SUNTSU

Ceramic SMD 4 Pad CMOS Oscillator

SXO22C Series

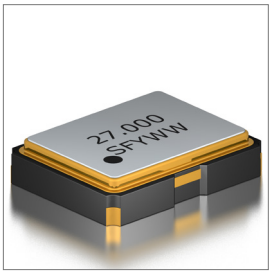
2.5mm x 2.0mm

Features

- ±20ppm (Frequency Stability) Available
- Ceramic Package
- CMOS
- Tape and Reel

Applications

- Micro Processors
- SONET/SDH/DWDM
- Storage Area/Networking
- Digital Video
- Base Stations



Part Numbering Guide

SXO 22 C 3 A 48 1 - 27.000M

- **SUNTSU OSC**
- **2.5mm x 2.0mm**
- **CMOS**
- **SUPPLY VOLTAGE**
  - 1 : 1.8V±5%
  - 2 : 2.5V±5%
  - 3 : 3.3V±5%
- **FREQUENCY STABILITY**
  - A : ±50ppm
  - B : ±30ppm
  - C : ±25ppm
  - *D : ±20ppm
- **OPERATING TEMPERATURE RANGE**
  - 07 : 0°C - +70°C
  - 16 : -10°C - +60°C
  - 17 : -10°C - +70°C
  - 27 : -20°C - +70°C
  - 38 : -30°C - +85°C
  - 48 : -40°C - +85°C
- **TRI-STATE (ENABLE/DISABLE)**
  - BLANK : No Connection
  - 1 : Pin 1
- **FREQUENCY**
  - MHz

RoHS COMPLIANT

Cage Code : 4GUT4

To customize your parameters, contact a Suntsu representative.

* For Frequency stability option D, contact a Suntsu representative.

Electrical Parameters		Units	Minimum	Typical	Maximum	Remarks
Frequency Range		KHz	32.768			
Frequency Range		MHz	1		110	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)		ppm	-20		+20	See part numbering guide for options
Operating Temperature		°C	-40		+85	See part numbering guide for options
Storage Temperature		°C	-55		+125	
Supply Voltage (V_{DD}) - 1.8V option		V	1.710	1.8	1.890	
Supply Voltage (V_{DD}) - 2.5V option		V	2.375	2.5	2.625	
Supply Voltage (V_{DD}) - 3.3V option		V	3.135	3.3	3.465	
	Frequency Range		**1.8V**	**2.5V**	**3.3V**	
Current (I_{DD})	32.768KHz	mA	3	4	5	Maximum Value
	1.0000MHz - 15.999MHz	mA	3	5	7	Maximum Value
	16.000MHz - 39.999MHz	mA	5	7	10	Maximum Value
	40.000MHz - 59.999MHz	mA	10	13	15	Maximum Value
	60.000MHz - 110.000MHz	mA	15	20	35	Maximum Value
Output Load (CMOS)		pF			15	
Output Logic Levels High (V_{OH})		V	0.9*V_{DD}			
Output Logic Levels Low (V_{OL})		V			0.1*V_{DD}	
Rise (TR) and Fall (TF) Time	32.768KHz	ns			200	
	1.0000MHz - 15.999MHz	ns			10	
	16.000MHz - 39.999MHz	ns			8	
	40.000MHz - 59.999MHz	ns			6	
	60.000MHz - 110.000MHz	ns			4	
Symmetry (Duty Cycle)		%	45	50	55	
Tri-State Input Voltage - Enable		V	0.7*V_{DD}			No Connection
Tri-State Input Voltage - Disable		V			0.3*V_{DD}	
Start-Up Time		ms			10	
Phase Jitter (12kHz ~ 20MHz)		ps			1	

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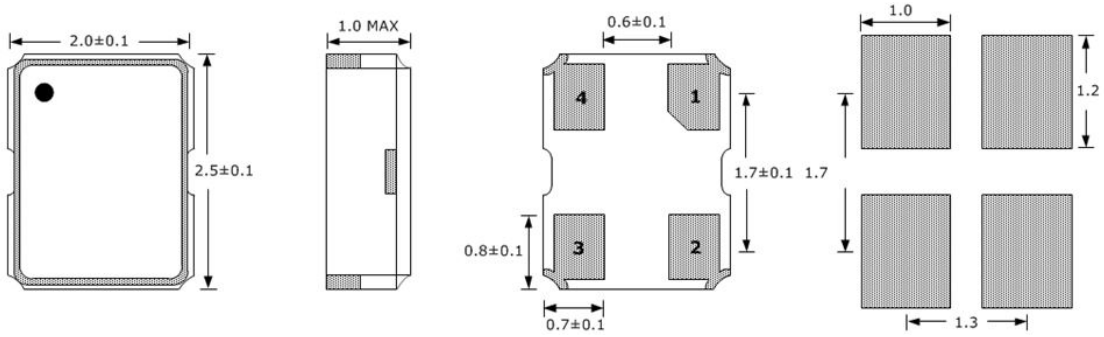
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SXO22C Series

