



**T53 Series TCXO**  
10 MHz to 50 MHz  
(Rev. D)

GREENRAY INDUSTRIES, INC.

PRECISION QUARTZ TECHNOLOGY

SPECIFICATIONS

Very Rugged TCXO  
Tight Temp Stability

|  |  |                  |               |
|--|--|------------------|---------------|
| <b>Frequency</b>                                       | 10.0 MHz to 50.0 MHz   |                  |               |
| <b>Output</b>  | CMOS (C option) or Clipped Sinewave (S option)   |                  |               |
| <b>Symmetry</b>  | 50% ± 10% (CMOS)   |                  |               |
| <b>Output Level</b>                                    | SINE - +0.8V p-p typ into 10pF/100k ohm load;<br>CMOS - 3.3V - +0.2V max to +2.8V min;<br>5.0V - +0.2V max to +4.2V min; 15pF load |                  |               |
| <b>Temp Stability</b><br>(other stabilities available) | <b>Temp Range</b>  | <b>Tolerance</b> | <b>Option</b> |
|  | -10°C to +60°C   | ±0.3 ppM         | G37           |
|  | -20°C to +70°C   | ±0.5 ppM         | N57           |
|  | -40°C to +85°C   | ±0.5 ppM         | T57           |
|  | -40°C to +85°C   | ±1.0 ppM         | T16           |
|  | -55°C to +95°C   | ±2.0 ppM         | V26           |
| <b>Aging</b>   | <1 ppM/yr - for standard shock level configuration (improved aging available)  |                  |               |
| <b>Freq Adjust</b>                                     | ±8 ppM typ via 0 to V <sub>cc</sub> control V, positive slope  |                  |               |
| <b>Supply Voltage</b>                                  | +3.0 VDC ± 5%, +3.3VDC, or +5.0 VDC  |                  |               |
| <b>Supply Current</b>                                  | < 6mA for HCMOS; < 3mA for SINE  |                  |               |
| <b>G-Sensitivity</b>                                   | Standard (SD) ≤2.5x10 <sup>-9</sup> /g typ; Low G-sensitivity option (LG) ≤7x10 <sup>-10</sup> /g                                  |                  |               |
| <b>Environmentals</b>                                  |  |                  |               |
| Vibration –  | per MIL-STD-202G, Meth 214,<br>Cond I-F  |                  |               |
| Shock -  | per MIL-STD-202G, Meth 213,<br>Cond D  |                  |               |

Note: Shock levels are available up to 50000g, the standard part (A) shock and vibration is specified as above. For higher levels please specify the (B) option and consult the factory with your needs.

Ordering Example:

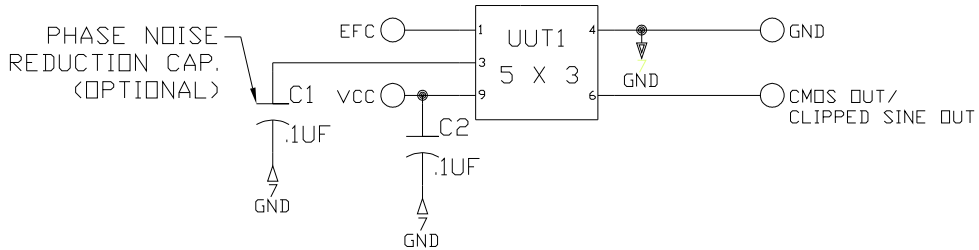
T53-T57-C-3.3-LG-A-20.0MHz  
(Model-Stability-Output-SupplyV-GSense-Shock-Freq)

**Outline Note:** An optional pad layout would be to only use the four corner pads - 1, 4, 6, & 9. This pad layout can be used if the Tristate, Vref, and Low Phase Noise options are not needed.

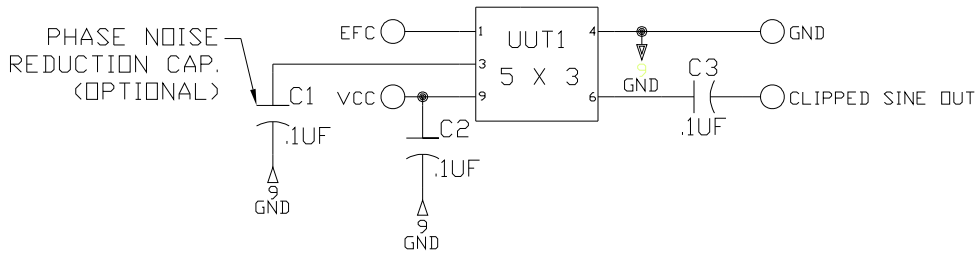
To inquire about available custom parameters, please contact us at [sales@greenrayindustries.com](mailto:sales@greenrayindustries.com).

**Recommended Output Configuration**

CMOS/  
CLIPPED SINE <DC COUPLED>



CLIPPED SINE <AC COUPLED>



**Outline Drawing**

**Pad Connections**

- 1 - EFC
- 2 - Vref
- 3 - N/C or Low Phase Noise Cap option
- 4 - 0V, Ground
- 5 - Tri-State (enable Hi or float)
- 6 - output
- 7 - N/C, Internal Use Only
- 8 - N/C, Internal Use Only
- 9 - Supply Voltage
- 10 - N/C, Internal Use Only

**Pad Layout**

