

Features
• ± 20 ppm (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 32 C 3 A 48 1 X - 30.000M

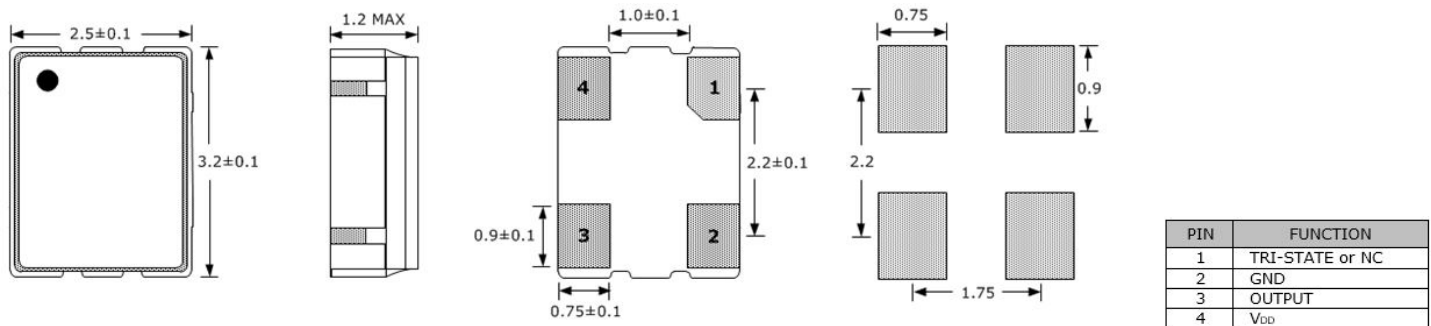
SUNTSU OSC 3.2mm x 2.5mm CMOS	SUPPLY VOLTAGE 1 : 1.8V \pm 5% 2 : 2.5V \pm 5% 3 : 3.3V \pm 5%	FREQUENCY STABILITY A : ± 50 ppm B : ± 30 ppm C : ± 25 ppm *D : ± 20 ppm	OPERATING TEMPERATURE RANGE 07 : 0°C - +70°C 16 : -10°C - +60°C 17 : -10°C - +70°C 27 : -20°C - +70°C 38 : -30°C - +85°C 48 : -40°C - +85°C	FREQUENCY MHz LOAD BLANK : 15pF X : 30pF Y : 50pF TRI-STATE (ENABLE/DISABLE) BLANK : No Connection 1: Pin 1
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Cage Code : 4GUT4
 To customize your parameters, contact a Suntsu representative.
 * For Frequency stability option D, contact a Suntsu representative.
 ** For operating temperatures up to -55-125°C contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	KHz	32.768			
Frequency Range	MHz	1		133	
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	5	5	Maximum Value
Current (I _{DD}) 1.0000MHz - 29.999MHz	mA	4	8	10	Maximum Value
Current (I _{DD}) 30.000MHz - 74.999MHz	mA	6	15	17	Maximum Value
Current (I _{DD}) 75.000MHz - 133.000MHz	mA	12	20	25	Maximum Value
Output Load (CMOS)	pF			15	See part numbering guide for options
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	
Rise (TR) and Fall (TF) Time 1.0000MHz - 29.999MHz	ns			10	
Rise (TR) and Fall (TF) Time 30.000MHz - 74.999MHz	ns			8	
Rise (TR) and Fall (TF) Time 75.000MHz - 133.000MHz	ns			5	
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	

