

## SC-Cut Crystal - Sine Wave - 12.0 Volts

- Frequency Range 10.0MHz to 100.0MHz
- 25.4 x 25.4 x 16.0mm 5 pin metal, solder-sealed package
- Supply Voltage 12.0 Volts
- SC-Cut Crystal
- Sine Wave Output
- EFC (Voltage control) as standard



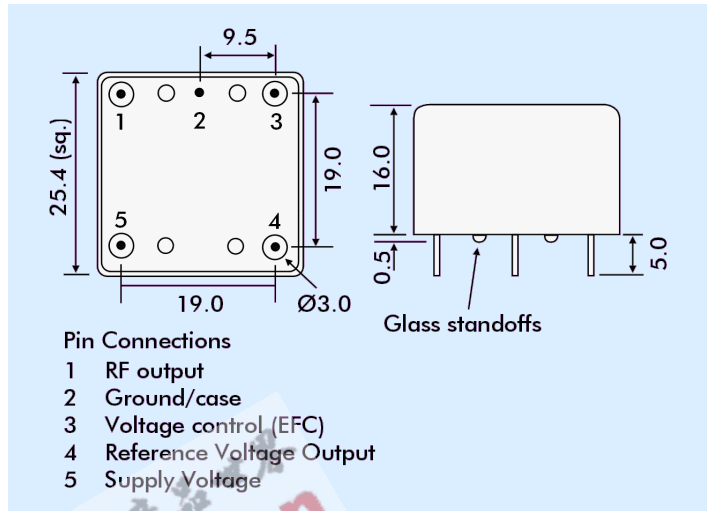
### DESCRIPTION

OC11E12S series oven-controlled crystal oscillators are close tolerance OCXOs with excellent phase noise performance.

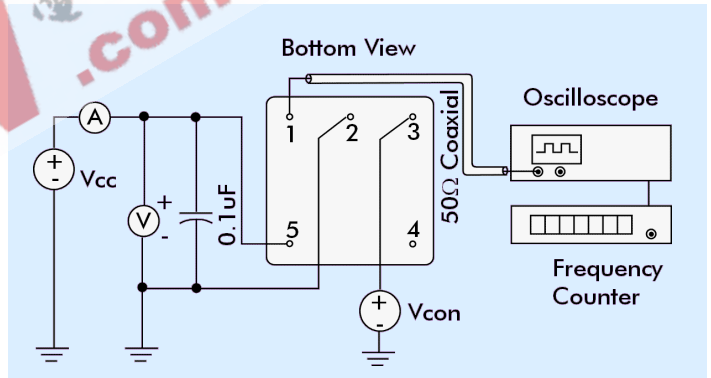
### SPECIFICATION

|                                |  |
|--------------------------------|--|
| Crystal Cut:                   | SC-cut   |
| Output Waveform:               | Sine Wave  |
| Supply Voltage:                | +12.0 VDC $\pm 0.5V$   |
| Frequency Range:               | 10.0MHz to 100.0MHz  |
| Initial Calibration Tolerance: | $\pm 0.5\text{ppm max. (at } V_{\text{CON}} + 2.5V)$   |
| Frequency Stability            |  |
| over 0° to +60°C:              | $\pm 0.01\text{ppm}$   |
| over -20° to +70°C:            | $\pm 0.02\text{ppm}$   |
| over -40° to +85°C:            | $\pm 0.03\text{ppm}$   |
| vs. Voltage Change:            | $< \pm 20\text{ppb}$ for $\pm 5\%$ change  |
| vs. Ageing:                    | $\pm 2.0\text{ppb max per day}$<br>$\pm 0.1\text{ppm per first year}$<br>$\pm 0.5\text{ppm over 10 years}$ |
| vs. Load Change:               | $< \pm 20\text{ppb}$ for $\pm 5\%$ change  |

### OUTLINE & DIMENSIONS

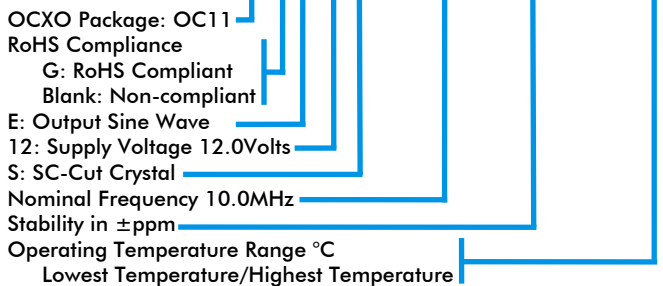


### TEST CIRCUIT



### PART NUMBER FORMAT

Example: **OC11GE12S-10.000-0.02/-20+70**



Warm-up Time: 1 minutes max. to within  $\pm 0.1\text{ppm}$  of nominal freq.

|                         |   |
|-------------------------|---|
| Voltage Control         |   |
| Control Voltage Centre: | +2.5 Volts ( $V_{\text{CON}}$ )   |
| Freq. Deviation Range:  | $\pm 0.5\text{ppm min.}, \pm 2\text{ppm max.}$<br>ref. to 25°C and O.T.R. |
| Control Voltage Range:  | $2.5V \pm 2.0\text{Volts}$  |
| Transfer Function:      | Positive: Increasing control voltage increases output frequency           |
| Input Impedance:        | 100k $\Omega$ minimum   |
| EFC Linearity:          | $\pm 10\%$ maximum  |

|                    |  |
|--------------------|--|
| Power Dissipation: | 1.0W max. steady state<br>3.0W max. at turn on |
|--------------------|--|

|                    |   |
|--------------------|---|
| Output             |   |
| Level:             | +3dBm typ., +8dBm max into 50 $\Omega$ load |
| Harmonic:          | -30dBc min.                                 |
| Spurious:          | -75 dBm min.                                |
| Reference Voltage: | +4.0 $\pm 0.3\text{VDC}$ or custom          |

|                      |                                 |
|----------------------|---------------------------------|
| 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    | 80     |
| 10Hz   | -120   |
| 100Hz  | -140   |
| 1kHz   | -145   |
| 10kHz  | -150   |