2.5mm x 2.0mm

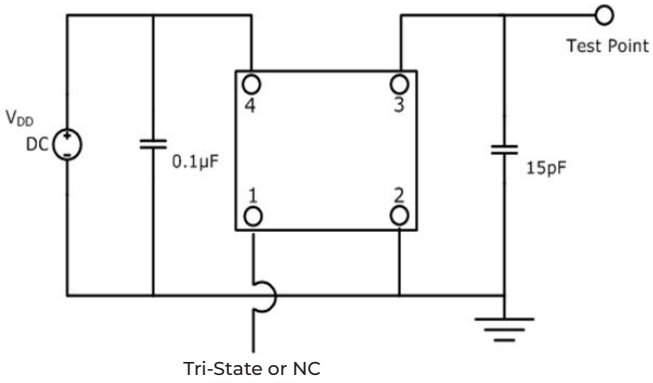
Outline Drawing & Land Pattern

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

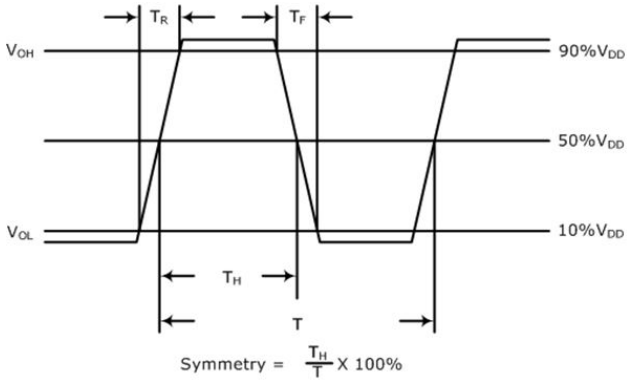


PIN	FUNCTION
1	TRI-STATE or NC
2	GND
3	OUTPUT
4	V_{DD}

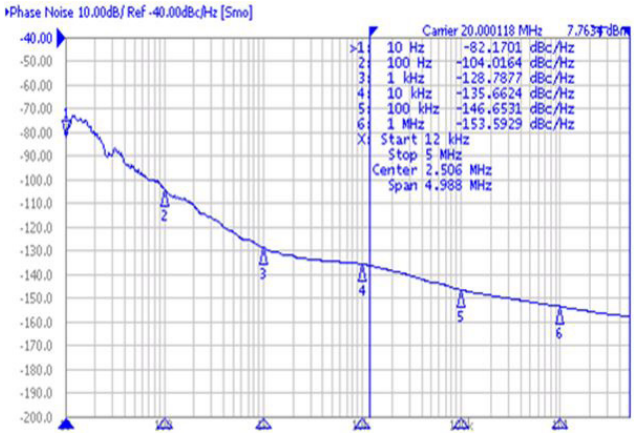
Test Circuit (CMOS)



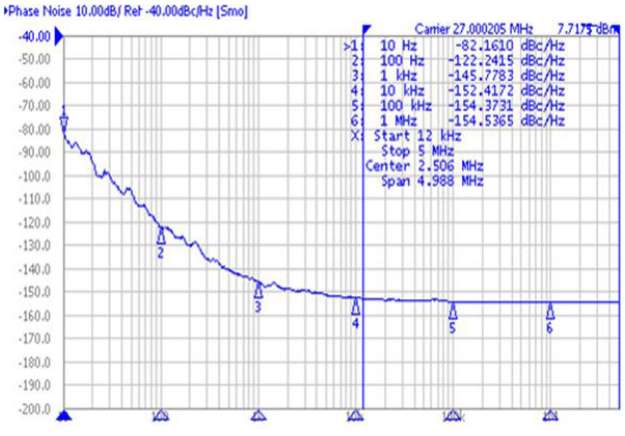
Waveform (CMOS)



Typical Phase Noise Performance (Measured By Agilent E5052A)



