

Surface Mount Voltage Controlled Oscillator

JTOS-850VW+ JTOS-850VW

Wide Band 400 to 850 MHz

Features

- excellent tuning linearity
- octave bandwidth
- low phase noise, -136 dBc/Hz at 1 MHz offset, typ.
- aqueous washable

Applications

- cellular
- UHF
- wideband frequency synthesizers



CASE STYLE: BK377
PRICE: \$18.95 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) SSB at offset frequencies: Typ. | | | | PULLING pk-pk @ 12 dBz (MHz) | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) | 3 dB MODULATION BANDWIDTH (MHz) | DC OPERATING POWER | |
|-----------------|------|--------------------|--------------------|------|--|--------|---------|-------|------------------------------|-----------------|----------------------------|-----------------|---------------------------------|--------------------|-------------------|
| Min. | Max. | Typ. | Min. | Max. | 1 kHz | 10 kHz | 100 kHz | 1 MHz | Typ. | Typ. | Typ. | Typ. | Typ. | Vcc (volts) | Current (mA) Max. |
| 400 | 850 | +6.0 | 0.5 | 18 | -74 | -96 | -116 | -136 | 6.0 | 1.5 | 15-80 | -20 | 0.185 | 5 | 20 |

Pin Connections

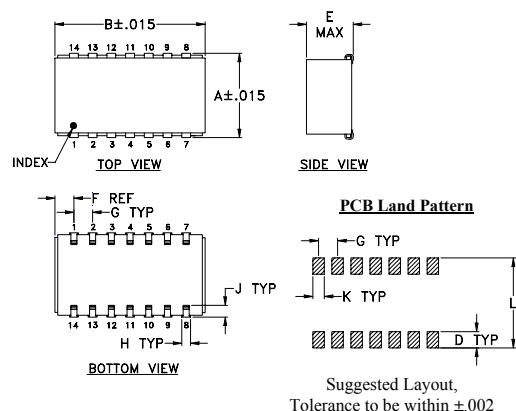
| | |
|--------|---------------------------|
| RF OUT | 13 |
| VCC | 2 |
| V-TUNE | 5 |
| GROUND | 1,3,4,6,7,8,9,10,11,12,14 |

Maximum Ratings

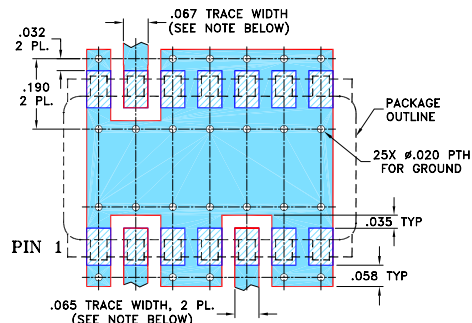
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | +6V |
| Absolute Max. Tuning Voltage (Vtune) | +20V |

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 |



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

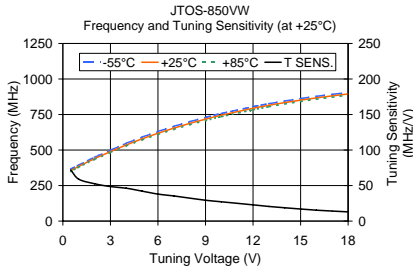
For detailed performance specs & shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

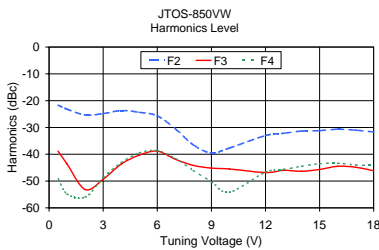
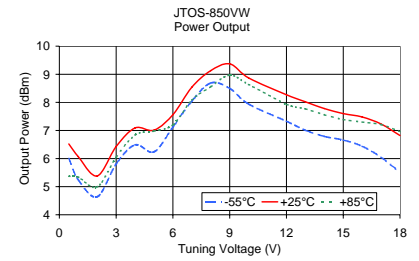
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Performance Data & Curves

