



LXOAT OSCILLATOR

312 kHz to 120 MHz

Low Power Crystal Oscillator

DESCRIPTION

The LXOAT consists of a TTL and CMOS-compatible hybrid circuit and a miniature quartz crystal packaged in a hermetically-sealed metal DIP. Permanent, precision tuning and a hermetically sealed AT quartz crystal allows for very tight calibration tolerance and eliminates the need for a tuning capacitor, a major source of long-term frequency drift.

FEATURES

- Low aging
- CMOS and TTL compatible
- Double hermetically sealed package
- Full military testing available
- 3 Volt model also available
- Optional Tri-State or Output Enable

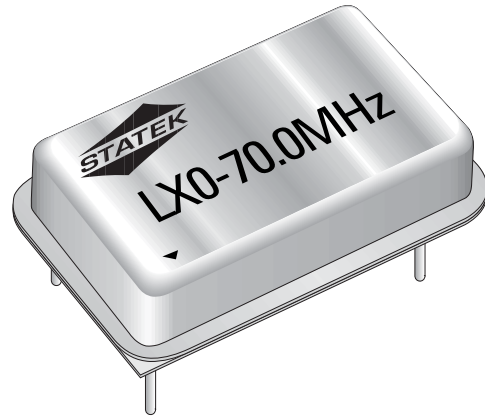
APPLICATIONS

Industrial, Computer & Communications

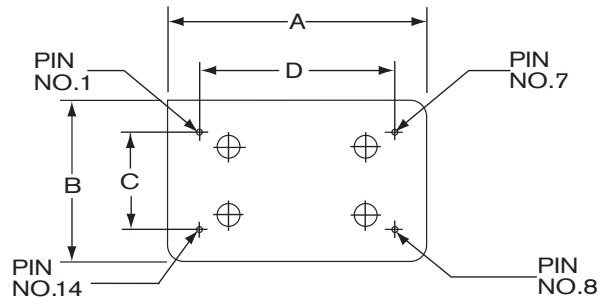
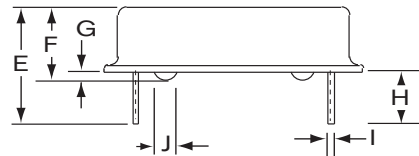
- General purpose clock oscillator

Military

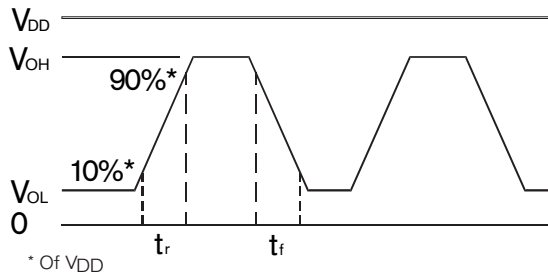
- Flight recorder
- Airborne hybrid computers



PACKAGE DIMENSIONS



OUTPUT WAVE FORM



DIM	inches	mm
A	0.810 MAX.	20.57 MAX.
B	0.510 MAX.	12.95 MAX.
C	0.300 ± 0.005	7.62 ± 0.13
D	0.600 ± 0.005	15.24 ± 0.13
E	0.430 TYP.	10.92 TYP.
F	0.240 MAX.	6.10 MAX.
G	0.040 TYP.	1.02 TYP.
H	0.150 MIN.	3.81 MIN.
I	0.018 ± 0.002	0.46 ± 0.05
J	0.070 TYP.	1.78 TYP.

* Position of bumps for reference only



SPECIFICATIONS

Specifications are typical at 25°C unless otherwise noted.
Specifications are subject to change without notice.

Supply Voltage (V_{DD})	5V \pm 10% (3.3V available)	
Calibration	\pm 100 ppm (0.01%)	
Tolerance (at 5V) ¹	\pm 1000 ppm (0.1%) \pm 10000 ppm (1.0%)	
Frequency	0° C to +50°C from \pm 5 to \pm 30ppm	
Stability ²	-10°C to +70°C from \pm 10 to \pm 50ppm -40°C to +85°C from \pm 20 to \pm 100ppm -55°C to +125°C from \pm 30 to \pm 100ppm	
Supply Current	4 mA to 60 mA (Depending on freq.)	
Output Levels	V_{OL}	V_{OH}
TTL	0.4V MAX.	2.4V MIN.
CMOS	0.5V MAX.	4.5V MIN.
Start-up Time	5 ms MAX.	
Rise/Fall Time	6 ns Typ., 10 ns MAX.	
Duty Cycle	40% Min., 60% MAX.	
Aging, first year	10 ppm MAX.	
Shock, survival ³	1,000 g peak 1 ms, 1/2 sine	
Vibration survival	10 g RMS 10-2000 Hz	
Operating Temperature	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)	
Storage Temperature	-55°C to +125°C	

1. Tighter tolerances available for calibration and stability.
2. Does not include calibration tolerance
3. High shock version available

Note: All parameters are measured at ambient temperature
with a 10M Ω and 10pF load at 5V

ABSOLUTE MAXIMUM RATINGS

Supply Voltage V_{DD}	-0.3V to 7V
Storage Temperature	-55°C to +125°C

ENABLE VS. TRI-STATE

Enable: When pin 1 is low (0), the oscillator stops oscillation.

Tri-state: When pin 1 is low, the oscillator is running. However, the output buffer amplifier stops functioning and output is in high impedance (Z) state.

	Enable	Tri-state
Current consumption when pin 1 is low	Low	High
Output recovery delay when pin 1 changes from low (0) to high (1)	Delayed	Immediate

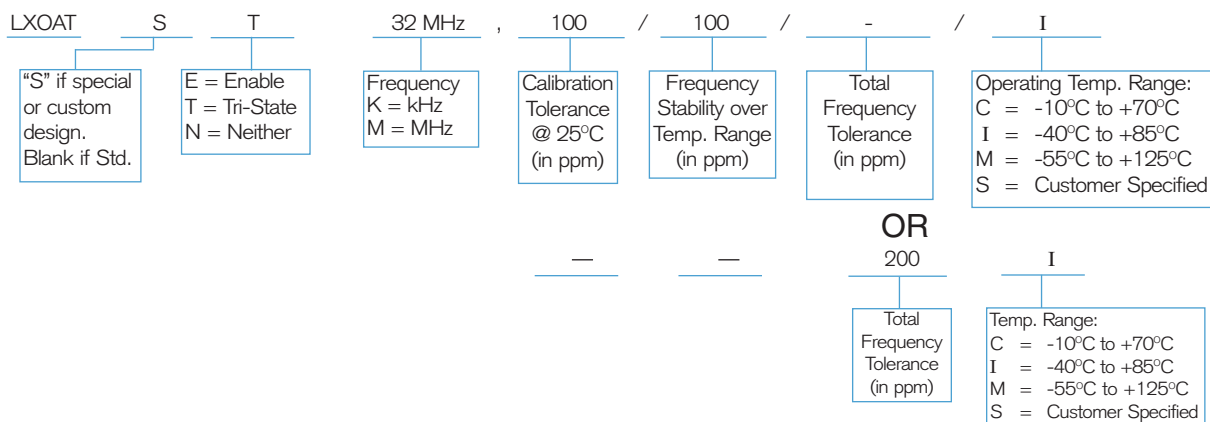
PIN CONNECTIONS

1. Output Enable, \overline{INH} (Tri-State) or NC
7. Ground
8. Output
14. V_{DD}

PACKAGING

LXOAT - Tube Pack (Standard)

HOW TO ORDER LXOAT CRYSTAL OSCILLATORS



10111 - Rev E

