

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

- Frequency Range 10.0MHz to 100.0MHz
- 20.3 x 20.3 x 10.5mm 5 pin metal, solder-sealed package
- Supply Voltage 12.0 Volts
- AT-Cut Crystal
- True Sinewave Output
- EFC (Voltage control) as standard



### DESCRIPTION

OC18E12A series oven-controlled crystal oscillators are close tolerance OCXOs with good phase noise performance.

### SPECIFICATION

Crystal Cut:	AT-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:	$\pm 0.02\text{ppm}$
over -20° to +70°C:	$\pm 0.05\text{ppm}$
over -40° to +85°C:	$\pm 0.1\text{ppm}$
vs. Voltage Change:	$< \pm 20\text{ppb for } \pm 5\% \text{ change}$
vs. Ageing:	$\pm 5.0\text{ppb max per day}$ $\pm 0.5\text{ppm per first year}$ $\pm 3.0\text{ppm over 10 years}$
vs. Load Change:	$< \pm 20\text{ppb for } \pm 5\% \text{ change}$

Warm-up Time: 3 minutes max. to within  $\pm 0.5\text{ppm}$  of nominal freq.

#### Voltage Control

Control Voltage Centre:	+2.5 Volts ( $V_{\text{CON}}$ )
Freq. Deviation Range:	$\pm 5.0\text{ppm min.}, \pm 20\text{ppm max.}$ ref. to 25°C
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: 200mA max. steady state  
500mA max. at turn on

#### Output

Load:	+3dBm typ., +8dBm max. into 50 $\Omega$ load.
Harmonics:	-30dBc min.
Spurious:	-75dBc min.

Reference Voltage: +4.0  $\pm 0.3\text{VDC}$  or custom

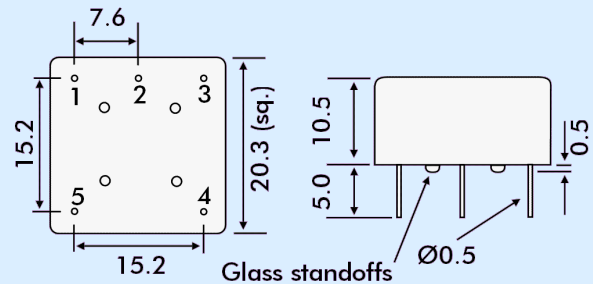
#### Environmental

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	-75
10Hz	-100
100Hz	-130
1kHz	-140
10kHz	-150

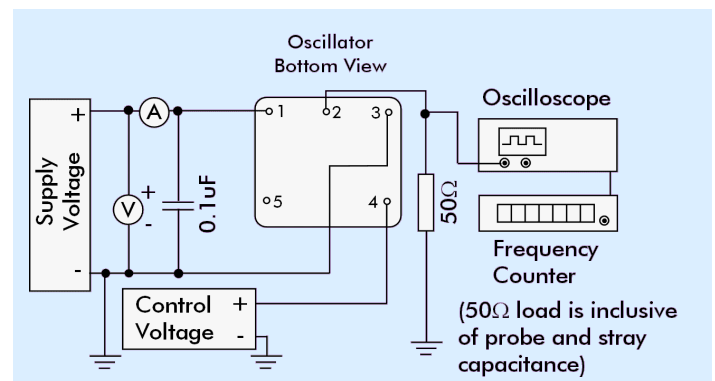
### OUTLINE & DIMENSIONS



#### Pin Connections

- 1 Supply Control
- 2 RF Output
- 3 Ground/case
- 4 Voltage Control EFC
- 5 Reference Voltage Output

### TEST CIRCUIT



### PART NUMBER FORMAT

Example: **OC18GE12A-10.000-0.05/-20+70**

OCXO Package: OC18

RoHS Compliance

G: RoHS Compliant

Blank: Non-compliant

E: Output Sine Wave

12: Supply Voltage 12.0Volts

A: AT-Cut Crystal

Nominal Frequency 10.0MHz

Stability in ppm

Operating Temperature Range °C

Lowest Temperature/Highest Temperature