

SC-Cut Crystal - Square Wave - 12.0 Volts

- Frequency Range 1.25MHz to 100.0MHz
- 36.2 x 27.7 x 16.0mm 5 pin metal, solder-sealed package
- Supply Voltage 12.0 Volts
- SC-Cut Crystal
- Squarewave Output
- EFC (Voltage control) as standard



DESCRIPTION

OC31T12S 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:	± 0.5 ppm max. (at $V_{CON} + 2.5V$)
Frequency Stability	
over 0° to +60°C:	± 0.01 ppm
over -20° to +70°C:	± 0.02 ppm
over -40° to +85°C:	± 0.03 ppm
vs. Voltage Change:	$< \pm 20$ ppb for $\pm 5\%$ change
vs. Ageing:	± 2.0 ppb max per day ± 0.1 ppm per first year ± 0.5 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:	± 0.5 ppm min., ± 2 ppm 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: 1.2W max. steady state
3.5W max. at turn on

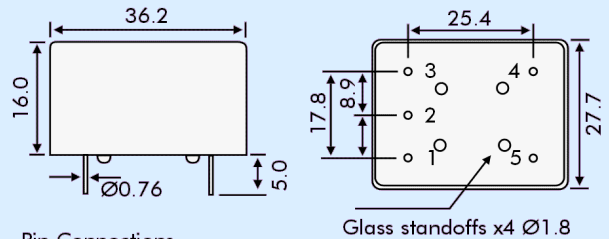
Output	
Load:	15pF HCMOS
Output Logic HIGH:	+4.5V minimum
Output Logic LOW:	0.5V maximum
Duty Cycle:	50% $\pm 10\%$
Rise/Fall Time:	5ns max (20%~80%) Frequency dependant
Reference Voltage:	+4.0 ± 0.3 VDC or custom

Environmental	
Storage Temperature:	-55° to +125°C
Shock:	2000g, 0.3ms $\frac{1}{2}$ sine
Vibration:	10 ~2000Hz / 10g

PHASE NOISE (at 10MHz)

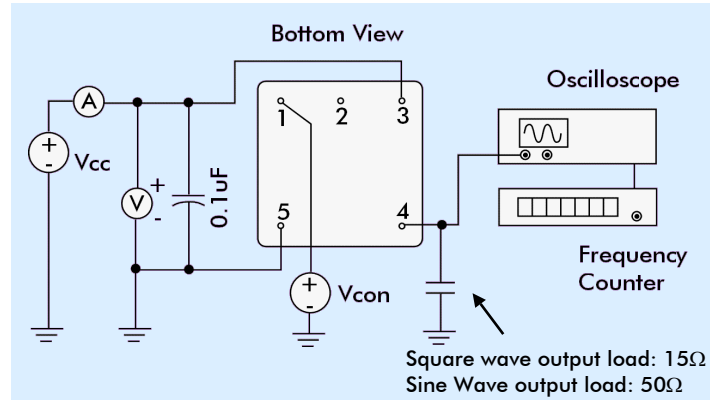
Offset	dBc/Hz
1Hz	-85
10Hz	-120
100Hz	-140
1kHz	-145
10kHz	-150

OUTLINE & DIMENSIONS



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

TEST CIRCUIT



PART NUMBER FORMAT

Example: **OC31GT12S-10.000-0.02/-20+70**

