



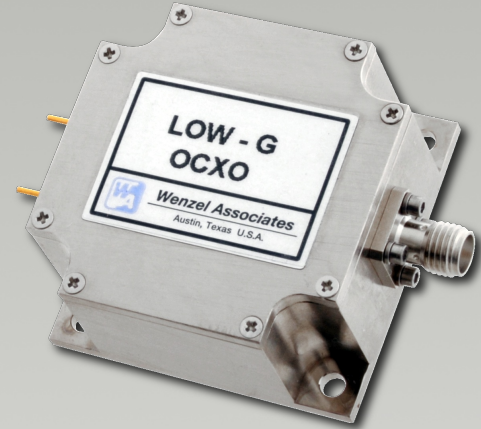
## Low Noise Crystal Oscillators > LG I

### Features:

- Output Frequency: 25 MHz to 130 MHz
- Low Phase Noise to -170 dBc/Hz
- Ruggedized for Dynamic Environments
- Low G-Sensitivity to 2E-10/g per axis
- Ovenized and Non-Ovenized Versions
- Internal Voltage Regulator

### Applications:

- Missile Applications
- Military Avionics
- Tactical Weapons



Electrical Specifications	
Output Frequency (fixed; specify within range)	25 MHz to 130 MHz
Output Level	+13 dBm ±2 dB into 50 ohms
Aging	
Per day after 30 days operating, typical	$5 \times 10^{-9}$
Second year, typical	$5 \times 10^{-7}$
Per year thereafter, typical	$3 \times 10^{-7}$
Temperature Stability (consult factory for other ranges)	
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-7}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-6}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-6}$
Phase Noise	(Frequency Dependent: See Standard Specifications and Part Numbers table below for details)
Harmonics	$\leq -30$ dBc
Spurious	$\leq -80$ dBc
Tuning	
- Mechanical Tuning	N/A
- Electrical Tuning	
Tuning A: 0 to +10 VDC	N/A
Tuning B: ±5 VDC	N/A
Slope: Negative	N/A
Supply Voltage	+15 VDC or +12 VDC (±5%)
Warm-up	$\leq 5$ Watts for 5 minutes at +25°C
Total	$\leq 2.5$ Watts at +25°C
Crystal Type	SC-cut
Acceleration Sensitivity	$5 \times 10^{-10}$ /g, typical; to $2 \times 10^{-10}$ /g, available
Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	1.58" x 1.58" x 0.8"
Connectors / Mounting	SMA(f) and solder pins on side Thru Hole Mounting, 0.120" diam., 4 places

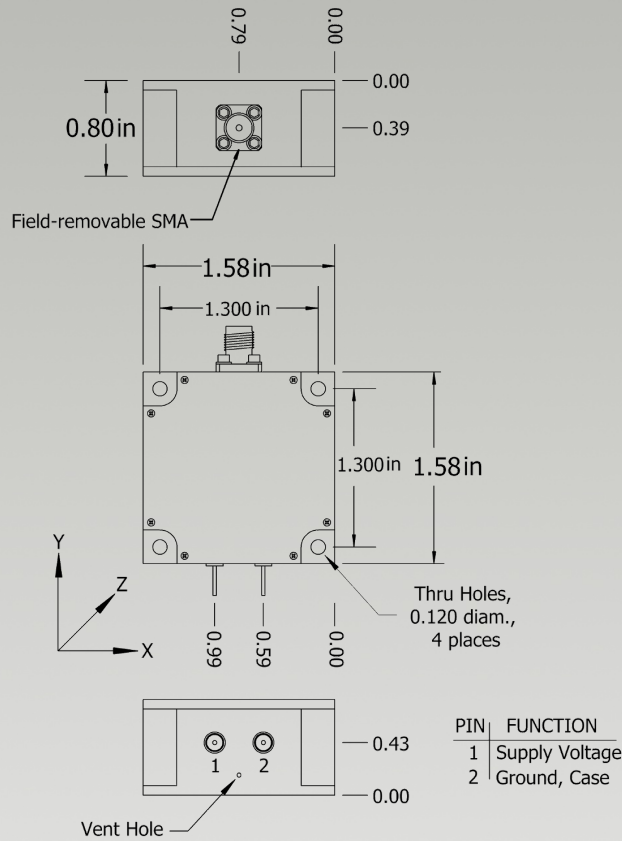
### Description:

The LG I oscillator is a small lightweight OCXO with a fixed output frequency between 25 MHz and 130 MHz. This unit provides good frequency stability over temperature (ovenized version), phase noise floor performance to -170 dBc/Hz and acceleration sensitivity to 2E-10/g per axis. A non-ovenized version is available when low power consumption is a requirement and the frequency stability over temperature specification is not critical. The package is a rugged nickel-plated machined aluminum case (1.58" x 1.58" x 0.8") and includes thru hole mounting in 4 places. The RF output is provided through a field replaceable SMA(f) connector and the supply voltage through solder pins on the opposite side. The small size and low-g options make this unit well suited for airborne and missile applications where good dynamic performance is required. A low noise voltage regulator is included to minimize power supply line related spurious signals. Please contact technical staff to discuss custom requirements.





**Low Noise Crystal Oscillators > LG I**



**Standard Specifications and Part Numbers \*\***

Part Number	Output Frequency * (MHz)	Typical Phase Noise (dBc/Hz), Static *					Output Level (dBm) * into 50 ohms	Temperature Stability (Ref: +25°C) *	Supply Voltage (VDC)	Acceleration Sensitivity (g per axis) *	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz						
501-27551-01	100	-95	-125	-150	-165	-165	+13 ±2	±5E-7, 0° to +50°C	+15	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-02	100	-95	-125	-150	-165	-165	+13 ±2	±2E-6, -20° to +70°C	+15	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-11	100	-100	-130	-155	-168	-170	+13 ±2	±5E-7, 0° to +50°C	+15	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-12	100	-100	-130	-155	-168	-170	+13 ±2	±2E-6, -20° to +70°C	+15	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-21	100	-95	-125	-150	-165	-165	+13 ±2	±5E-7, 0° to +50°C	+12	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-22	100	-95	-125	-150	-165	-165	+13 ±2	±2E-6, -20° to +70°C	+12	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-31	100	-100	-130	-155	-168	-170	+13 ±2	±5E-7, 0° to +50°C	+12	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-32	100	-100	-130	-155	-168	-170	+13 ±2	±2E-6, -20° to +70°C	+12	5	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-41	100	-95	-125	-150	-165	-165	+13 ±2	±5E-7, 0° to +50°C	+15	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-42	100	-95	-125	-150	-165	-165	+13 ±2	±2E-6, -20° to +70°C	+15	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-51	100	-100	-130	-155	-168	-170	+13 ±2	±5E-7, 0° to +50°C	+15	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-52	100	-100	-130	-155	-168	-170	+13 ±2	±2E-6, -20° to +70°C	+15	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-61	100	-95	-125	-150	-165	-165	+13 ±2	±5E-7, 0° to +50°C	+12	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-62	100	-95	-125	-150	-165	-165	+13 ±2	±2E-6, -20° to +70°C	+12	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-71	100	-100	-130	-155	-168	-170	+13 ±2	±5E-7, 0° to +50°C	+12	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8
501-27551-72	100	-100	-130	-155	-168	-170	+13 ±2	±2E-6, -20° to +70°C	+12	3	SMA(f) & Pins on Side	1.58 x 1.58 x 0.8

\* Consult factory for custom frequency, phase noise performance, output level, temperature stability and acceleration sensitivity options.

\*\* See website for additional Standard Part Numbers and Specifications.

