SUNTSU

Ceramic SMT 2 Pad Watch Crystal

SWS112 Series

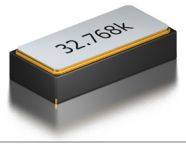
1.6mm x 1.0mm

Features

- ±20ppm (Tolerance) Available
- Ultra-Miniature Package
- Tape and Reel

Applications

- Real Time Clock
- Measurement instruments
- Wireless Applications



Part Numbering Guide

SWS 11 2 12 D 48 - 32.768K

- **SUNTSU WATCH SMT CRYSTAL**
- **1.6mm x 1.0mm**
- **2 PAD**
- **LOAD CAPACITANCE**
  - 12 : 12.5pF
  - 9 : 9.0pF
  - 7 : 7.0pF
  - 5 : 5.0pF
- **FREQUENCY TOLERANCE**
  - D : ±20ppm
- **OPERATING TEMPERATURE RANGE**
  - 16 : -10°C - +60°C
  - 48 : -40°C - +85°C
- **FREQUENCY**
  - kHz

RoHS COMPLIANT

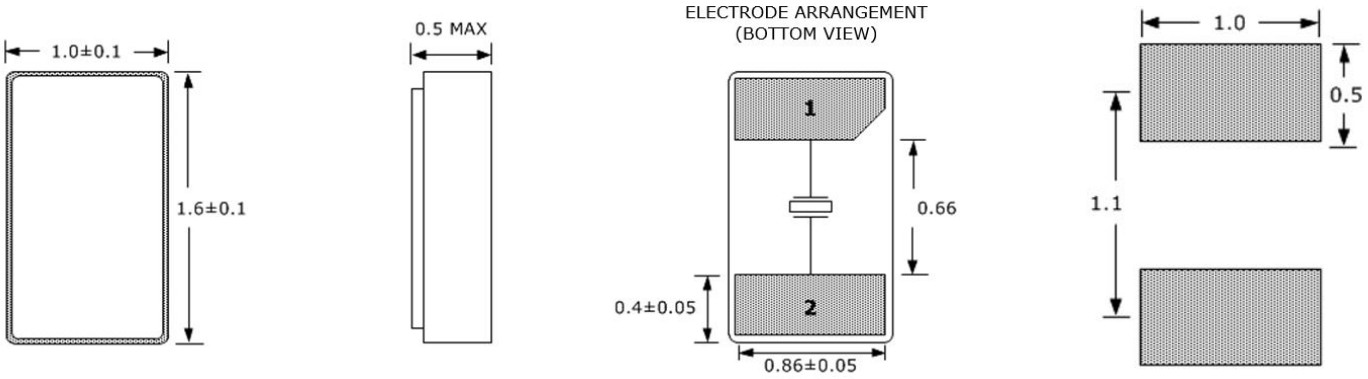
Cage Code: 4GUT4

To customize your parameters contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	kHz		32.768		
Frequency Tolerance at +25°C	ppm	-20		+20	
Frequency Stability vs. Aging	ppm	-3		+3	First year @ +25°C.
Frequency Coefficient (ß)	ppm/T²	-0.040	-0.030	-0.020	
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Turnover Temperature	°C	+20	+25	+30	
Storage Temperature	°C	-55		+125	
Load Capacitance	pF			12.5	See part numbering guide for options.
Shunt Capacitance	pF		1.4		
Drive Level	µW			0.5	
Insulation Resistance	MΩ	500			@ 100VDC ± 15V.
Equivalent Series Resistance	kΩ			90	

Outline Drawing & Recommended Land Pattern

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



www.suntsu.com

Specifications are subject to change without notice.

