

SU-XA6XXX-X Series Sinewave Output XO

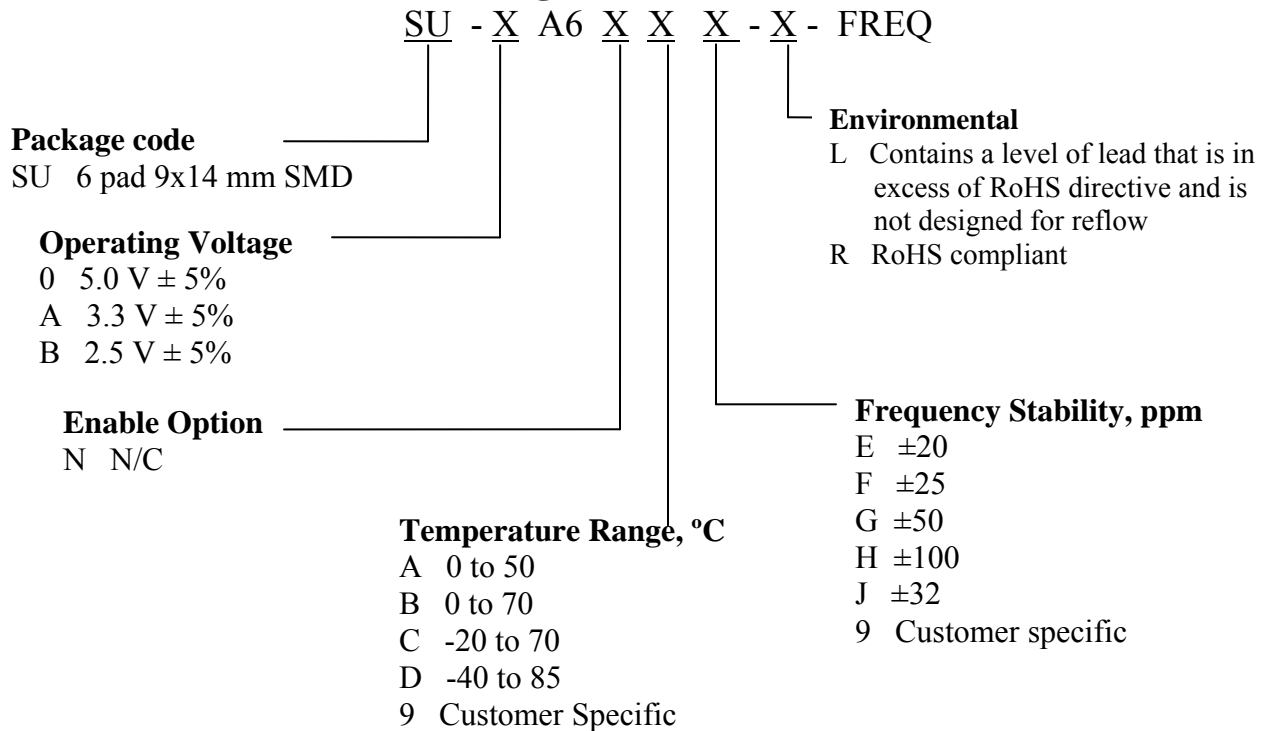
Description

The **SU-XA6XXX Series** of crystal oscillators (XO) provides a general purpose sinewave output. It's packaged in a miniature, FR-4 based 9x14 mm SMD package.

Applications and Features

- General purpose applications requiring a sinewave output
- High Reliability – NEL HALT/HASS qualified for crystal oscillator start-up conditions
- Low Phase Noise and Jitter
- Frequency Range to 200 MHz
- SONENT ± 20 ppm overall stability available
- High Shock Resistance, to 1000g
- COTS/Dual use

