

Surface Mount Voltage Controlled Oscillator

JTOS-1025+ JTOS-1025

Linear Tuning 685 to 1025 MHz

Features

- wide frequency range, 685 to 1025 MHz
- linear tuning characteristics
- excellent harmonic suppression, -28 dBc typ.
- low phase noise, -134 dBc/Hz at 1 MHz offset, typ.
- aqueous washable

Applications

- cellular
- instrumentation
- catv



CASE STYLE: BK377
PRICE: \$18.95 ea. QTY (5-49)

+RoHS Compliant

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

Electrical Specifications

| FREQUENCY (MHz) | | POWER OUTPUT (dBm) | TUNING VOLTAGE (V) | | PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ. | | | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) | | 3 dB MODULATION BANDWIDTH (MHz) | POWER SUPPLY | |
|-----------------|------|--------------------|--------------------|------|--|--------|---------|-------|-----------------------------|-----------------|----------------------------|-----------------|------|---------------------------------|--------------|-------------------|
| Min. | Max. | Typ. | Min. | Max. | 1 kHz | 10 kHz | 100 kHz | 1 MHz | Typ. | Typ. | Typ. | Typ. | Max. | Typ. | Voltage (V) | Current (mA) Max. |
| 685 | 1025 | +8.6 | 1 | 16 | -70 | -94 | -114 | -134 | 5.0 | 0.6 | 21-36 | -28 | -20 | 0.1 | 12 | 22 |

Pin Connections

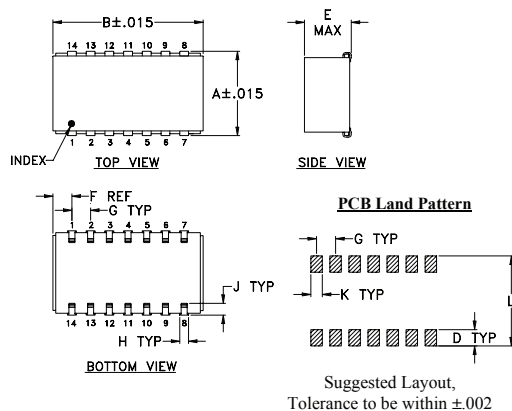
| | |
|--------|---------------------------|
| RF OUT | 13 |
| VCC | 2 |
| V-TUNE | 5 |
| GROUND | 1,3,4,6,7,8,9,10,11,12,14 |

Maximum Ratings

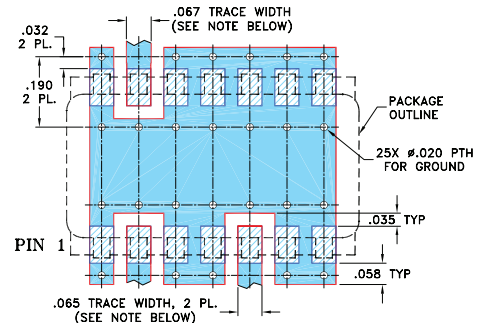
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | +16V |
| Absolute Max. Tuning Voltage (Vtune) | +18V |

all specifications: 50 ohm system
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Demo Board MCL PIN: TB-04 Suggested PCB Layout (PL-005)



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | wt |
|-------|-------|----|------|------|------|------|------|------|------|-------|-------|
| .505 | .800 | -- | .100 | .250 | .100 | .100 | .047 | .065 | .065 | .525 | grams |
| 12.83 | 20.32 | -- | 2.54 | 6.35 | 2.54 | 2.54 | 1.19 | 1.65 | 1.65 | 13.34 | 3.0 |

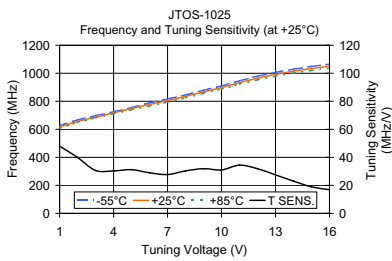
Notes

- A. 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.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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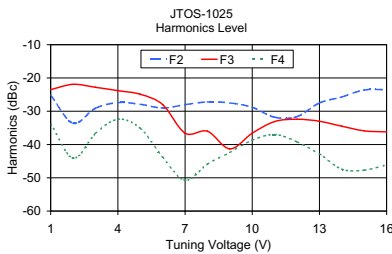
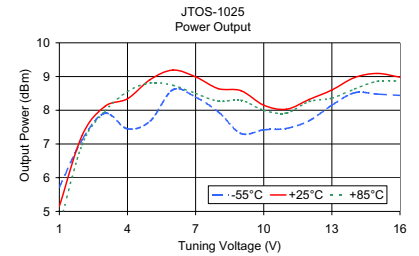


