

Surface Mount Voltage Controlled Oscillator

JTOS-1025+ JTOS-1025

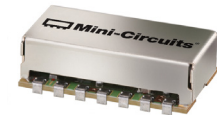
Linear Tuning 685 to 1025 MHz

Features

- wide frequency range, 685 to 1025 MHz
- linear tuning characteristics
- excellent harmonic suppression, -32 dBc typ.
- low phase noise, -134 dBc/Hz at 1 MHz offset, typ.
- aqueous washable

Applications

- cellular
- instrumentation
- catv



CASE STYLE: BK377

+RoHS Compliant

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

Electrical Specifications

| MODEL NO. | FREQ. (MHz) | | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies, kHz | | | | TUNING | | | | | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | | PULLING pk-pk @12 dB (MHz) | PUSHING (MHz/V) | DC OPERATING POWER | |
|--------------|-------------|------|--------------------|---|-----|------|------|--------|-------------------|----------------------|---------------|---------------------------------|-----------------------------|-----------------|------|------|----------------------------|-----------------|--------------------|------|
| | Min. | Max. | | Typ. | 1 | 10 | 100 | 1000 | VOLTAGE RANGE (V) | SENSI-TIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | | Typ. | Typ. | Max. | | | Typ. | Typ. |
| JTOS-1025(+) | 685 | 1025 | +8.5 | -70 | -94 | -114 | -134 | 1 | 16 | 15-39 | 110 | 0.1 | -90 | -32 | -20 | 5.0 | 1 | 12 | 22 | |

Pin Connections

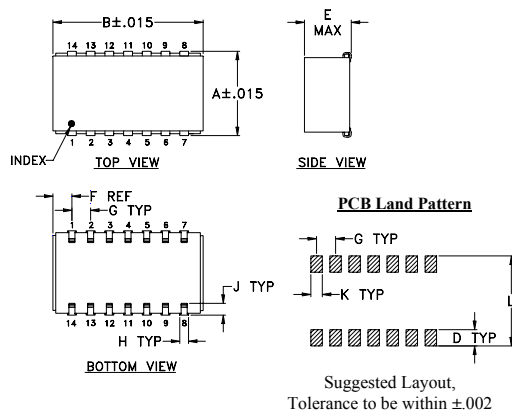
| | |
|--------|---------------------------|
| RF OUT | 13 |
| VCC | 2 |
| V-TUNE | 5 |
| GROUND | 1,3,4,6,7,8,9,10,11,12,14 |

Maximum Ratings

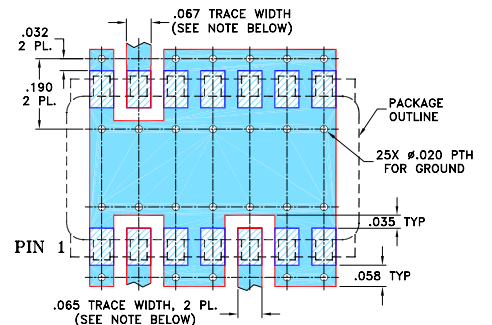
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | +16V |
| Absolute Max. Tuning Voltage (Vtune) | +18V |

