

Plug-In

Frequency Mixer

Level 13 (LO Power +13 dBm) 2 to 600 MHz

TUF-1MH+



CASE STYLE: B02

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 |

Features

- low conversion loss, 6.3 dB typ.
- high isolation, 50 dB typ. L-R, 48 dB typ. L-I
- rugged welded construction

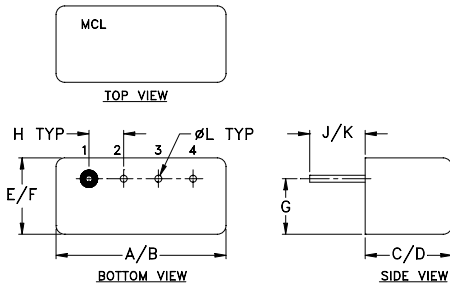
Applications

- VHF/UHF
- defense & federal communications

+RoHS Compliant

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

Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | |
|-------|-------|------|------|------|-------|
| A | B | C | D | E | F |
| .480 | .500 | .240 | .255 | .210 | .230 |
| 12.19 | 12.70 | 6.10 | 6.48 | 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 | 1.9 |

Electrical Specifications

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | | | | | | |
|-----------------|--------|----------------------|----------|------------------|------|----------------------|------|------|----------------------|------|----|----|----|----|----|----|----|
| LO/RF | IF | Mid-Band m | | Total Range Max. | L | M | U | L | M | U | | | | | | | |
| f_L - f_U | | \bar{X} | σ | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | | | | | | |
| 2-600 | DC-600 | 6.3 | 0.12 | 7.0 | 8.0 | 68 | 50 | 50 | 30 | 43 | 25 | 65 | 45 | 48 | 30 | 37 | 22 |

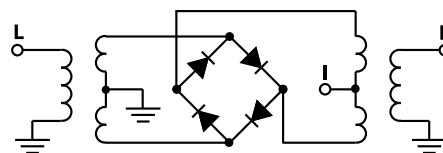
1 dB COMP.: +9 dBm typ.

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) | VSWR RF Port (:1) | Frequency (MHz) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR LO Port (:1) |
|-----------------|--------|----------------------|-------------------|-----------------|--------------------|--------------------|-------------------|
| RF | LO | LO +13dBm | LO +13dBm | LO | LO +13dBm | LO +13dBm | LO +13dBm |
| 2.00 | 32.00 | 6.69 | 1.71 | 2.30 | 72.70 | 67.41 | 2.47 |
| 4.00 | 34.00 | 6.16 | 1.37 | 5.30 | 70.19 | 66.64 | 2.38 |
| 10.00 | 40.00 | 5.88 | 1.15 | 10.30 | 66.20 | 64.23 | 2.34 |
| 16.00 | 46.00 | 5.86 | 1.10 | 15.30 | 63.06 | 61.97 | 2.28 |
| 33.00 | 63.00 | 5.84 | 1.05 | 20.30 | 60.88 | 60.01 | 2.30 |
| 50.00 | 80.00 | 5.81 | 1.03 | 30.30 | 58.09 | 57.73 | 2.22 |
| 101.00 | 131.00 | 5.84 | 1.03 | 40.10 | 56.62 | 56.49 | 2.23 |
| 171.00 | 201.00 | 5.97 | 1.07 | 80.00 | 50.45 | 50.68 | 2.16 |
| 211.00 | 241.00 | 6.00 | 1.09 | 114.00 | 48.55 | 49.14 | 2.21 |
| 271.00 | 301.00 | 5.99 | 1.12 | 161.00 | 46.23 | 47.36 | 2.14 |
| 311.00 | 341.00 | 6.02 | 1.14 | 201.00 | 44.75 | 46.87 | 2.19 |
| 331.00 | 361.00 | 6.00 | 1.16 | 241.00 | 43.64 | 46.01 | 2.11 |
| 355.00 | 385.00 | 6.01 | 1.17 | 301.00 | 41.84 | 43.65 | 2.18 |
| 398.00 | 428.00 | 6.00 | 1.18 | 346.00 | 40.23 | 41.40 | 2.19 |
| 441.00 | 471.00 | 6.08 | 1.19 | 406.50 | 39.17 | 39.27 | 2.18 |
| 484.00 | 514.00 | 6.16 | 1.22 | 449.50 | 38.01 | 37.50 | 2.14 |
| 505.50 | 535.50 | 6.14 | 1.23 | 471.00 | 37.37 | 36.34 | 2.18 |
| 548.50 | 578.50 | 6.19 | 1.26 | 514.00 | 36.67 | 36.01 | 2.20 |
| 570.00 | 600.00 | 6.16 | 1.27 | 557.00 | 36.02 | 35.09 | 2.25 |
| 600.00 | 630.00 | 6.30 | 1.30 | 600.00 | 35.65 | 33.93 | 2.18 |

