

## AT-Cut Crystal - Sinewave - 5.0 Volts

- 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 5.0 Volts
- AT-Cut Crystal
- EFC (Voltage control) as standard



### DESCRIPTION

OC14E5A 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.

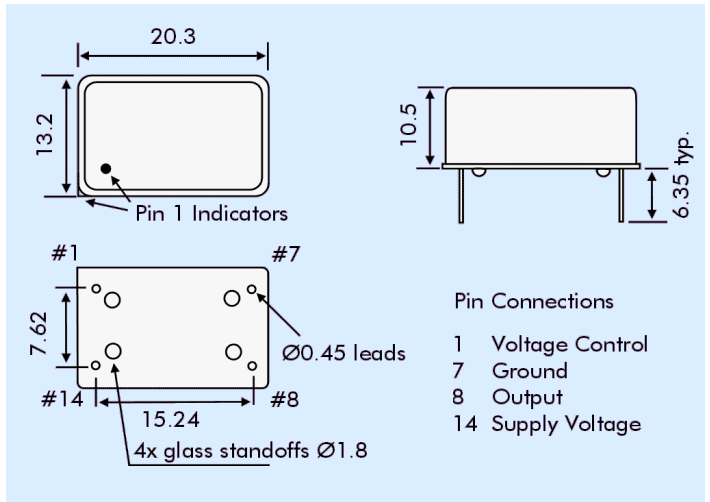
### SPECIFICATION

|                                |   |
|--------------------------------|---|
| Crystal Cut:                   | AT-cut  |
| Output Waveform:               | Sinewave  |
| Supply Voltage:                | +5.0 VDC $\pm 0.2$ 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<br>$\pm 0.07$ ppm available                         |
| over -20° to +70°C:            | $\pm 0.3$ ppm typical<br>$\pm 0.15$ available<br>$\pm 0.25$ ppm available |
| over -40° to +85°C:            | $\pm 0.5$ ppm typical<br>$\pm 0.25$ ppm available                         |
| vs. Voltage Change:            | $< 0.1$ ppm for $\pm 0.2$ V change  |
| vs. Ageing:                    | $\pm 0.7$ ppm first year<br>$< \pm 4$ 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 <sub>CON</sub> )  |
| Freq. Deviation Range:         | $\pm 4.0$ 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 $\Omega$ minimum  |
| EFC Linearity:                 | $\pm 10\%$ maximum  |
| Power Dissipation:             | 1.5W max. at steady state<br>2.5W max. at turn on                         |
| Output                         |   |
| Output Level:                  | +3dBm (typ.) into 50 $\Omega$ load  |
| Harmonics:                     | -10dBc minimum  |
| Spurious:                      | -70dBc minimum  |
| Environmental                  |   |
| Storage Temperature:           | -65° to +125°C  |
| Shock:                         | 2000g, 0.3ms $\frac{1}{2}$ sine   |
| Vibration:                     | 10 ~2000Hz / 10g  |

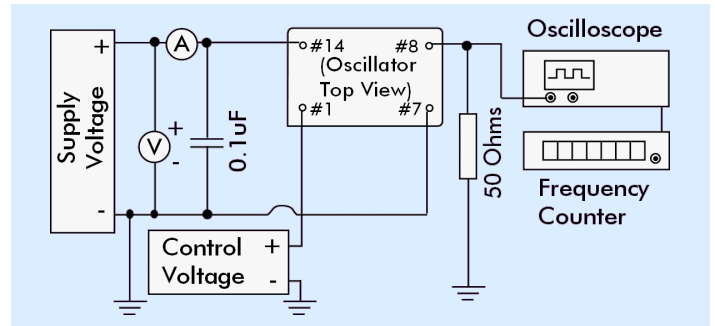
### PHASE NOISE (at 10MHz)

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

### OUTLINE & DIMENSIONS



### TEST CIRCUIT



### PART NUMBER FORMAT

Example: **OC14GE5A-10.000-0.15/-20+70**

