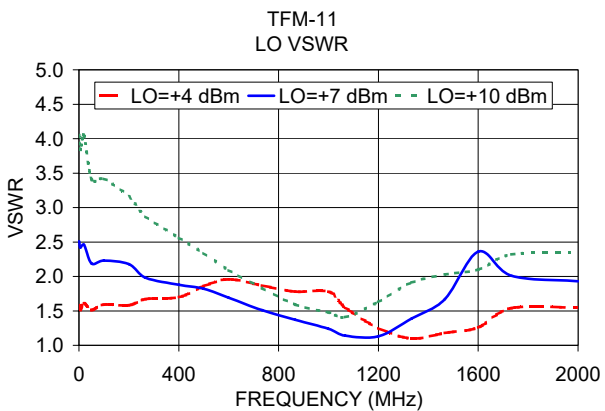
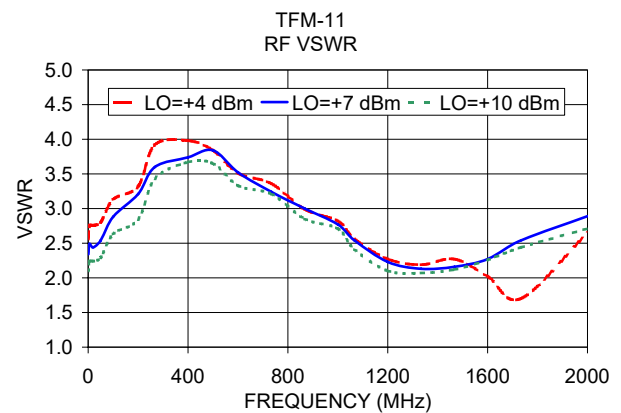
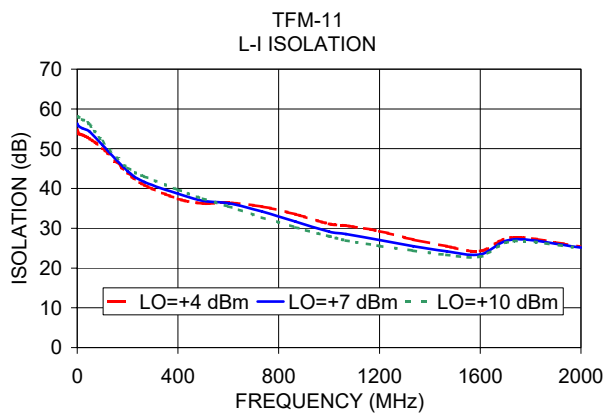
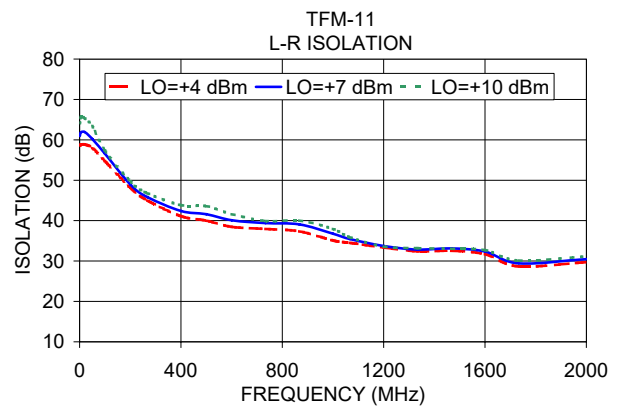
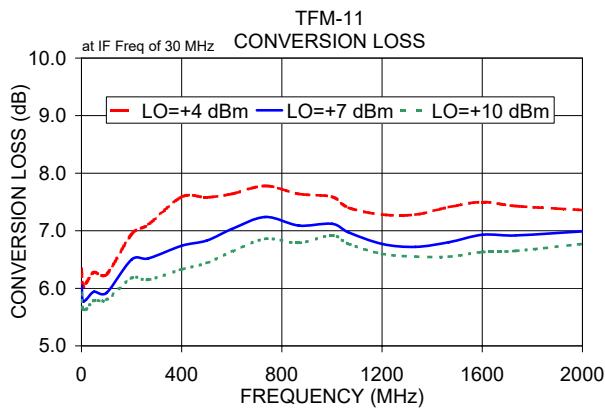
Electrical Schematic



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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