

Technical Data

OCXO Series



Description

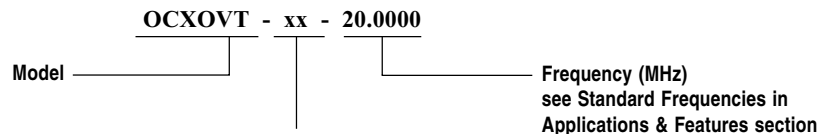
An oven controlled crystal oscillator (OCXO) with HCMOS output. The device is packaged in standard 14-pin DIP compatible all metal, resistance welded package.

Applications & Features

- Frequency Stability of ± 0.1 ppm typ over temperature range
- Small dimensions
- Very fast warm up
- Low power consumption
- Standard Frequencies:
 - 10.0000 MHz
 - 10.2400 MHz
 - 12.2880 MHz
 - 12.8800 MHz
 - 13.0000 MHz
 - 16.0000 MHz
 - 16.3840 MHz
 - 19.4400 MHz
 - 20.0000 MHz

| | |
|-----------------------------------|--|
| Frequency Range: | to 20 MHz (consult SaRonix for frequencies over 20 MHz) |
| Frequency Stability, Over: | Operating Temp Range: see part numbering guide Aging: 1 year: $< \pm 0.7$ ppm, 10 years: $< \pm 4$ ppm Supply Voltage ($\pm 0.5V$): $< \pm 0.1$ ppm Load (min to max): $< \pm 0.01$ ppm |
| Frequency Control Range: | Control Voltage: See Table 1, next page Frequency Deviation: ± 4 ppm min Response Slope: Positive |
| Temperature Range: | Operating: 0 to $+60^\circ$, -20 to $+70^\circ C$, -40 to $+85^\circ C$ Storage: -65 to $+125^\circ C$ |
| Supply Voltage: | Recommended Operating: $5V \pm 0.2V$ |
| Supply Current: | 90mA max |
| Output Characteristics: | Symmetry: 40/60% @ 50% VDD Rise & Fall Times: 7ns max Logic 0: 0.4V max Logic 1: 4.5V min Output Load: 10 LS |
| Phase Noise (BW = 1Hz): | 1Hz: < -60 dBc/Hz 10Hz: < -90 dBc/Hz 100Hz: < -120 dBc/Hz 1kHz: < -130 dBc/Hz |
| Warm-up: | $\Delta F/F$: within spec after 30s @ $0^\circ C$ Current: 200 mA max during 10s |
| Mechanical: | Shock: 3000g, 0.3ms, 1/2 sine Solderability: MIL-STD-883, Method 2003 Terminal Strength: MIL-STD-202, Method 211, Conditions A and C Vibration: 10 to 2000Hz / 10g Solvent Resistance: MIL-STD-202, Method 215 Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition B |
| Environmental: | Gross Leak Test: MIL-STD-883, Method 1014, Condition C Fine Leak Test: MIL-STD-883, Method 1014, Condition A2 Thermal Shock: MIL-STD-883, Method 1011, Condition A Moisture Resistance: MIL-STD-883, Method 1004 |

Part Numbering Guide

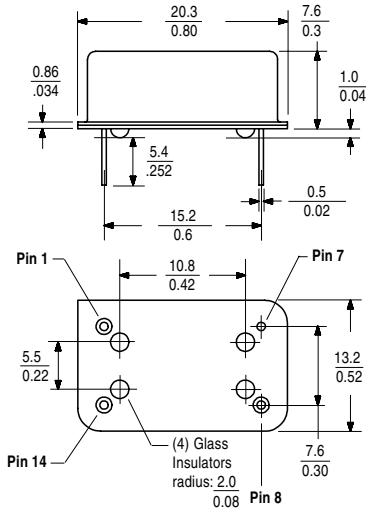


- AR1: 0 to $+60^\circ C$, ± 0.075 ppm (0.15ppm pk-to-pk), resistor adjustment
- AV5: 0 to $+60^\circ C$, ± 0.075 ppm (0.15ppm pk-to-pk), voltage adjustment
- BR1: -20 to $+70^\circ C$, ± 0.15 ppm (0.3ppm pk-to-pk), resistor adjustment
- BV5: -20 to $+70^\circ C$, ± 0.15 ppm (0.3ppm pk-to-pk), voltage adjustment
- CR1: -40 to $+85^\circ C$, ± 0.3 ppm (0.6ppm pk-to-pk), resistor adjustment
- CV5: -40 to $+85^\circ C$, ± 0.3 ppm (0.6ppm pk-to-pk), voltage adjustment

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Package Details



Scale: None (Dimensions in $\frac{\text{mm}}{\text{inches}}$ max)

Pin Function:

Pin 1: Frequency Adjustment Pin 7: GND
Pin 8: Output Pin 14: VCC

Marking Format

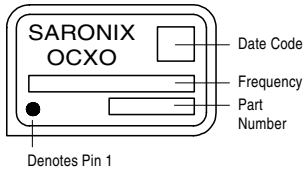


Table 1, Control Voltage

Adjustment with Resistor

| Model: | AR1 | BR1 | CR1 |
|----------------------|---------------------|-----|-----|
| Resistor Adjustment: | 0 to 10 k Ω | | |
| Input Impedance: | -4.7 k Ω min | | |

Adjustment with Voltage

| Model: | AV5 | BV5 | CV5 |
|---------------------|-------------------|-----|-----|
| Voltage Adjustment: | 0.5 to 5V | | |
| Input Impedance: | 47 k Ω min | | |

All specifications are subject to change without notice.

DS-208 REV A01