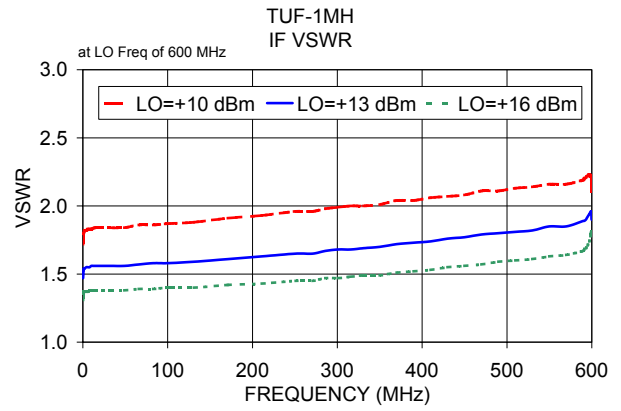
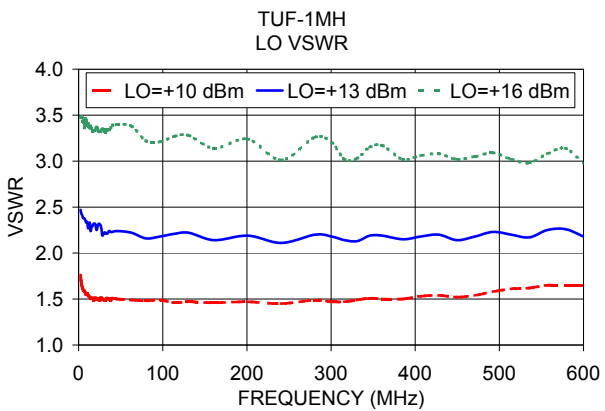
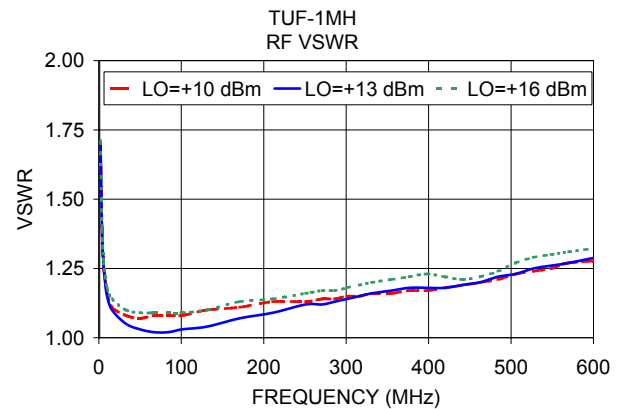
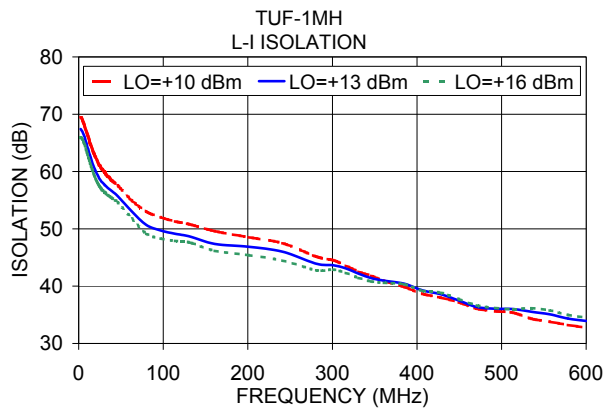
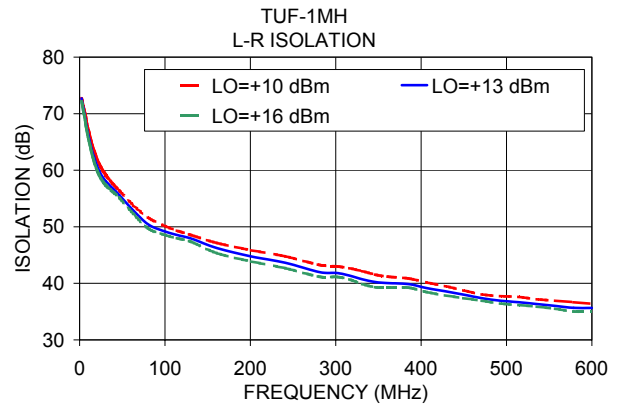
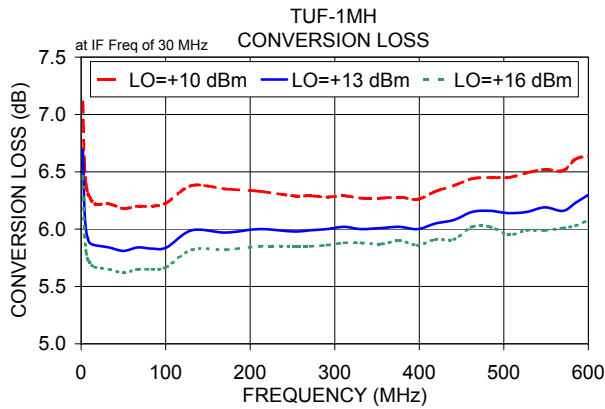
Electrical Schematic



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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