JTOS-850VW+ JTOS-850VW



| V TUNE | TUNING SENS. (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | |
|--------|----------------------|-----------------|--------|--------|--------------------|-------|-------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C |
| 0.50 | 71.96 | 366.38 | 355.68 | 349.01 | 6.00 | 6.52 | 5.37 |
| 1.00 | 58.97 | 393.77 | 385.16 | 380.30 | 5.24 | 6.07 | 5.34 |
| 2.00 | 52.59 | 448.83 | 439.44 | 433.98 | 4.64 | 5.38 | 4.99 |
| 3.00 | 48.53 | 498.80 | 488.55 | 482.39 | 5.81 | 6.43 | 6.05 |
| 4.00 | 46.26 | 547.11 | 535.62 | 528.32 | 6.49 | 7.09 | 6.84 |
| 5.00 | 42.18 | 591.08 | 578.72 | 570.49 | 6.24 | 7.01 | 6.98 |
| 6.00 | 37.97 | 630.57 | 617.97 | 609.06 | 7.12 | 7.56 | 7.20 |
| 7.00 | 35.42 | 666.84 | 654.03 | 644.73 | 8.04 | 8.54 | 8.08 |
| 8.00 | 32.27 | 699.80 | 687.10 | 677.50 | 8.69 | 9.13 | 8.56 |
| 9.00 | 29.33 | 729.67 | 717.14 | 707.32 | 8.50 | 9.37 | 8.97 |
| 10.00 | 27.12 | 757.01 | 744.77 | 734.76 | 7.94 | 8.87 | 8.64 |
| 12.00 | 22.79 | 805.03 | 793.55 | 783.42 | 7.33 | 8.27 | 7.93 |
| 13.00 | 20.60 | 826.02 | 814.71 | 804.69 | 7.01 | 8.02 | 7.77 |
| 14.00 | 18.71 | 845.12 | 833.90 | 823.95 | 6.79 | 7.78 | 7.56 |
| 15.00 | 16.94 | 862.40 | 851.26 | 841.51 | 6.66 | 7.60 | 7.39 |
| 16.00 | 15.37 | 878.01 | 866.99 | 857.49 | 6.44 | 7.48 | 7.30 |
| 17.00 | 14.11 | 892.15 | 881.42 | 872.10 | 6.05 | 7.23 | 7.21 |
| 18.00 | 12.92 | 905.11 | 894.66 | 885.40 | 5.51 | 6.82 | 6.96 |



| V TUNE | HARMONICS (dBc) | | | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
| | F2 | F3 | F4 | |
| 0.50 | -21.66 | -38.83 | -49.16 | 1.35 |
| 1.00 | -23.17 | -43.67 | -54.84 | 2.51 |
| 2.00 | -25.33 | -53.17 | -56.00 | 1.17 |
| 3.00 | -24.84 | -49.34 | -48.84 | 0.91 |
| 4.00 | -23.67 | -43.67 | -43.17 | 0.38 |
| 5.00 | -24.33 | -40.33 | -39.50 | 0.25 |
| 6.00 | -25.67 | -38.84 | -38.67 | 0.27 |
| 7.00 | -30.50 | -41.84 | -41.50 | 0.53 |
| 8.00 | -36.50 | -44.17 | -46.00 | 0.84 |
| 9.00 | -39.50 | -45.17 | -50.34 | 1.06 |
| 10.00 | -37.67 | -45.50 | -54.17 | 1.40 |
| 12.00 | -33.00 | -46.83 | -46.67 | 2.06 |
| 13.00 | -32.17 | -46.00 | -45.67 | 2.36 |
| 14.00 | -31.34 | -46.34 | -44.50 | 2.64 |
| 15.00 | -31.16 | -45.66 | -43.50 | 2.91 |
| 16.00 | -30.67 | -44.50 | -43.33 | 2.99 |
| 17.00 | -31.00 | -44.84 | -44.00 | 2.98 |
| 18.00 | -31.67 | -46.17 | -44.17 | 2.92 |

