

## AT-Cut Crystal - Square Wave - 3.3 Volts 1.25MHz ~ 100.0MHz

- For high stability STRATUM 2 applications
- Low Jitter
- $\pm 0.6$ 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



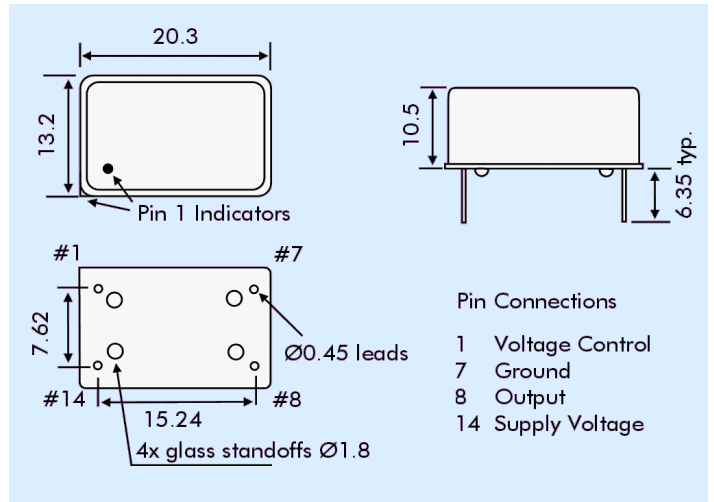
### DESCRIPTION

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

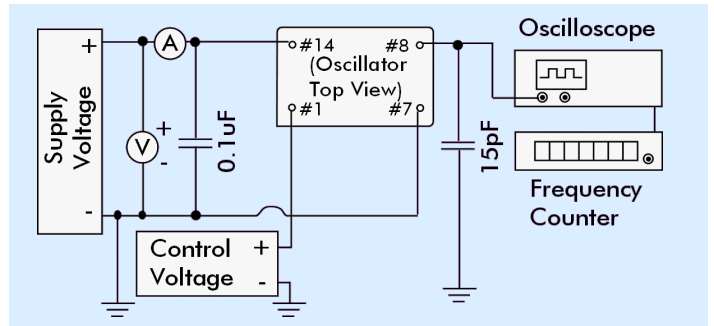
### SPECIFICATION

Crystal Cut:	AT-cut
Output Waveform:	Square Wave
Supply Voltage:	+3.3 VDC $\pm 0.15$ V
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm 0.5$ ppm maximum
Frequency Stability	
over 0° to +60°C:	$\pm 0.2$ ppm typical $\pm 0.075$ ppm available
over -20° to +70°C:	$\pm 0.3$ ppm typical $\pm 0.15$ available
over -40° to +85°C:	$\pm 0.5$ ppm typical $\pm 0.25$ ppm available
vs. Voltage Change:	$< 0.1$ ppm for $\pm 0.15$ V change
vs. Ageing:	$\pm 0.7$ ppm first year $< \pm 4$ ppm over 10 years
vs. Load Change:	$< 0.01$ ppm for $\pm 5\%$ change
Warm-up Time:	5 minutes maximum
Voltage Control	
Control Voltage Centre:	+1.65 Volts (V <sub>CON</sub> )
Freq. Deviation Range:	$\pm 4.0$ 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 $\Omega$ minimum
EFC Linearity:	$\pm 10\%$ maximum
Power Dissipation:	1.5W max. at steady state 2.5W max. at turn on

### OUTLINE & DIMENSIONS

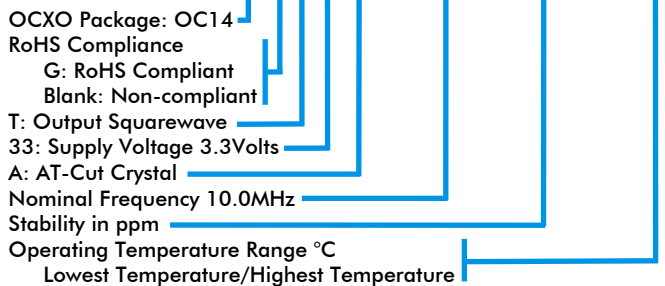


### TEST CIRCUIT



### PART NUMBER FORMAT

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



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°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