

Plug-In

Frequency Mixer

TFM-12MH+

Level 13 (LO Power +13 dBm) 0.5 to 2000 MHz



CASE STYLE: B13

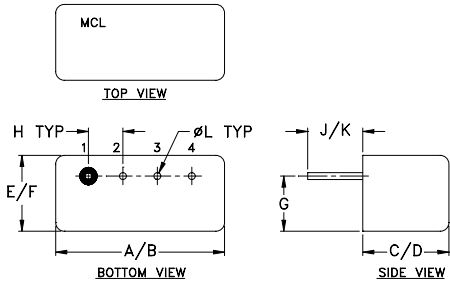
Maximum Ratings

| | |
|---|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 200mW |
| 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, 6.99 dB typ.
- wideband, 0.5 to 2000 MHz
- rugged welded construction
- hermetically sealed

Applications

- satellite distribution
- cellular
- GPS
- defense & federal communications

+RoHS Compliant

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

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_L - f_U | | \bar{X} | σ | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | | | | | |
| 0.5-2000 | 0.2-600 | 6.99 | 0.16 | 8.0 | 9.5 | 60 | 45 | 35 | 30 | 30 | 25 | 55 | 40 | 30 | 25 | 20 |

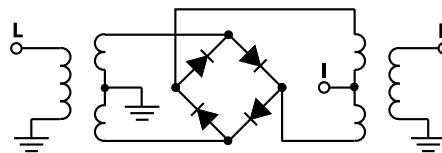
1 dB COMP.: +9 dBm typ.

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 +13dBm | LO +13dBm | LO +13dBm | LO +13dBm | LO +13dBm |
| 0.50 | 30.50 | 5.54 | 61.48 | 64.69 | 4.43 | 1.96 |
| 5.00 | 35.00 | 5.64 | 61.51 | 64.42 | 4.51 | 1.88 |
| 20.00 | 50.00 | 5.60 | 61.26 | 63.51 | 4.59 | 2.04 |
| 50.00 | 80.00 | 5.85 | 58.01 | 56.01 | 4.43 | 1.91 |
| 100.00 | 70.00 | 5.85 | 55.76 | 52.77 | 4.31 | 1.86 |
| 222.67 | 192.67 | 6.55 | 47.09 | 43.57 | 4.70 | 1.78 |
| 370.78 | 340.78 | 7.22 | 43.20 | 40.28 | 4.92 | 1.67 |
| 500.00 | 470.00 | 7.60 | 39.53 | 35.85 | 4.52 | 1.58 |
| 592.94 | 562.94 | 7.49 | 38.74 | 33.96 | 4.48 | 1.56 |
| 741.06 | 711.06 | 7.43 | 37.61 | 32.39 | 3.42 | 1.43 |
| 889.17 | 859.17 | 6.76 | 33.34 | 29.78 | 2.40 | 1.27 |
| 1037.30 | 1007.30 | 6.12 | 34.59 | 30.40 | 1.85 | 1.19 |
| 1111.30 | 1081.30 | 6.07 | 35.77 | 31.30 | 1.61 | 1.18 |
| 1259.40 | 1229.40 | 6.35 | 37.02 | 32.22 | 1.35 | 1.24 |
| 1333.50 | 1303.50 | 6.58 | 36.62 | 31.95 | 1.25 | 1.31 |
| 1481.60 | 1451.60 | 7.15 | 35.23 | 34.09 | 1.32 | 1.42 |
| 1555.70 | 1525.70 | 7.34 | 34.20 | 39.23 | 1.43 | 1.43 |
| 1703.80 | 1673.80 | 7.82 | 35.34 | 39.62 | 1.79 | 1.53 |
| 1851.90 | 1821.90 | 8.07 | 38.03 | 35.98 | 2.62 | 1.59 |
| 2000.00 | 1970.00 | 8.50 | 32.12 | 36.12 | 3.22 | 1.58 |