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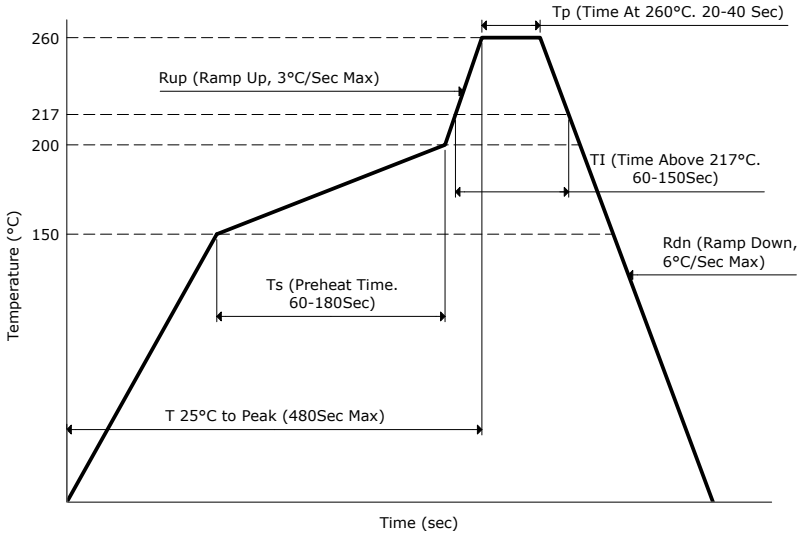
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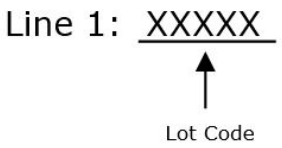
SWS112 Series

1.6mm x 1.0mm

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	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Moisture Resistance	MIL-STD-883, Method 1004	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Solderability	MIL-STD-883, Method 2003

Reflow Profile & Part Marking

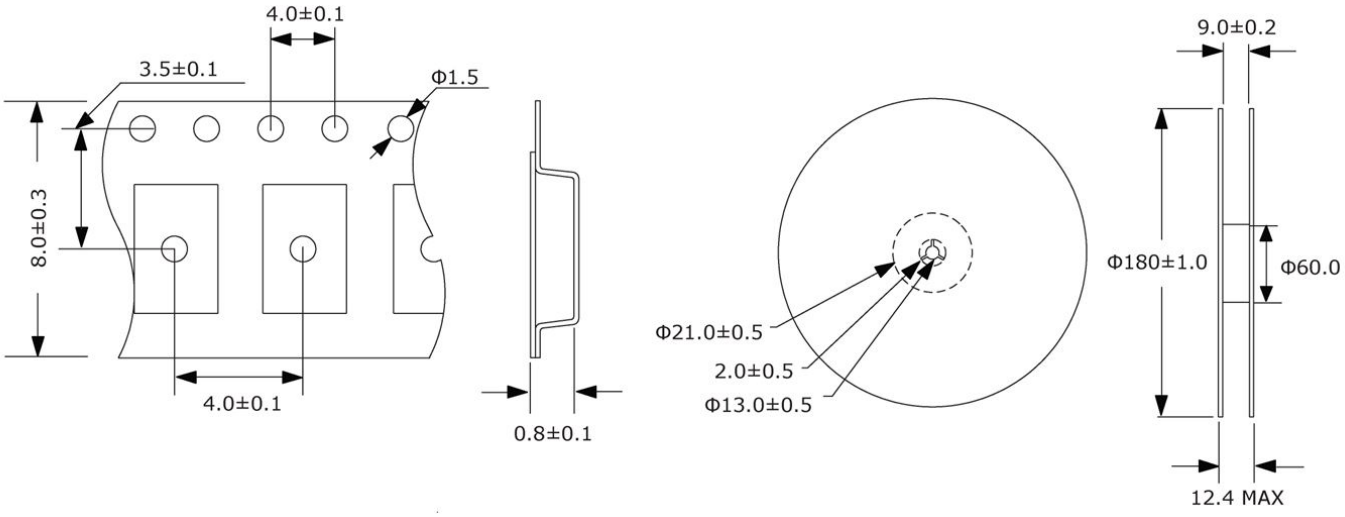




Tape And Reel Dimensions

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3,000pcs / Reel



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