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

Outline Drawing



Demo Board MCL P/N: 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 |

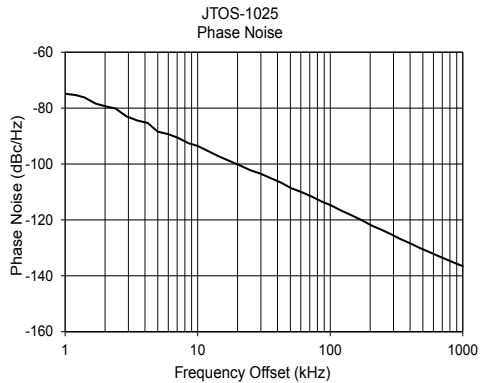
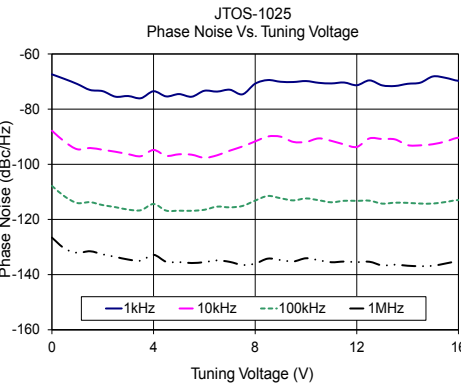
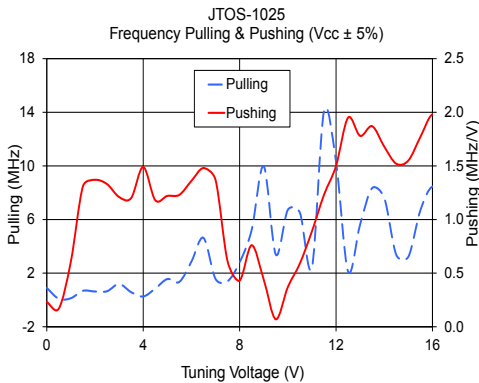
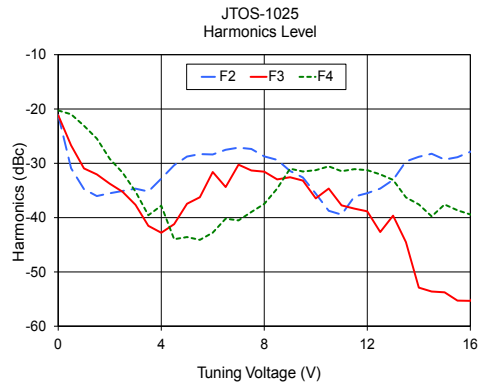
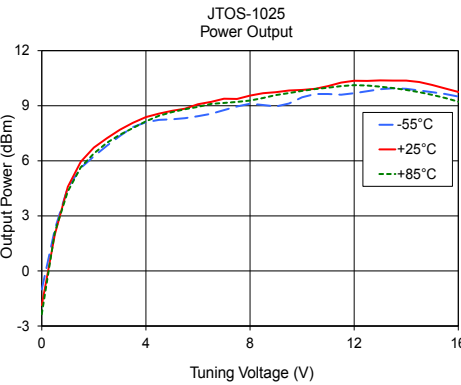
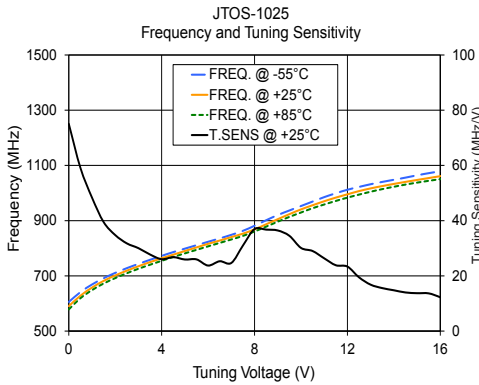
Notes

