

AT-Cut Crystal - Square Wave - 12.0 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 12 Volts
- AT-Cut Crystal
- EFC (Voltage control) as standard



DESCRIPTION

OC14T12A 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.

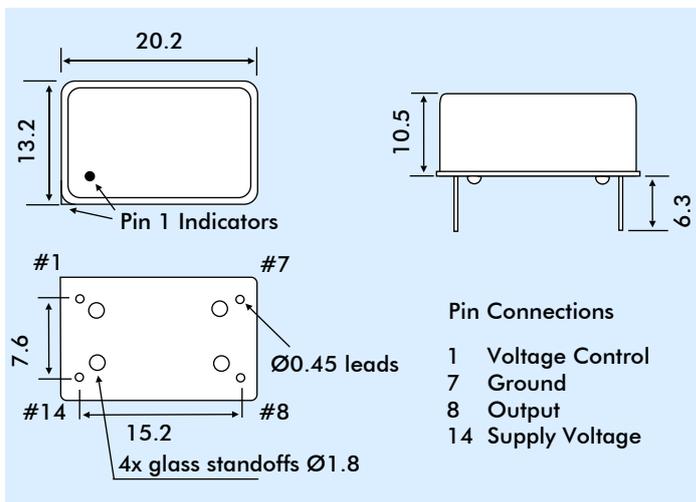
SPECIFICATION

Crystal Cut:	AT-cut
Output Waveform:	Square Wave
Supply Voltage:	+12.0 VDC ± 0.5 V
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	± 0.5 ppm maximum
Frequency Stability	
over 0° to +60°C:	± 0.2 ppm typical ± 0.05 ppm available
over -20° to +70°C:	± 0.3 ppm typical ± 0.1 available
over -40° to +85°C:	± 0.5 ppm typical ± 0.2 ppm available
vs. Voltage Change:	< 0.1 ppm for ± 0.5 V change
vs. Ageing:	± 0.7 ppm first year $< \pm 4$ ppm over 10 years
vs. Load Change:	< 0.01 ppm for $\pm 5\%$ change
Warm-up Time:	3 minutes maximum
Voltage Control	
Control Voltage Centre:	+2.5 Volts (V _{CON})
Freq. Deviation Range:	± 4.0 ppm min., ref. to 25°C
Control Voltage Range:	0V to +5.0Volts
Transfer Function:	Positive: Increasing control voltage increases output frequency.
Input Impedance:	47k Ω minimum
EFC Linearity:	$\pm 10\%$ maximum
Power Dissipation:	1.0W max. at steady state 2.0W max. at turn on
Output	
Load:	15pF HCMOS
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:	-55° to +125°C
Shock:	2000g, 0.3ms $\frac{1}{2}$ sine
Vibration:	10 ~2000Hz / 10g

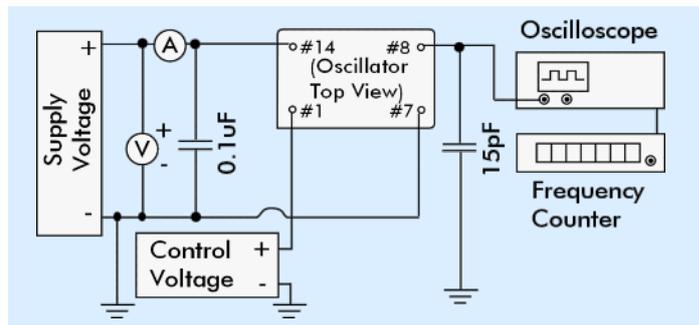
PHASE NOISE (at 10MHz)

Offset	dBc/Hz
1Hz	-60
10Hz	-90
100Hz	-120
1kHz	-130
10kHz	-140

OUTLINE & DIMENSIONS



TEST CIRCUIT



PART NUMBER FORMAT

Example: **OC14GT12A-10.000-0.10/-20+70**

OCXO Package: OC14

RoHS Compliance

G: RoHS Compliant

Blank: Non-compliant

T: Output Squarewave

12: Supply Voltage 12Volts

A: AT-Cut crystal

Nominal Frequency 10.0MHz

Stability in ppm

Operating Temperature Range °C

Lowest Temperature/Highest Temperature