

## SC-Cut Crystal - Square Wave - 5.0 Volts 1.25MHz ~ 100.0MHz

- Frequency Range 1.25MHz to 100.0MHz
- 25.4 x 25.4 x 16.0mm 5 pin metal, solder-sealed package
- Supply Voltage 5.0 Volts
- SC-Cut Crystal
- Squarewave Output
- EFC (Voltage control) as standard



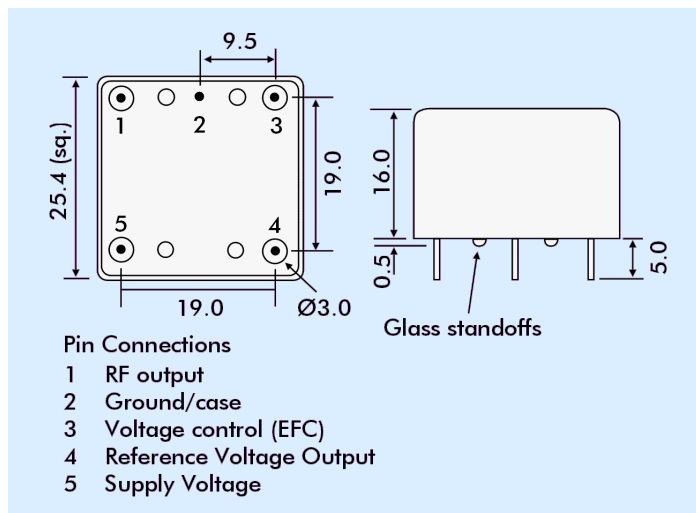
### DESCRIPTION

OC11T5S series oven-controlled crystal oscillators are close tolerance OCXOs with excellent phase noise performance.

### SPECIFICATION

|                                |  |
|--------------------------------|--|
| Crystal Cut:                   | SC-cut   |
| Output Waveform:               | Sine Wave  |
| Supply Voltage:                | +5.0 VDC $\pm 0.2V$  |
| 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:            | $\pm 0.02ppm$  |
| 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<br>$\pm 0.1ppm$ per first year<br>$\pm 0.5ppm$ over 10 years |
| vs. Load Change:               | $< \pm 20ppb$ for $\pm 5\%$ change   |

### OUTLINE & DIMENSIONS



Warm-up Time: 1 minutes 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 $\pm 2.0$ Volts  |
| Transfer Function:      | Positive: Increasing control voltage increases output frequency |
| Input Impedance:        | 100k $\Omega$ minimum   |
| EFC Linearity:          | $\pm 10\%$ maximum  |

Power Dissipation: 1.0W max. steady state  
3.0W 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%)<br>Frequency dependant |

Reference Voltage: +4.0  $\pm 0.3VDC$  or custom

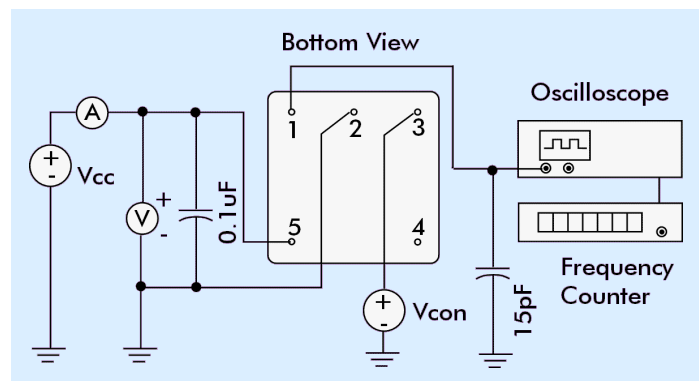
### Environmental

|                      |                                 |
|----------------------|---------------------------------|
| 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    | -80    |
| 10Hz   | -120   |
| 100Hz  | -140   |
| 1kHz   | -145   |
| 10kHz  | -150   |

### TEST CIRCUIT



### PART NUMBER FORMAT

Example: **OC11GT5S-10.000-0.02/-20+70**

