

AT-Cut Crystal - Square Wave - 12.0 Volts

- 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 ± 0.5 V
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	± 0.5 ppm max. (at V_{CON} 2.5V)
Frequency Stability	
over 0° to +60°C:	± 0.02 ppm
over -20° to +70°C:	± 0.05 ppm
over -40° to +85°C:	± 0.1 ppm
vs. Voltage Change:	$< \pm 20$ ppb for $\pm 5\%$ change
vs. Ageing:	± 5.0 ppb max per day ± 0.5 ppm per first year ± 3.0 ppm over 10 years
vs. Load Change:	$< \pm 20$ ppb for $\pm 5\%$ change

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

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

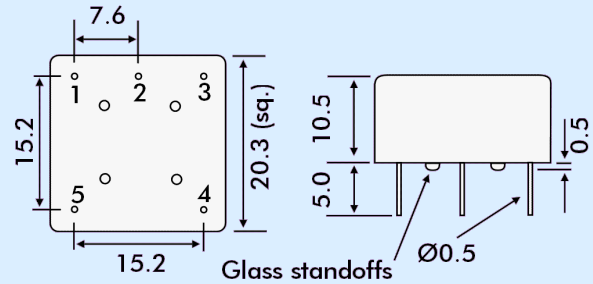
Output	
Load:	15pF HCMOS
Output Logic HIGH:	+4.5V minimum
Output Logic LOW:	0.5V maximum
Duty Cycle:	50% $\pm 10\%$
Rise/Fall Time:	5ns max (20%~80%) Frequency dependant
Reference Voltage:	+4.0 ± 0.3 VDC or custom

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

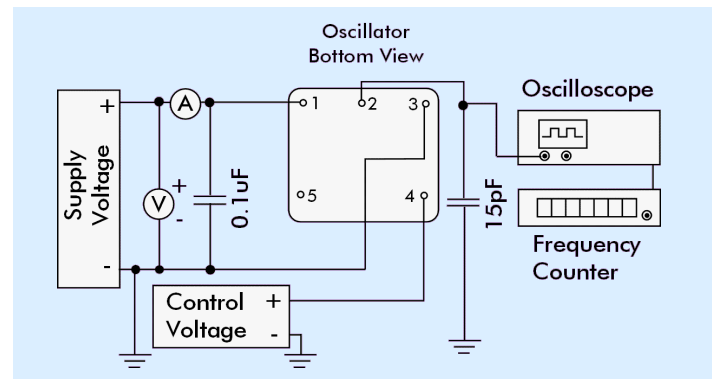
OUTLINE & DIMENSIONS



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