

## SC-Cut Crystal - Square Wave - 12.0 Volts

- Frequency Range 5.0MHz to 20.0MHz
- 50.8 x 50.8 x 16.0mm 7 pin metal, solder-sealed package
- Supply Voltage 12.0 Volts
- SC-Cut Crystal
- Squarewave Output
- EFC (Voltage control) as standard

### DESCRIPTION

OC22T5S 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:	5.0MHz to 20.0MHz
Initial Calibration Tolerance:	$\pm$ 0.1ppm max.(at $V_{CON}$ +2.5V)
Frequency Stability	
over 0° to +60°C:	$\pm$ 0.01ppm
over -20° to +70°C:	$\pm$ 0.02ppm
over -40° to +85°C:	$\pm$ 0.03ppm
vs. Voltage Change:	$<$ $\pm$ 1.0ppb for $\pm$ 5% change
vs. Ageing:	$\pm$ 0.5ppb max per day $\pm$ 50ppb per first year $\pm$ 150ppb over 10 years
vs. Load Change:	$<$ $\pm$ 1.0ppb for $\pm$ 5% change

Warm-up Time: 5 minutes max. to within  $\pm$ 10ppb of nominal freq.

### Voltage Control

Control Voltage Centre:	+2.5 Volts ( $V_{CON}$ )
Freq. Deviation Range:	$\pm$ 0.5ppm min., $\pm$ 1ppm 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: 2.0W max. steady state  
6.0W 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

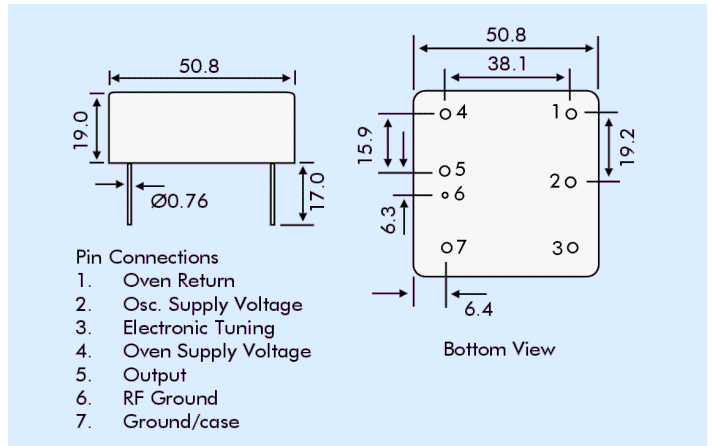
### Environmental

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

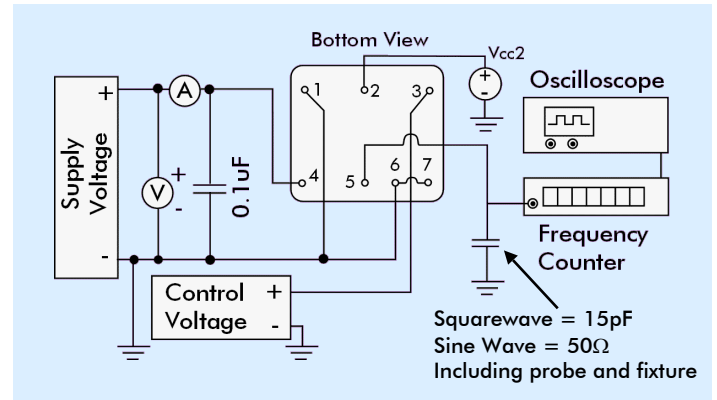
### PHASE NOISE (at 10MHz)

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

### OUTLINE & DIMENSIONS



### TEST CIRCUIT



### PART NUMBER FORMAT

Example: **OC22GT12S-10.000-0.01/-20+70**