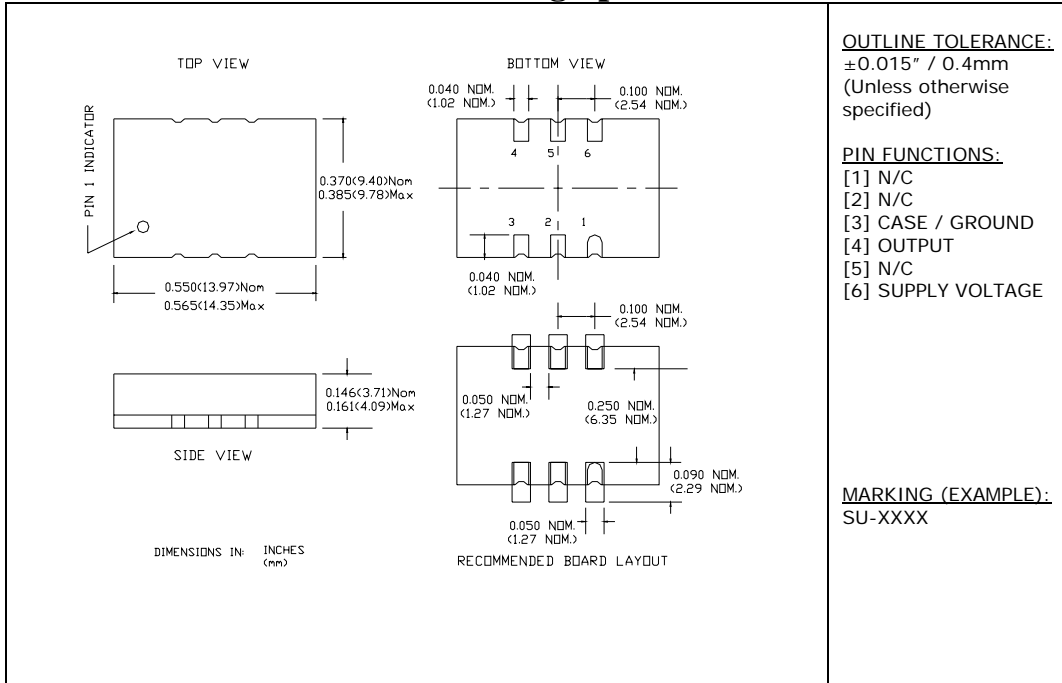
Creating a Part Number



SU-XA6XXX-X Series

Rev. H

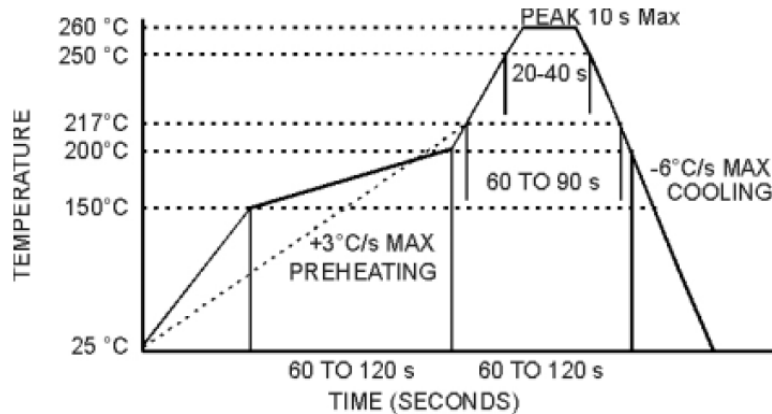
Drawing Specification



Environmental and Mechanical Characteristics

Operating temp. range	see part # table
Mechanical Shock	Per MIL-STD-202, Method 213, Cond. A
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Vibration	Per MIL-STD-883, Method 2007, Cond. A
Hermetic Seal	Leak rate less than 1×10^{-8} atm.cc/s of helium, crystal only.
Soldering conditions	See MAX reflow profile below; The device may be reflowed once. Reflowing upside down is not allowed. NO CLEAN assembly is recommended.

MAX Reflow Profile



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Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Operating Temperature Range	To	-40 to +85	°C
Storage Temperature Range	Tst	-50 to +90	°C
Supply Voltage	Vcc	-0.5 to 4.5	V

Electrical Parameters

Parameter	Symb	Conditions, Note	MIN	TYP	MAX	Unit	
Nominal Frequency	Fo		10		200	MHz	
Supply Voltage	Vcc	Code B (2.5V) Code A (3.3V) Code 0 (5.0V)	2.375 3.135 4.750	2.5 3.3 5.0	2.625 3.465 5.250	V	
Supply Current ⁽²⁾	Icc	Code B (2.5V) Code A (3.3V) Code 0 (5.0V)		45 50 60	50 60 75	mA	
Output Type				sinewave			
Load		Internally AC coupled		50		Ohm	
Output Power	Pout	Vcc=2.5V, 50 Ohm Load Vcc=3.3V, 50 Ohm Load Vcc=5.0V, 50 Ohm Load	-3 0 4	0 3 7		dBm	
Output Impedance				50		Ohms	
Return Loss				10		dB	
Jitter	Integrated	J	Integrated from Phase Noise, 12 KHz to 20 MHz, RMS		0.1	0.2	ps
			100Hz to 80KHz,RMS			1.0	ps
			50 KHz to 80 MHz		0.3		ps
	Wavecrest characterized		Random period,		2.5		ps
			Accumul., pk-to-pk		36		ps
			Determin.		0		ps
Phase Noise	£(Δf)	@50 MHz	@ 10 Hz @100 Hz @1 KHz @10KHz @100KHz @>1MHz	-70 -100 -128 -145 -150 -155	-65 -95 -123 -140 -145 -150	dBc/Hz	
Frequency Stability	ΔF/F	Overall, including initial calibration, temperature, aging 10 years, shock and vibration			From ±20, see table for part number	ppm	

Notes:

1. All parameters, unless noted otherwise are specified for nominal conditions, i.e. ambient temperature is 25 °C, Vcc – nominal.
2. Current is frequency dependent.