

AT-Cut Crystal - Square Wave - 3.3 Volts

- For high stability STRATUM 2 applications
- Low Jitter
- $\pm 0.6\text{ppm}$ overall frequency tolerance over 15 years
- Full size 14 pin dual-in-line package
- Supply Voltage 3.3 Volts
- AT-Cut Crystal
- EFC (Voltage control) as standard



DESCRIPTION

OC14T33A series oven-controlled crystal oscillators are intended for Stratum 2 applications requiring low jitter and tight stability $< 0.6\text{ppm}$ overall frequency tolerance over 15 years.

SPECIFICATION

Crystal Cut:	AT-cut
Output Waveform:	Square Wave
Supply Voltage:	+3.3 VDC $\pm 0.15\text{V}$
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm 0.5\text{ppm}$ maximum
Frequency Stability	
over 0° to $+60^\circ\text{C}$:	$\pm 0.2\text{ppm}$ typical $\pm 0.075\text{ppm}$ available
over -20° to $+70^\circ\text{C}$:	$\pm 0.3\text{ppm}$ typical ± 0.15 available
over -40° to $+85^\circ\text{C}$:	$\pm 0.5\text{ppm}$ typical $\pm 0.25\text{ppm}$ available
vs. Voltage Change:	$< 0.1\text{ppm}$ for $\pm 0.15\text{V}$ change
vs. Ageing:	$\pm 0.7\text{ppm}$ first year $< \pm 4\text{ppm}$ over 10 years
vs. Load Change:	$< 0.01\text{ppm}$ for $\pm 5\%$ change
Warm-up Time:	5 minutes maximum
Voltage Control	
Control Voltage Centre:	+1.65 Volts (V_{CON})
Freq. Deviation Range:	$\pm 4.0\text{ppm}$ min., ref. to 25°C
Control Voltage Range:	0V to +3.3Volts
Transfer Function:	Positive: Increasing control voltage increases output frequency.
Input Impedance:	47k Ω minimum
EFC Linearity:	$\pm 10\%$ maximum
Power Dissipation:	1.5W max. at steady state 2.5W max. at turn on

Output

Load:	10 LS or 47pF
Output Logic HIGH:	+2.8V minimum
Output Logic LOW:	0.4V maximum
Duty Cycle:	50% $\pm 10\%$
Rise/Fall Time:	7ns max (20%~80%) Frequency dependant

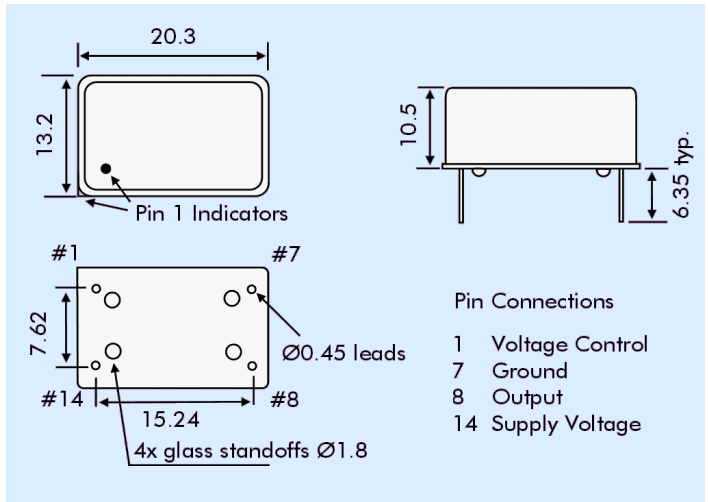
Environmental

Storage Temperature:	-65° to $+125^\circ\text{C}$
Shock:	2000g, 0.3ms $\frac{1}{2}$ sine
Vibration:	10 ~2000Hz / 10g

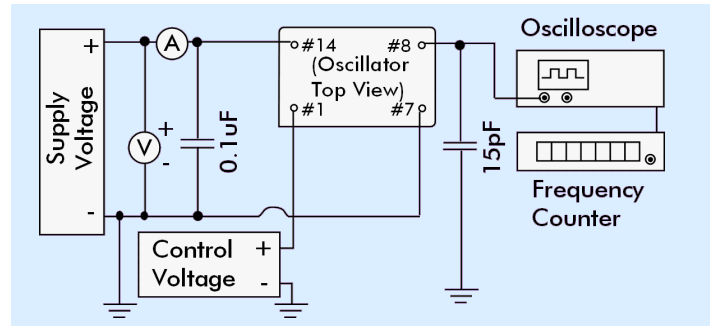
PHASE NOISE (at 10MHz)

Offset	dBc/Hz
1Hz	-80
10Hz	-110
100Hz	-135
1kHz	-145
10kHz	-150

OUTLINE & DIMENSIONS



TEST CIRCUIT



PART NUMBER FORMAT

Example: **OC14GT33A-10.000-0.15/-20+70**

OCXO Package: OC14

RoHS Compliance

G: RoHS Compliant

Blank: Non-compliant

T: Output Squarewave

33: Supply Voltage 3.3Volts

A: AT-Cut Crystal

Nominal Frequency 10.0MHz

Stability in ppm

Operating Temperature Range $^\circ\text{C}$

Lowest Temperature/Highest Temperature