

Surface Mount Voltage Controlled Oscillator

JTOS-50+ JTOS-50

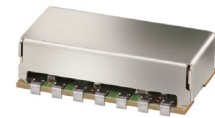
Linear Tuning 25 to 47 MHz

Features

- linear tuning characteristics
- flat tuning sensitivity, 2-2.6 MHz/V typ.
- aqueous washable

Applications

- instrumentation
- VHF/HF
- radio communication



CASE STYLE: BK377
PRICE: \$13.95 ea. QTY (5-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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) | | | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) | | 3 dB MODULATION BANDWIDTH (MHz) | DC OPERATING POWER | | | |
|-----------------|--------------------|--------------------|---------------------------------|------|-------|--------|-----------------------------|-----------------|----------------------------|-----------------|---------|---------------------------------|--------------------|-------------------|----|----|
| | | | SSB at offset frequencies: Typ. | | | | | | | Typ. | Max. | | Vcc (volts) | Current (mA) Max. | | |
| Min. | Max. | Typ. | Min. | Max. | 1 kHz | 10 kHz | 100 kHz | 1 MHz | Typ. | Typ. | Typ. | Max. | Typ. | Max. | | |
| 25 | 47 | +8.5 | 1 | 15 | -88 | -108 | -127 | -147 | 0.06 | 0.04 | 2.0-2.6 | -19 | -12 | 0.05 | 12 | 20 |

Pin Connections

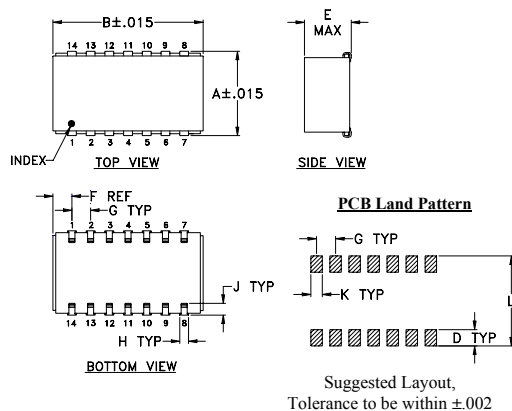
| | |
|--------|---------------------------|
| RF OUT | 13 |
| VCC | 2 |
| V-TUNE | 5 |
| GROUND | 1,3,4,6,7,8,9,10,11,12,14 |

Maximum Ratings

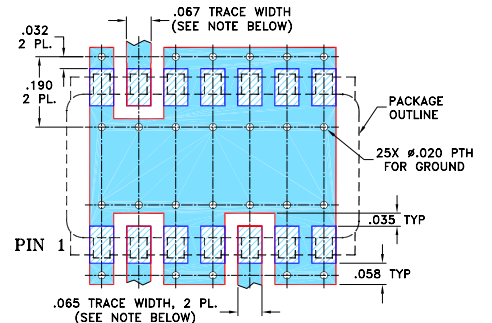
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | +16V |
| Absolute Max. Tuning Voltage (Vtune) | +17V |

all specifications: 50 ohm system

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 |



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

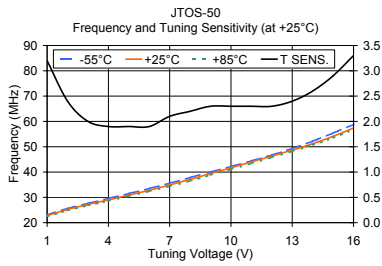
IF/RF MICROWAVE COMPONENTS



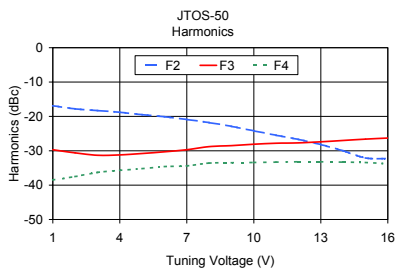
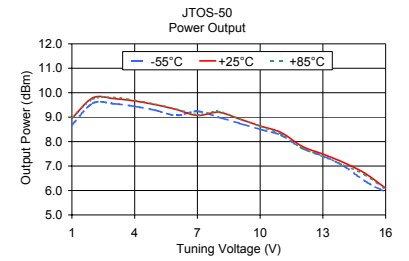
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Performance Data & Curves

JTOS-50+ JTOS-50



| 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 | 3.20 | 23.10 | 22.80 | 22.40 | 8.68 | 8.95 | 8.98 |
| 2.00 | 2.40 | 25.60 | 25.20 | 24.80 | 9.57 | 9.79 | 9.74 |
| 3.00 | 2.00 | 27.60 | 27.20 | 26.80 | 9.55 | 9.76 | 9.80 |
| 4.00 | 1.90 | 29.60 | 29.00 | 28.60 | 9.44 | 9.66 | 9.69 |
| 5.00 | 1.90 | 31.50 | 30.90 | 30.50 | 9.28 | 9.51 | 9.53 |
| 6.00 | 1.90 | 33.50 | 32.80 | 32.40 | 9.07 | 9.31 | 9.33 |
| 7.00 | 2.10 | 35.60 | 34.90 | 34.40 | 9.24 | 9.07 | 9.10 |
| 8.00 | 2.20 | 37.80 | 37.10 | 36.50 | 9.00 | 9.20 | 9.23 |
| 9.00 | 2.30 | 40.00 | 39.40 | 38.80 | 8.75 | 8.93 | 8.93 |
| 10.00 | 2.30 | 42.20 | 41.70 | 41.10 | 8.50 | 8.64 | 8.62 |
| 11.00 | 2.30 | 44.40 | 44.00 | 43.40 | 8.26 | 8.37 | 8.31 |
| 12.00 | 2.30 | 46.70 | 46.30 | 45.80 | 7.73 | 7.81 | 7.73 |
| 13.00 | 2.40 | 49.30 | 48.70 | 48.20 | 7.41 | 7.49 | 7.39 |
| 14.00 | 2.60 | 52.20 | 51.20 | 50.70 | 7.00 | 7.14 | 7.04 |
| 15.00 | 2.90 | 55.40 | 54.10 | 53.50 | 6.39 | 6.71 | 6.64 |
| 16.00 | 3.30 | 58.80 | 57.40 | 56.80 | 5.93 | 6.09 | 6.05 |



| V TUNE | HARMONICS (dBc) | | | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
| | F2 | F3 | F4 | |
| 1.00 | -16.90 | -29.70 | -38.50 | 0.03 |
| 2.00 | -17.80 | -30.60 | -37.50 | 0.05 |
| 3.00 | -18.30 | -31.30 | -36.30 | 0.01 |
| 4.00 | -18.80 | -31.20 | -35.70 | 0.00 |
| 5.00 | -19.50 | -30.80 | -35.20 | 0.01 |
| 6.00 | -20.10 | -30.30 | -34.60 | 0.02 |
| 7.00 | -20.90 | -29.70 | -34.40 | 0.03 |
| 8.00 | -21.80 | -28.80 | -33.60 | 0.03 |
| 9.00 | -22.90 | -28.50 | -33.50 | 0.05 |
| 10.00 | -24.20 | -28.10 | -33.40 | 0.07 |
| 11.00 | -25.50 | -27.80 | -33.30 | 0.09 |
| 12.00 | -26.70 | -27.70 | -33.20 | 0.10 |
| 13.00 | -28.20 | -27.40 | -33.20 | 0.09 |
| 14.00 | -30.00 | -27.00 | -33.30 | 0.01 |
| 15.00 | -32.10 | -26.60 | -33.40 | 0.21 |
| 16.00 | -32.30 | -26.30 | -33.80 | 0.47 |