Frequency - 20.000MHz

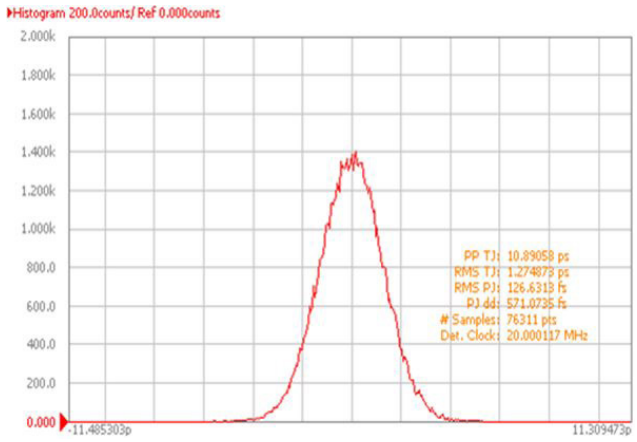


Frequency - 27.000MHz

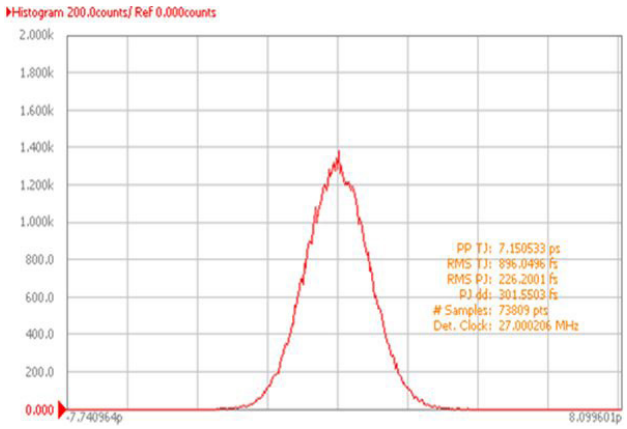
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Typical Jitter Performance (Measured By Agilent E5052A)

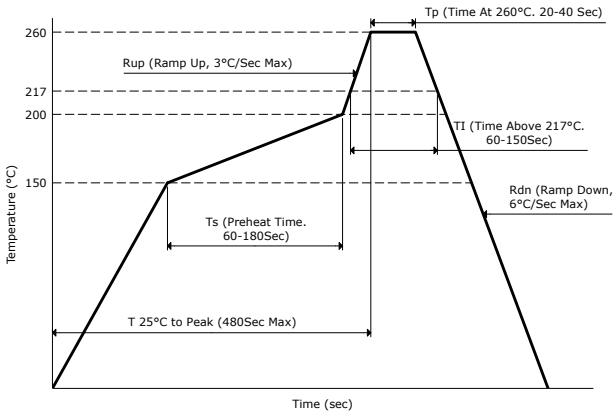


Frequency - 20.000MHz

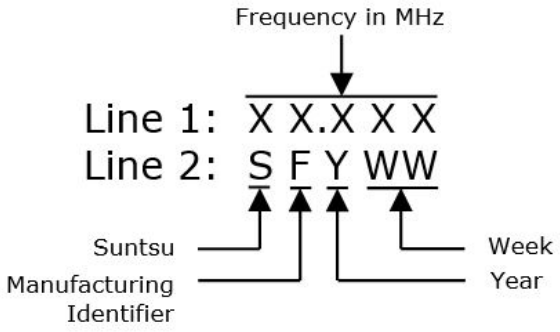


Frequency - 27.000MHz

Reflow Profile



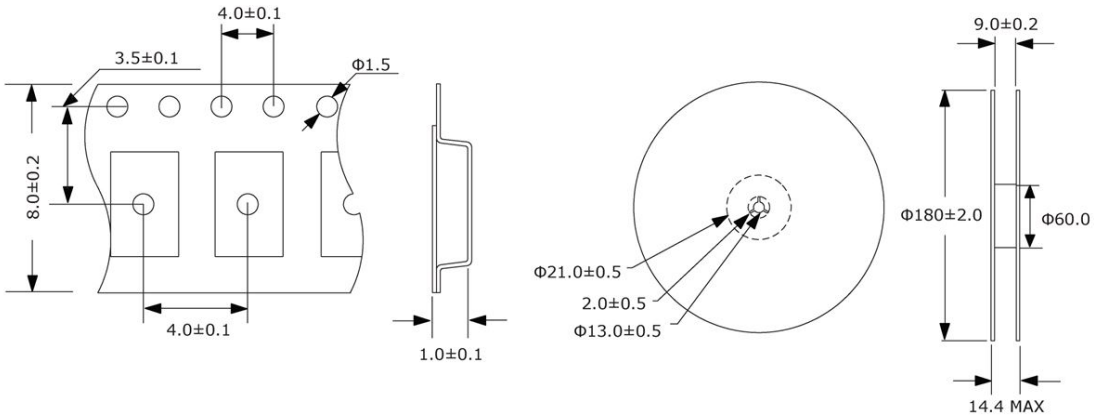
Part Marking



Tape And Reel Dimensions

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3,000pcs/Reel



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Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

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