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Performance Data & Curves

| V TUNE | TUNE SENS (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | | Icc (mA) | HARMONICS (dBc) | | | FREQ. PUSH (MHz/V) | FREQ. PULL (MHz) | PHASE NOISE (dBc/Hz) at offsets | | | | FREQ OFFSET (kHz) | PHASE NOISE at 855 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|-------|--------|--------|-------------------|---------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 75.07 | 605.6 | 590.5 | 578.3 | -1.01 | -1.86 | -2.36 | 16.96 | -21.1 | -21.2 | -20.3 | 0.23 | 0.90 | -67.39 | -87.8 | -107.8 | -126.6 | 1.0 | -74.87 |
| 1.00 | 48.34 | 668.8 | 657.6 | 648.4 | 4.54 | 4.58 | 4.33 | 17.22 | -34.8 | -31.0 | -23.1 | 0.61 | 0.13 | -70.90 | -94.6 | -114.0 | -132.1 | 2.0 | -79.32 |
| 1.50 | 39.49 | 691.5 | 681.8 | 672.2 | 5.61 | 5.95 | 5.65 | 17.32 | -36.0 | -32.0 | -25.5 | 1.31 | 0.68 | -73.05 | -94.1 | -113.7 | -131.5 | 3.5 | -84.42 |
| 2.00 | 34.78 | 710.8 | 701.5 | 691.9 | 6.24 | 6.72 | 6.40 | 17.35 | -35.5 | -33.8 | -29.2 | 1.37 | 0.63 | -73.49 | -94.8 | -114.8 | -132.7 | 6.0 | -89.33 |
| 3.00 | 30.03 | 743.4 | 734.8 | 725.7 | 7.35 | 7.69 | 7.42 | 17.29 | -34.7 | -37.7 | -35.2 | 1.21 | 1.19 | -75.25 | -96.3 | -116.4 | -134.5 | 8.5 | -92.55 |
| 4.00 | 26.04 | 772.4 | 763.7 | 754.5 | 8.10 | 8.38 | 8.15 | 17.18 | -32.8 | -42.8 | -37.8 | 1.49 | 0.26 | -73.52 | -94.8 | -114.4 | -132.8 | 10.0 | -93.54 |
| 5.00 | 25.93 | 798.6 | 790.1 | 781.5 | 8.26 | 8.72 | 8.65 | 17.03 | -28.8 | -37.5 | -43.6 | 1.22 | 1.56 | -74.54 | -96.4 | -116.8 | -135.5 | 20.8 | -100.51 |
| 6.00 | 23.74 | 823.5 | 816.0 | 806.9 | 8.43 | 9.08 | 8.94 | 16.89 | -28.4 | -31.6 | -42.8 | 1.36 | 2.86 | -73.34 | -97.6 | -116.5 | -135.5 | 35.5 | -105.05 |
| 7.00 | 24.68 | 848.6 | 840.6 | 831.8 | 8.76 | 9.38 | 9.15 | 16.71 | -27.1 | -30.3 | -40.5 | 1.37 | 1.57 | -72.96 | -95.1 | -115.6 | -135.4 | 60.7 | -110.05 |
| 8.00 | 36.96 | 881.5 | 868.4 | 860.6 | 9.11 | 9.55 | 9.28 | 16.56 | -28.7 | -31.6 | -37.5 | 0.43 | 2.81 | -70.77 | -91.7 | -113.2 | -136.0 | 86.7 | -113.46 |
| 8.50 | 36.76 | 901.5 | 886.9 | 878.3 | 9.04 | 9.68 | 9.42 | 16.53 | -29.4 | -33.0 | -34.7 | 0.76 | 5.23 | -69.46 | -89.9 | -111.5 | -134.2 | 100.0 | -114.68 |
| 9.00 | 36.44 | 920.3 | 905.2 | 896.3 | 8.96 | 9.74 | 9.58 | 16.53 | -31.4 | -32.6 | -31.0 | 0.44 | 9.98 | -70.08 | -90.0 | -112.3 | -134.7 | 145.5 | -118.39 |
| 10.00 | 30.13 | 953.0 | 940.7 | 929.5 | 9.46 | 9.86 | 9.81 | 16.52 | -35.6 | -36.5 | -31.3 | 0.37 | 6.72 | -69.82 | -91.9 | -112.4 | -134.1 | 170.8 | -119.96 |
| 11.00 | 26.36 | 985.2 | 970.3 | 958.5 | 9.64 | 10.07 | 9.98 | 16.51 | -39.5 | -37.7 | -31.5 | 0.89 | 2.43 | -70.68 | -91.5 | -113.8 | -135.5 | 204.2 | -121.97 |
| 12.00 | 23.37 | 1011.9 | 995.4 | 983.4 | 9.68 | 10.36 | 10.12 | 16.47 | -35.5 | -38.9 | -31.3 | 1.50 | 10.31 | -71.33 | -93.7 | -113.3 | -135.5 | 286.7 | -125.09 |
| 13.00 | 16.81 | 1031.9 | 1016.8 | 1004.8 | 9.90 | 10.38 | 10.04 | 16.44 | -33.1 | -39.6 | -33.1 | 1.78 | 5.64 | -71.39 | -90.9 | -114.3 | -136.7 | 336.6 | -126.78 |
| 13.50 | 15.57 | 1040.3 | 1025.2 | 1014.2 | 9.95 | 10.37 | 9.96 | 16.41 | -29.7 | -44.5 | -36.3 | 1.87 | 8.35 | -71.61 | -91.0 | -113.9 | -136.4 | 472.5 | -130.01 |
| 14.00 | 14.78 | 1048.0 | 1033.0 | 1022.8 | 9.92 | 10.37 | 9.86 | 16.38 | -28.8 | -52.9 | -37.6 | 1.68 | 7.62 | -70.82 | -93.1 | -114.0 | -136.8 | 564.9 | -131.58 |
| 15.00 | 13.73 | 1064.3 | 1047.4 | 1037.8 | 9.74 | 10.13 | 9.59 | 16.32 | -29.3 | -53.8 | -37.6 | 1.55 | 3.22 | -68.14 | -92.7 | -114.2 | -136.8 | 931.1 | -135.98 |
| 16.00 | 12.24 | 1078.7 | 1061.1 | 1050.3 | 9.50 | 9.75 | 9.22 | 16.29 | -27.9 | -55.3 | -39.4 | 1.98 | 8.45 | -69.74 | -90.4 | -113.0 | -135.2 | 1000.0 | -136.53 |



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