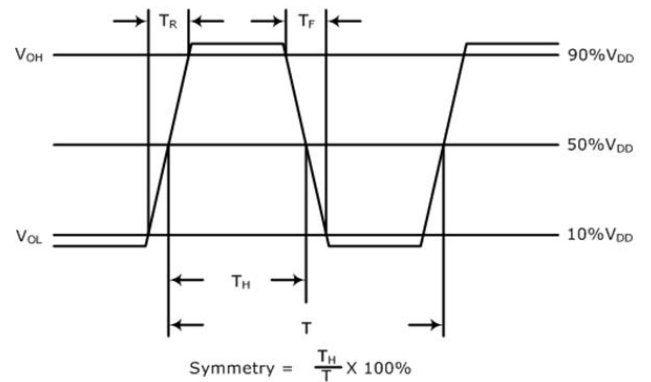
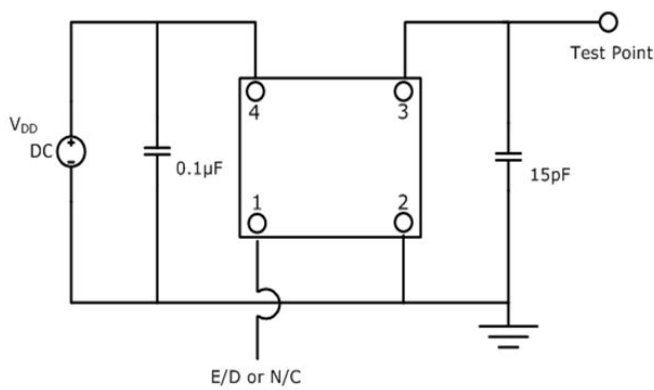
Outline Drawing & Land Pattern

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

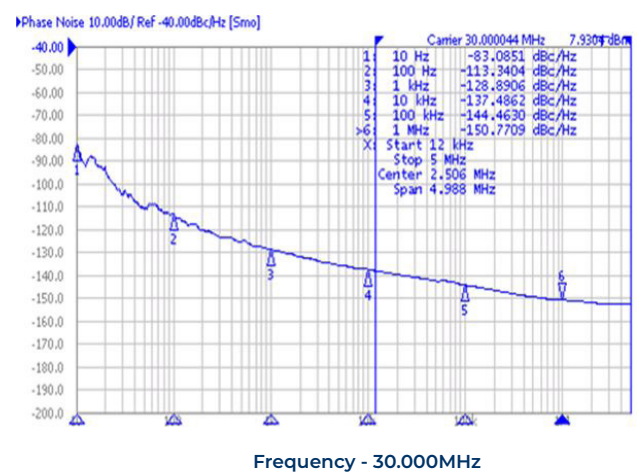
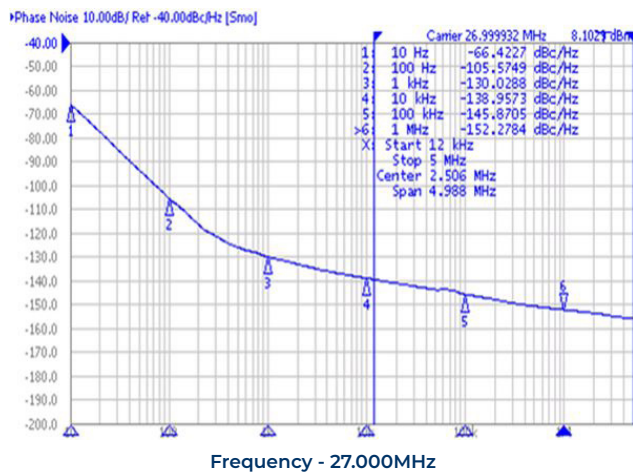


Test Circuit (CMOS)

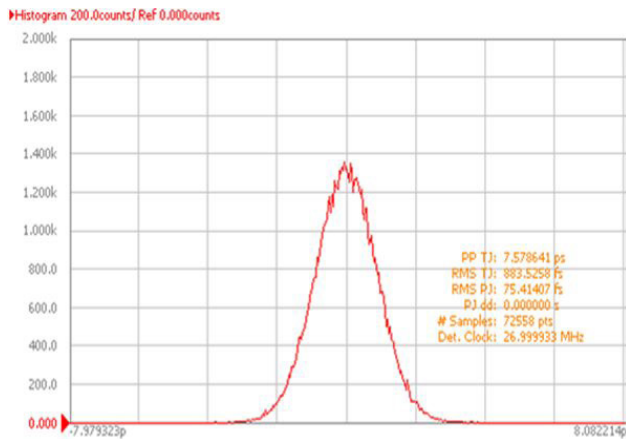
Waveform (CMOS)



