

SC-Cut Crystal - Sine Wave - 12.0 Volts

- Frequency Range 5.0MHz to 20.0MHz
- 50.8 x 50.8 x 16.0mm 7 pin metal, solder-sealed package
- Supply Voltage 12.0 Volts
- SC-Cut Crystal
- Sine Wave Output
- EFC (Voltage control) as standard

DESCRIPTION

OC22E12S 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: | 5.0MHz to 20.0MHz |
| Initial Calibration Tolerance: | ± 0.1 ppm max. (at $V_{CON} + 2.5V$) |
| Frequency Stability | |
| over 0° to +60°C: | ± 0.01 ppm |
| over -20° to +70°C: | ± 0.02 ppm |
| over -40° to +85°C: | ± 0.03 ppm |
| vs. Voltage Change: | $< \pm 1.0$ ppb for $\pm 5\%$ change |
| vs. Ageing: | ± 0.5 ppb max per day ± 50 ppb per first year ± 150 ppb over 10 years |
| vs. Load Change: | $< \pm 1.0$ ppb for $\pm 5\%$ change |

Warm-up Time: 5 minutes max. to within ± 10 ppb of nominal freq.

Voltage Control

| | |
|-------------------------|---|
| Control Voltage Centre: | +2.5 Volts (V_{CON}) |
| Freq. Deviation Range: | ± 0.5 ppm min., ± 1 ppm max. ref. to 25°C and O.T.R. |
| Control Voltage Range: | 2.5V ± 2.0 Volts |
| Transfer Function: | Positive: Increasing control voltage increases output frequency |
| Input Impedance: | 100k Ω minimum |
| EFC Linearity: | $\pm 10\%$ maximum |

Power Dissipation: 2.0W max. steady state
6.0W max. at turn on

Output

| | |
|---------------|---|
| Output level: | +2dBm typ., +8dBm max into 50 Ω load |
| Harmonics: | -30dBc min. |
| Spurious: | -75dBc min. |

Reference Voltage: +4.0 ± 0.3 VDC or custom

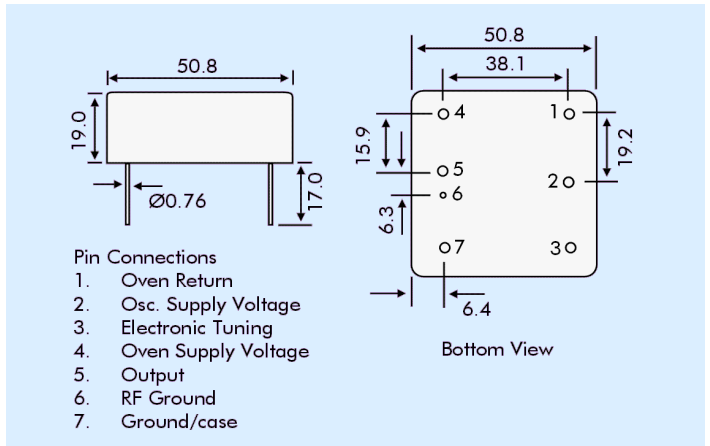
Environmental

| | |
|----------------------|---------------------------------|
| Storage Temperature: | -55° to +125°C |
| Shock: | 2000g, 0.3ms $\frac{1}{2}$ sine |
| Vibration: | 10 ~2000Hz / 10g |

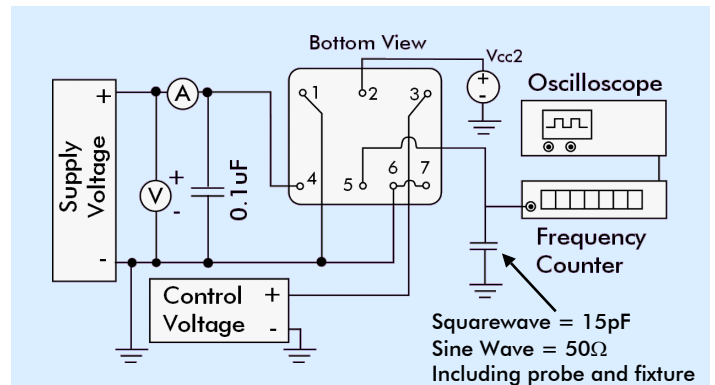
PHASE NOISE (at 10MHz)

| Offset | dBc/Hz |
|--------|--------|
| 1Hz | -85 |
| 10Hz | -120 |
| 100Hz | -140 |
| 1kHz | -145 |
| 10kHz | -150 |

OUTLINE & DIMENSIONS



TEST CIRCUIT



PART NUMBER FORMAT

Example: **OC22GE12S-10.000-0.10/-20+70**

