

## AT-Cut Crystal - Sine Wave - 5.0 Volts

- Frequency Range 10.0MHz to 100.0MHz
- 20.3 x 20.3 x 10.5mm 5 pin metal, solder-sealed package
- Supply Voltage 5.0 Volts
- AT-Cut Crystal
- True Sinewave Output
- EFC (Voltage control) as standard



### DESCRIPTION

OC18E5A 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:	+5.0 VDC $\pm$ 0.2V
Frequency Range:	10.0MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm$ 0.5ppm max. (at $V_{CON}$ 2.5V)
Frequency Stability	
over 0° to +60°C:	$\pm$ 0.02ppm
over -20° to +70°C:	$\pm$ 0.05ppm
over -40° to +85°C:	$\pm$ 0.1ppm
vs. Voltage Change:	$<$ $\pm$ 20ppb for $\pm$ 5% change
vs. Ageing:	$\pm$ 5.0ppb max per day $\pm$ 0.5ppm per first year $\pm$ 3.0ppm over 10 years
vs. Load Change:	$<$ $\pm$ 20ppb for $\pm$ 5% change

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

Voltage Control	
Control Voltage Centre:	+2.5 Volts ( $V_{CON}$ )
Freq. Deviation Range:	$\pm$ 5.0ppm min., $\pm$ 20ppm max. ref. to 25°C and O.T.R.
Control Voltage Range:	2.5V $\pm$ 2.0Volts
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.

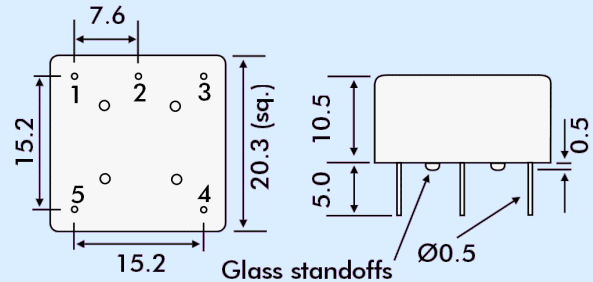
Reference Voltage: +4.0 $\pm$ 0.3VDC or custom

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

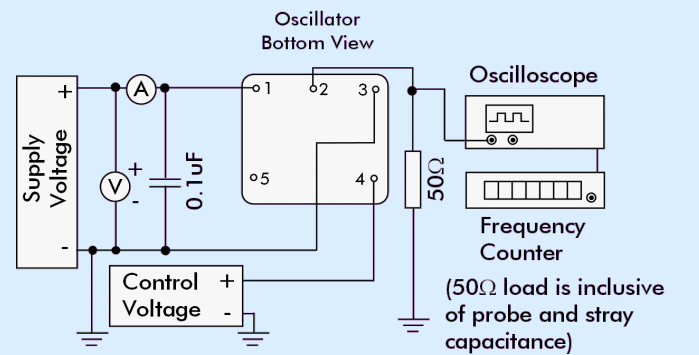
### OUTLINE & DIMENSIONS



#### 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: **OC18GE5A-10.000-0.05/-20+70**