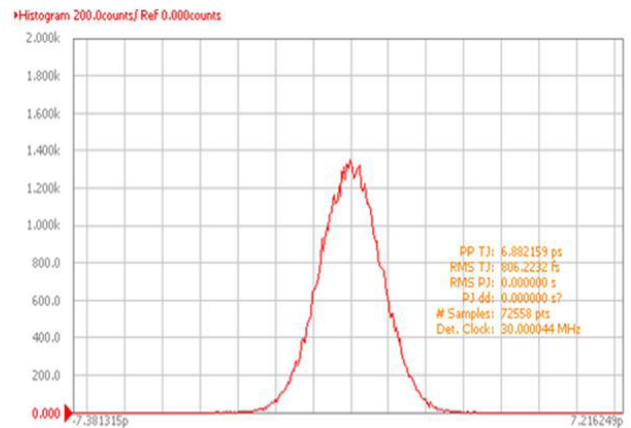
Typical Phase Noise Performance (Measured By Agilent E5052A)



Typical Jitter Performance (Measured By Agilent E5052A)

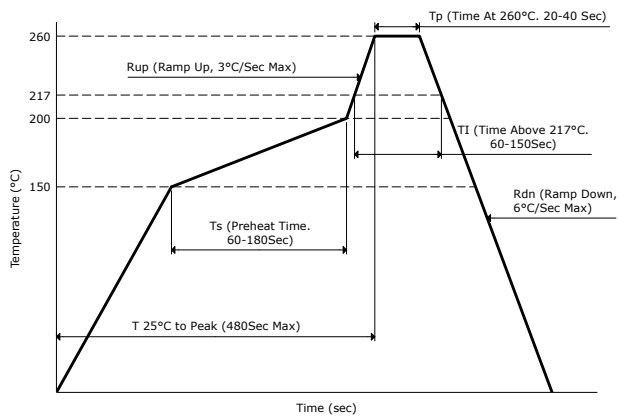


Frequency - 27.000MHz

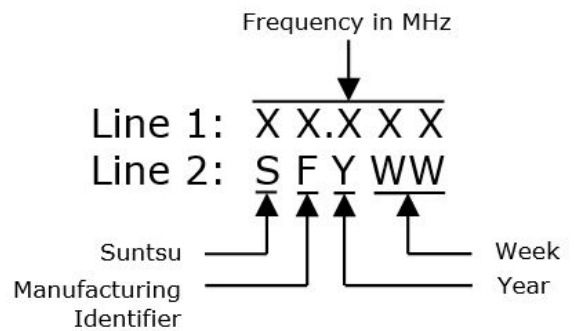


Frequency - 30.000MHz

Reflow Profile



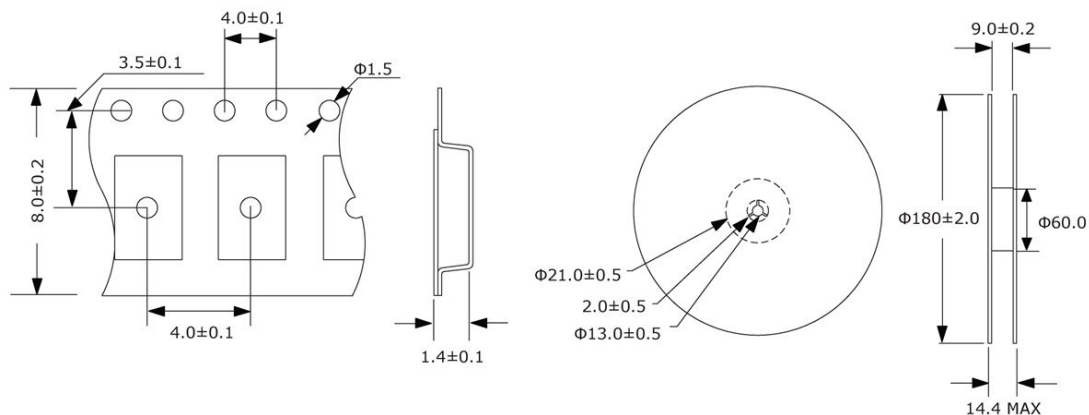
Part Marking



Tape And Reel Dimensions

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

3,000pcs/Reel



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