Performance Data & Curves

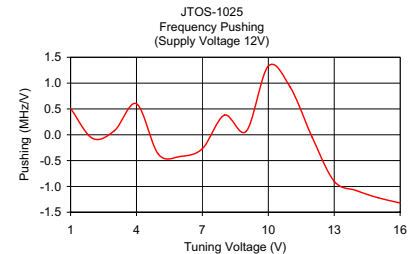
JTOS-1025+ JTOS-1025



| V TUNE | TUNING SENS. (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | |
|--------|----------------------|-----------------|---------|---------|--------------------|-------|-------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C |
| 1.00 | 48.00 | 626.90 | 616.50 | 609.08 | 5.72 | 5.15 | 4.56 |
| 2.00 | 39.90 | 667.15 | 656.40 | 649.63 | 7.12 | 7.25 | 6.98 |
| 3.00 | 30.60 | 697.26 | 686.95 | 681.65 | 7.91 | 8.11 | 7.97 |
| 4.00 | 30.30 | 725.92 | 717.23 | 711.85 | 7.45 | 8.34 | 8.55 |
| 5.00 | 31.20 | 755.70 | 748.42 | 739.97 | 7.68 | 8.91 | 8.81 |
| 6.00 | 29.00 | 788.73 | 777.42 | 766.42 | 8.61 | 9.19 | 8.74 |
| 7.00 | 27.70 | 816.86 | 805.13 | 793.90 | 8.39 | 8.99 | 8.50 |
| 8.00 | 30.30 | 846.70 | 835.47 | 824.70 | 7.95 | 8.64 | 8.27 |
| 9.00 | 31.90 | 878.96 | 867.33 | 856.78 | 7.31 | 8.58 | 8.30 |
| 10.00 | 31.00 | 910.30 | 898.35 | 888.22 | 7.42 | 8.15 | 8.00 |
| 11.00 | 34.40 | 946.17 | 932.78 | 922.00 | 7.46 | 8.03 | 7.92 |
| 12.00 | 31.90 | 979.23 | 964.68 | 952.73 | 7.69 | 8.32 | 8.26 |
| 13.00 | 27.50 | 1007.05 | 992.13 | 978.85 | 8.15 | 8.60 | 8.36 |
| 14.00 | 23.00 | 1029.60 | 1015.10 | 1001.43 | 8.52 | 8.97 | 8.63 |
| 15.00 | 18.90 | 1048.83 | 1034.03 | 1020.18 | 8.48 | 9.09 | 8.86 |
| 16.00 | 16.90 | 1065.93 | 1050.93 | 1036.63 | 8.44 | 8.98 | 8.87 |



| V TUNE | HARMONICS (dBc) | | | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
| | F2 | F3 | F4 | |
| 1.00 | -25.20 | -23.50 | -33.80 | 0.51 |
| 2.00 | -33.60 | -21.90 | -44.10 | -0.07 |
| 3.00 | -29.10 | -22.80 | -36.70 | 0.08 |
| 4.00 | -27.40 | -23.80 | -32.40 | 0.60 |
| 5.00 | -27.90 | -24.90 | -35.10 | -0.38 |
| 6.00 | -29.00 | -28.00 | -43.80 | -0.42 |
| 7.00 | -28.00 | -36.60 | -50.70 | -0.27 |
| 8.00 | -27.20 | -36.00 | -45.90 | 0.38 |
| 9.00 | -27.50 | -41.30 | -42.40 | 0.07 |
| 10.00 | -28.80 | -36.60 | -38.70 | 1.33 |
| 11.00 | -31.80 | -33.10 | -37.00 | 0.92 |
| 12.00 | -31.60 | -32.40 | -39.20 | -0.05 |
| 13.00 | -27.50 | -33.00 | -42.80 | -0.90 |
| 14.00 | -25.70 | -34.50 | -47.40 | -1.08 |
| 15.00 | -23.60 | -35.90 | -47.70 | -1.22 |
| 16.00 | -23.50 | -36.20 | -46.10 | -1.32 |



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