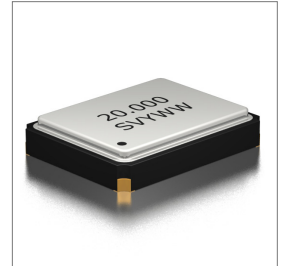


Features
• ± 30 ppm (Frequency Stability) Available
• Ceramic Package
• High Reliability for Automotive
• CMOS
• AEC-Q100 Compliant

Applications
• Automotive Electronics
• Infotainment System
• ADAS
• Car Navigation



Part Numbering Guide

SAO 32 C 3 A 4B 1 - 30.000M

SUNTSU AUTOMOTIVE OSCILLATOR

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

Y: \pm 100ppm
 A: \pm 50ppm
 B: \pm 30ppm

OPERATING TEMPERATURE RANGE

4A: -40°C - +105°C
 *4B: -40°C - +125°C

FREQUENCY MHz

TRI-STATE (ENABLE/DISABLE)
 BLANK: No Connection
 1: Pin 1

RoHS COMPLIANT

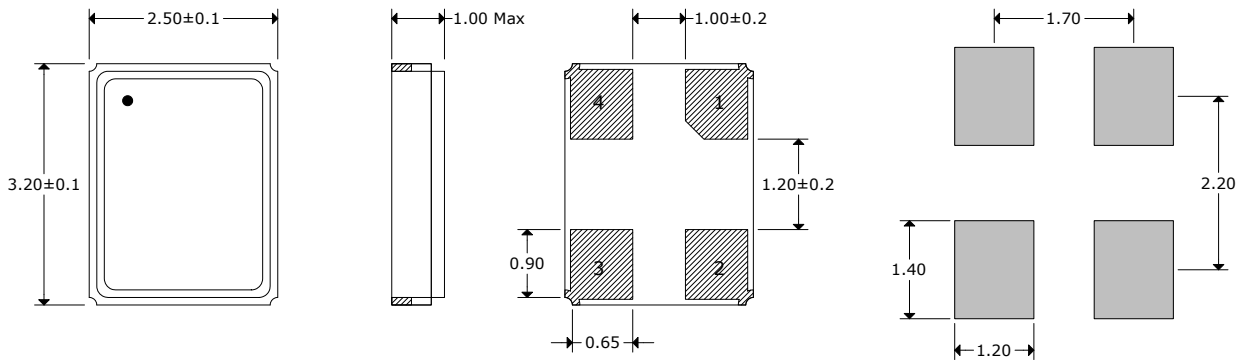
Cage Code : 4GUT4

To customize your parameters, contact a Suntsu representative.
 *For Operating Temperature option 4B, Frequency Stability must be \pm 50ppm or \pm 100ppm

