

Frequency Mixer

Level 7 (LO Power +7 dBm) 2 to 600 MHz

TUF-1



CASE STYLE: B02 .

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 |

Features

- low conversion loss, 5.85 dB typ.
- excellent isolation, 42 dB typ. L-R, 47 dB typ. L-I
- rugged welded construction

Applications

- VHF/UHF
- defense & federal communications

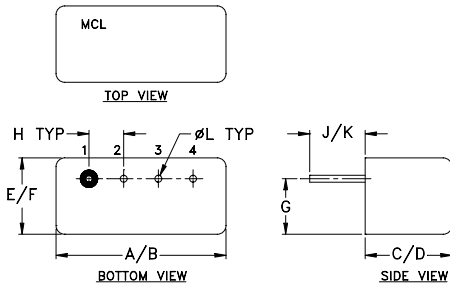
Electrical Specifications

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | | LO-RF ISOLATION (dB) | | | | | | LO-IF ISOLATION (dB) | | | | | | IP3 at center band (dBm) |
|-----------------|-----------|----------------------|------|------|------------------|----------------------|------|------|------|------|------|----------------------|------|------|------|------|------|--------------------------|
| LO/RF | IF | Mid-Band m | | | Total Range Max. | L | | M | | U | | L | | M | | U | | |
| f_L - f_U | \bar{X} | σ | Max. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | |
| 2-600 | DC-600 | 5.85 | 0.04 | 7.0 | 8.0 | 60 | 50 | 42 | 30 | 37 | 25 | 60 | 45 | 47 | 30 | 36 | 22 | 16 |

1 dB COMP: +1 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 [$2 f_L$ to $f_U/2$]

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 |

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 |
| 2.00 | 32.00 | 6.81 | 81.85 | 72.15 | 1.56 | 2.71 |
| 4.00 | 34.00 | 6.40 | 76.35 | 68.25 | 1.31 | 2.64 |
| 5.00 | 35.00 | 6.34 | 74.35 | 66.65 | 1.25 | 2.62 |
| 10.00 | 40.00 | 6.25 | 69.58 | 62.18 | 1.15 | 2.47 |
| 20.00 | 50.00 | 6.21 | 64.25 | 57.65 | 1.11 | 2.51 |
| 50.00 | 80.00 | 6.13 | 57.73 | 50.60 | 1.10 | 2.46 |
| 81.73 | 51.73 | 6.16 | 53.89 | 46.89 | 1.13 | 2.41 |
| 100.00 | 70.00 | 6.18 | 52.31 | 45.35 | 1.14 | 2.37 |
| 161.47 | 131.47 | 6.08 | 49.28 | 42.03 | 1.20 | 2.31 |
| 200.00 | 170.00 | 6.03 | 47.46 | 40.24 | 1.27 | 2.29 |
| 241.20 | 211.20 | 6.04 | 46.41 | 38.76 | 1.33 | 2.26 |
| 281.07 | 251.07 | 6.04 | 45.16 | 37.18 | 1.38 | 2.28 |
| 300.00 | 270.00 | 6.09 | 44.55 | 36.84 | 1.42 | 2.30 |
| 320.93 | 290.93 | 6.08 | 44.04 | 35.94 | 1.50 | 2.31 |
| 400.00 | 370.67 | 5.99 | 42.93 | 33.45 | 1.58 | 2.32 |
| 480.40 | 450.40 | 6.06 | 40.46 | 30.91 | 1.66 | 2.33 |
| 500.00 | 470.00 | 6.11 | 40.16 | 30.63 | 1.71 | 2.33 |
| 560.13 | 530.13 | 6.15 | 39.99 | 29.30 | 1.77 | 2.35 |
| 580.07 | 550.07 | 6.19 | 40.02 | 29.24 | 1.86 | 2.36 |
| 600.00 | 570.00 | 6.26 | 39.76 | 28.69 | 1.88 | 2.38 |

Electrical Schematic

