

AT-Cut Crystal - Square Wave - 12.0 Volts 1.25MHz ~ 100.0MHz

- Frequency Range 1.25MHz 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
- Squarewave Output
- EFC (Voltage control) as standard



DESCRIPTION

OC18T12A series oven-controlled crystal oscillators are close tolerance OCXOs with good phase noise performance.

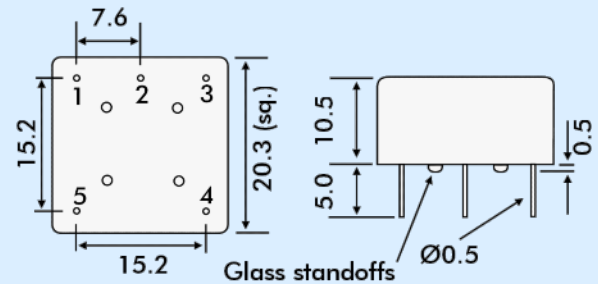
SPECIFICATION

Crystal Cut:	AT-cut
Output Waveform:	Square Wave
Supply Voltage:	+12.0 VDC $\pm 0.5V$
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm 0.5\text{ppm max. (at } V_{CON} 2.5V)$
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_{CON})
Freq. Deviation Range:	$\pm 5.0\text{ppm min., } \pm 20\text{ppm max. ref. to } 25^\circ\text{C}$
Control Voltage Range:	2.5V $\pm 2.0\text{Volts}$
Transfer Function:	Positive: Increasing control voltage increases output frequency.
Input Impedance:	100k Ω minimum
EFC Linearity:	$\pm 10\%$ maximum
Power Dissipation:	200mA max. steady state 500mA max. at turn on
Output	
Load:	15pF HCMOS
Output Logic HIGH:	+4.5V minimum
Output Logic LOW:	0.5V maximum
Duty Cycle:	50% $\pm 10\%$
Rise/Fall Time:	5ns max (20%~80%) <i>Frequency dependant</i>
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

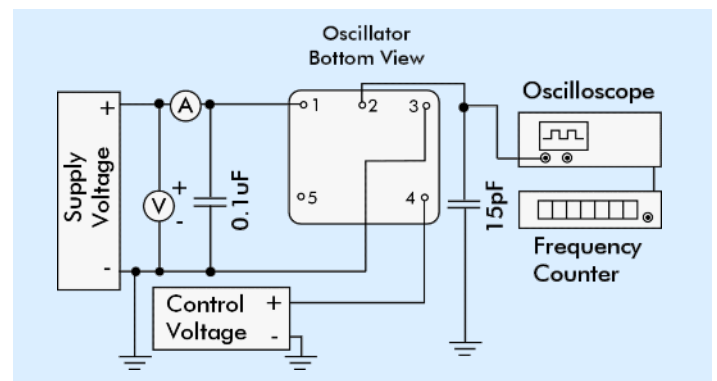
OUTLINE & DIMENSIONS



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: **OC18GT12A-10.000-0.05/-20+70**

OCXO Package: OC18

RoHS Compliance

G: RoHS Compliant

Blank: Non-compliant

T: Output Squarewave

12: Supply Voltage 12.0Volts

A: AT-Cut Crystal

Nominal Frequency 10.0MHz

Stability in ppm

Operating Temperature Range °C

Lowest Temperature/Highest Temperature