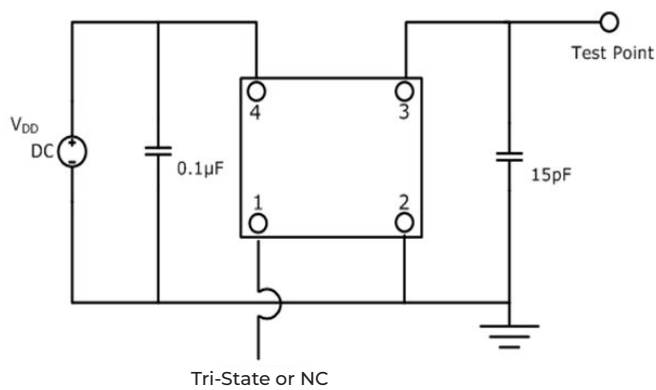
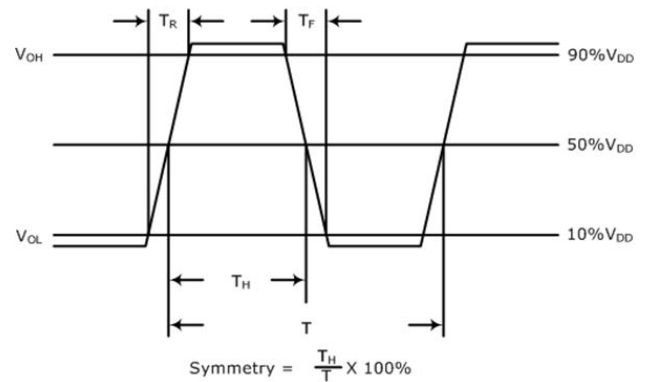
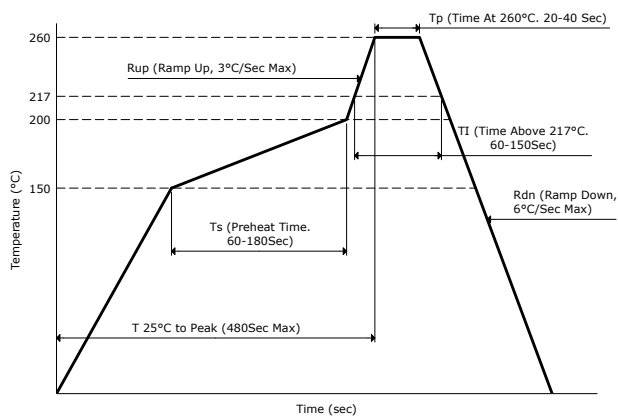
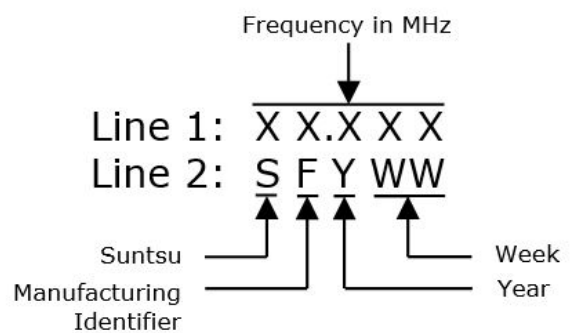
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	KHz	32.768			
Frequency Range	MHz	0.250		125.0	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change)	ppm	-25		25	See part numbering guide for options
Aging First Year	ppm	-3		3	
Operating Temperature	°C	-40		125	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	
Current (I _{DD})	Frequency Range	1.8V	2.5V	3.3V	
	32.768KHz	0.20	0.25	0.30	Maximum Value
	0.250MHz - 24.999MHz	4	6	10	Maximum Value
	25.000MHz - 39.999MHz	6	8	15	Maximum Value
	40.000MHz - 59.999MHz	10	12	20	Maximum Value
60.000MHz - 125.000MHz	25	30	40	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	ns			30	
	ns			10	
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			5	
Phase Jitter (12kHz ~ 20MHz)	ps			1	
Period Jitter (pk-pk)	ps			25	

Outline Drawing & Land Pattern

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



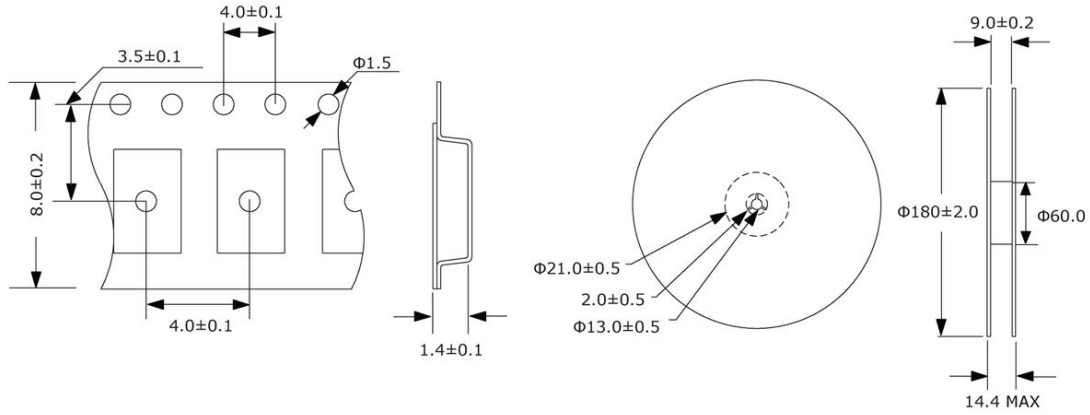
PIN	FUNCTION
1	TRI-STATE or NC
2	GND
3	OUTPUT
4	V _{DD}

Test Circuit (CMOS)

Waveform (CMOS)

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