



SQXO2ATSM OSCILLATOR

312 kHz to 120 MHz
Surface Mount Crystal Oscillator

DESCRIPTION

The SQXO2ATSM oscillator consists of a CMOS-compatible hybrid circuit, hermetically sealed in a industry standard 24-pin ceramic leadless chip carrier.

FEATURES

- CMOS and TTL compatible
- High frequency (AT)
- Wide temperature range
- Full military testing available
- Hermetically sealed

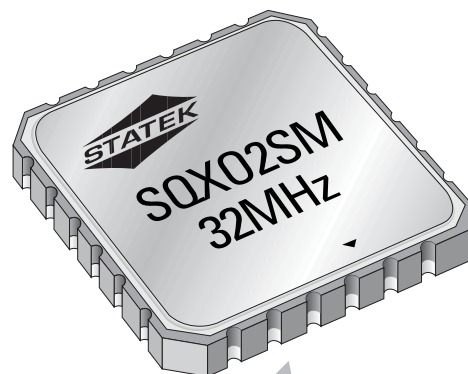
APPLICATIONS

Industrial, Computer & Communications

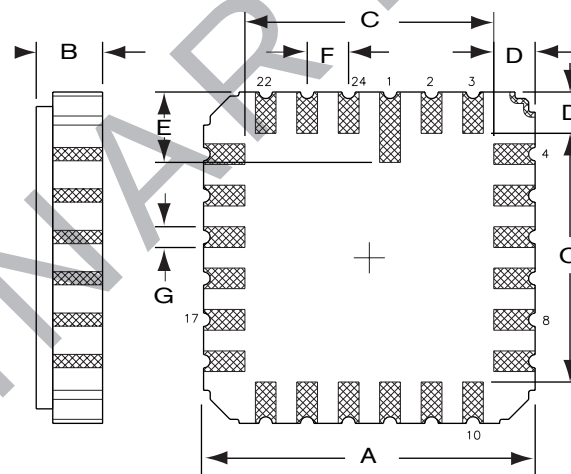
- Rugged Computer

Military & Aerospace

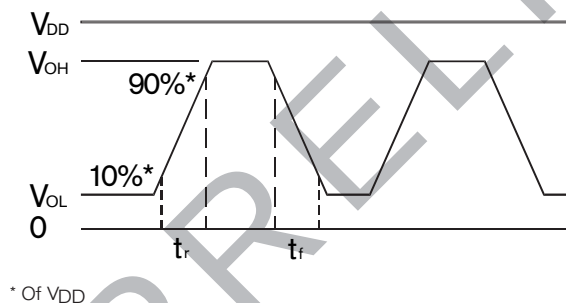
- Intelligent Munitions
- Avionics



PACKAGE DIMENSIONS



OUTPUT WAVE FORM



DIM	inches	mm
A	0.410 MAX.	10.16 MAX.
B	0.080 MAX.	2.03 MAX.
C	0.300 MAX.	7.62 MAX.
D	0.050 TYP.	1.27 TYP.
E	0.085 TYP.	2.16 TYP.
F	0.050 TYP.	1.27 TYP.
G	0.025 TYP.	0.64 TYP.

PIN CONNECTIONS

Pin	Connection
5,6	V_{DD}
13,14	Output
19,20	Output Enable, INH (Tri-State) or NC
23,24	Ground
All Others	NC



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 Tolerance ¹	$\pm$ 100 ppm (0.01%) $\pm$ 1000 ppm (0.1%) $\pm$ 10000 ppm (1.0%)
Frequency Stability ^{1/2} (at 5V)	0°C to +50°C from $\pm$ 5 to $\pm$ 30 ppm -10°C to +70°C from $\pm$ 10 to $\pm$ 50 ppm -40°C to +85°C from $\pm$ 20 to $\pm$ 100 ppm -55°C to +125°C from $\pm$ 30 to $\pm$ 100 ppm
Supply Current	14 mA for 50 MHz 12 mA for 40 MHz 10 mA for 30 MHz 8 mA for 24 MHz
TTL Load	10@5V
CMOS Load	15pF (up to 50 pF available)
Start-up Time	5 ms MAX.
Rise/Fall Time	3 ns Typ., 6 ns MAX.
Duty Cycle ¹	40% Min., 60% MAX.
Aging, first year	10 ppm MAX.
Shock, survival ³	3,000 g peak 0.3 ms, 1/2 sine
Vibration survival	20 g RMS 10-2000 Hz random
Operating Temperature ⁴	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)

1. Tighter tolerances available for calibration, stability and duty cycle.

2. Does not include calibration tolerance.

3. High shock version available.

4. Consult factory for operating temperatures above 125°C.

Note: All parameters are measured at ambient temperature
with a 10M Ω and 15pF load at 5V

ABSOLUTE MAXIMUM RATINGS

Supply Voltage V_{DD}	-0.5V to 7.0V
Storage Temperature	-55°C to +125°C
Maximum Process Temp.	260°C, 10 seconds

PACKAGING

SQXO2ATSM - Tray Pack (Standard)

TRUTH TABLE

	PIN 19,20*	PIN 13,14
SQXO2ATSM-10E	Low (0)	High (Z)
	High (1)	Freq. Output
SQXO2ATSM-10T	Low (0)	High (Z)
	High (1)	Freq. Output
SQXO2ATSM-10N	NC	Freq. Output

* Normally high (internal pull-up resistor)

ENABLE VS. TRI-STATE

Enable: When pin 19,20 is low (0), the oscillator stops oscillation.

Tri-state: When pin 19,20 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 19,20 is low	Low	High
Output recovery delay when pin 19,20 changes from low (0) to high (1)	Delayed	Immediate

HOW TO ORDER SQXO2ATSM CRYSTAL OSCILLATORS

