

SC-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
- SC-Cut Crystal
- Squarewave Output
- EFC (Voltage control) as standard



DESCRIPTION

OC18T12S series oven-controlled crystal oscillators are close tolerance OCXOs with excellent phase noise performance.

SPECIFICATION

Crystal Cut:	SC-Cut
Output Waveform:	Square Wave
Supply Voltage:	+12.0 VDC $\pm 0.5V$
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm 0.5ppm$ max. (at V_{CON} 2.5V)
Frequency Stability	
over 0° to +60°C:	$\pm 0.01ppm$
over -20° to +70°C:	$\pm 0.01ppm$
over -40° to +85°C:	$\pm 0.03ppm$
vs. Voltage Change:	$< \pm 20ppb$ for $\pm 5\%$ change
vs. Ageing:	$\pm 2.0ppb$ max per day $\pm 0.1ppm$ per first year $\pm 0.5ppm$ over 10 years
vs. Load Change:	$< \pm 20ppb$ for $\pm 5\%$ change
Warm-up Time:	1 minute max. to within $\pm 0.1ppm$ of nominal freq.
Voltage Control	
Control Voltage Centre:	+2.5 Volts (V_{CON})
Freq. Deviation Range:	$\pm 0.5ppm$ min., $\pm 2ppm$ 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:	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 $\pm 0.3VDC$ or custom

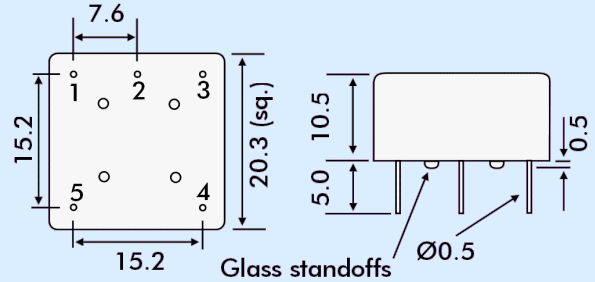
Environmental

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	-85
10Hz	-120
100Hz	-140
1kHz	-145
10kHz	-150

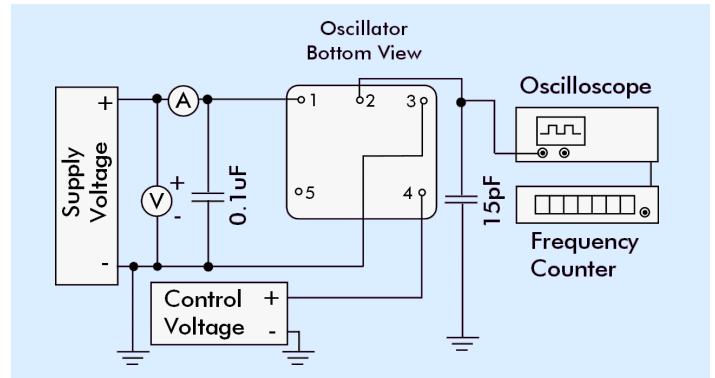
OUTLINE & DIMENSIONS



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: **OC18GT12S-10.000-0.01/-20+70**

OCXO Package: OC18

RoHS Compliance

G: RoHS Compliant

Blank: Non-compliant

T: Output Squarewave

12: Supply Voltage 12.0Volts

S: SC-Cut Crystal

Nominal Frequency 10.0MHz

Stability in ppm

Operating Temperature Range °C

Lowest Temperature/Highest Temperature