

Technical Data

OCXO Series



Description

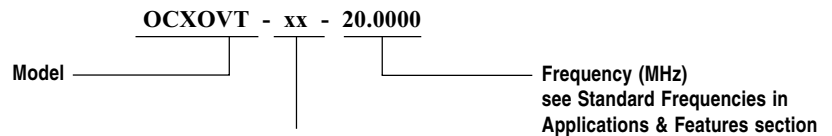
An oven controlled crystal oscillator (OCXO) with HCMOS output. The device is packaged in standard 14-pin DIP compatible all metal, resistance welded package.

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

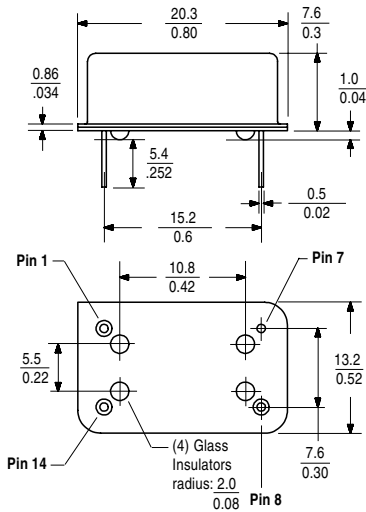


- AR1: 0 to $+60^\circ C$, ± 0.075 ppm (0.15ppm pk-to-pk), resistor adjustment
- AV5: 0 to $+60^\circ C$, ± 0.075 ppm (0.15ppm pk-to-pk), voltage adjustment
- BR1: -20 to $+70^\circ C$, ± 0.15 ppm (0.3ppm pk-to-pk), resistor adjustment
- BV5: -20 to $+70^\circ C$, ± 0.15 ppm (0.3ppm pk-to-pk), voltage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

Technical Data

OCXO Series

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

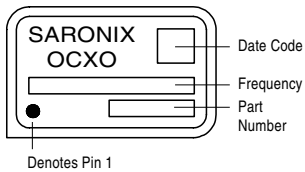


Table 1, Control Voltage

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