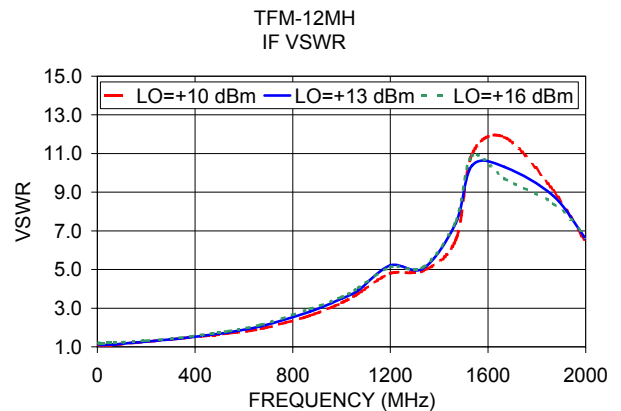
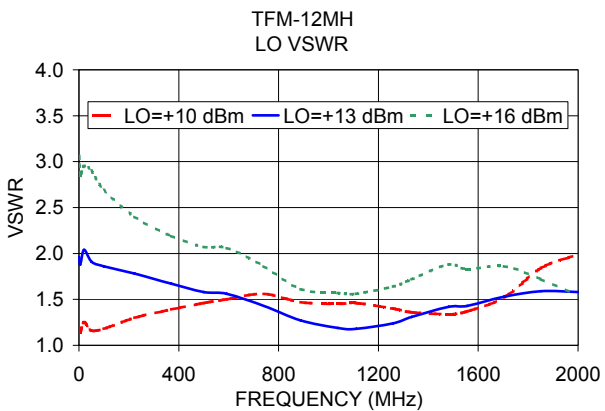
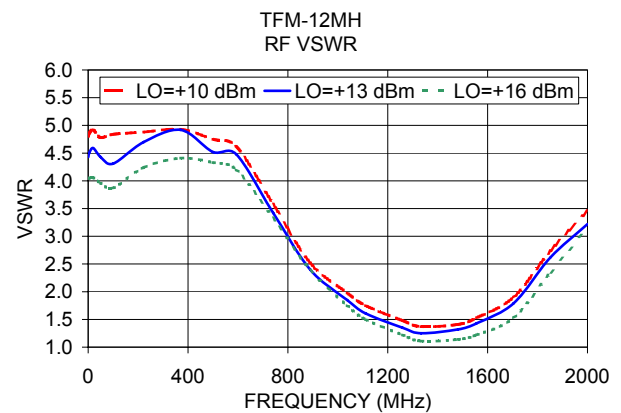
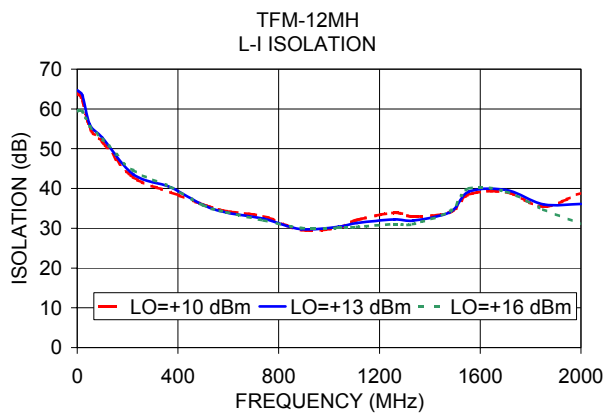
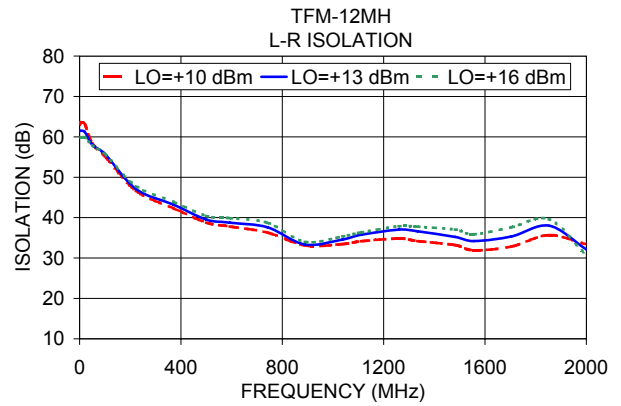
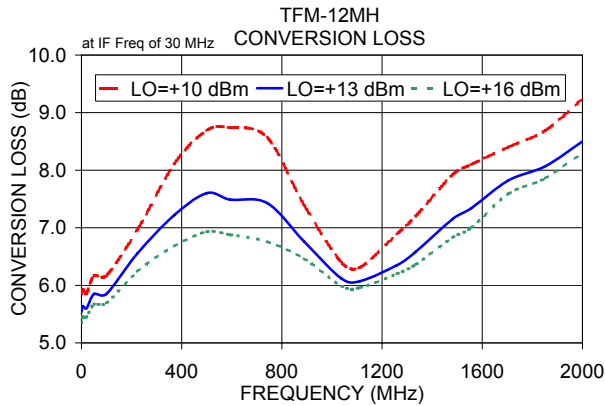
Electrical Schematic



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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