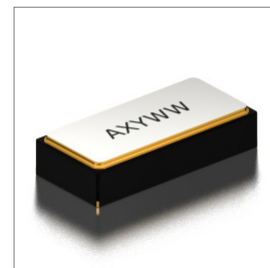


Features

- ± 10 ppm Tolerance Available
- Ultra-Miniature Package
- High Reliability for Automotive
- Wide Temperature Range Available
- AEC-Q200 Compliant

Applications

- Automotive Electronics
- Infotainment System
- Car Navigation
- ECU Sub Clock



Part Numbering Guide

SAW 21 2 12 D 4A - 32.768K

SUNTSU AUTOMOTIVE
WATCH CRYSTAL

2.0mm x 1.2mm

2 PAD

LOAD CAPACITANCE

12 : 12.5pF
9 : 9.0pF
7 : 7.0pF
6 : 6.0pF

FREQUENCY TOLERANCE

D : ± 20 ppm
F : ± 10 ppm

FREQUENCY
MHz

OPERATING TEMPERATURE
RANGE

4A : -40°C - +105°C
4B : -40°C - +125°C
58 : -55°C - +85°C
5A : -55°C - +105°C
5B : -55°C - +125°C



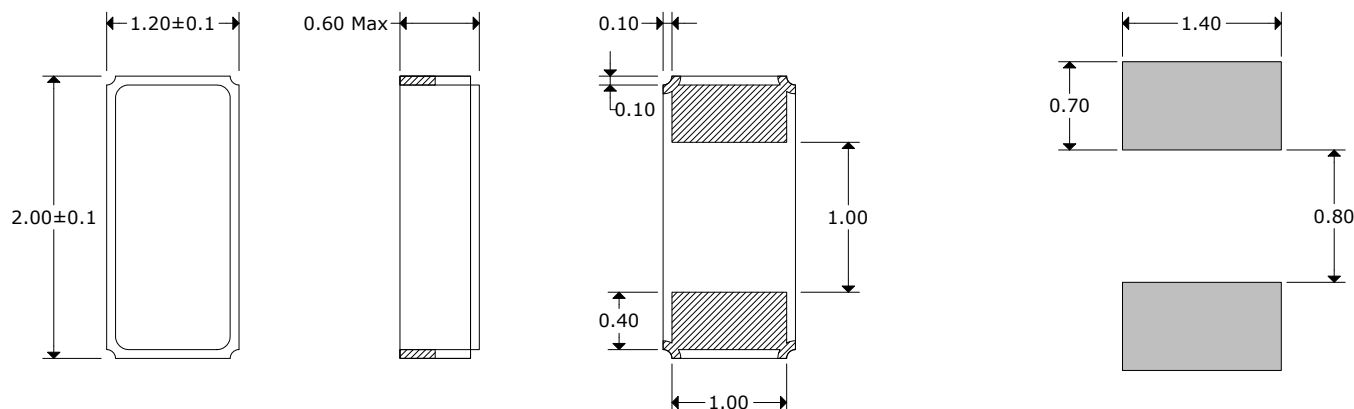
Cage Code: 4GUT4

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	See part numbering guide for options.
Frequency Stability vs. Aging	ppm	-3		3	First year @ 25°C
Frequency Coefficient (β)	ppm/T ²	-0.0224	-0.028	-0.0336	
Operating Temperature	°C	-55		125	See part numbering guide for options.
Turnover Temperature	°C	20	25	30	
Storage Temperature	°C	-55		125	
Load Capacitance	pF	6		12.5	See part numbering guide for options.
Shunt Capacitance	pF		1.3		
Drive Level	μ W		0.1	1.0	
Insulation Resistance	M Ω	500			@ 100VDC $\pm$ 15V.
Equivalent Series Resistance	k Ω			90	

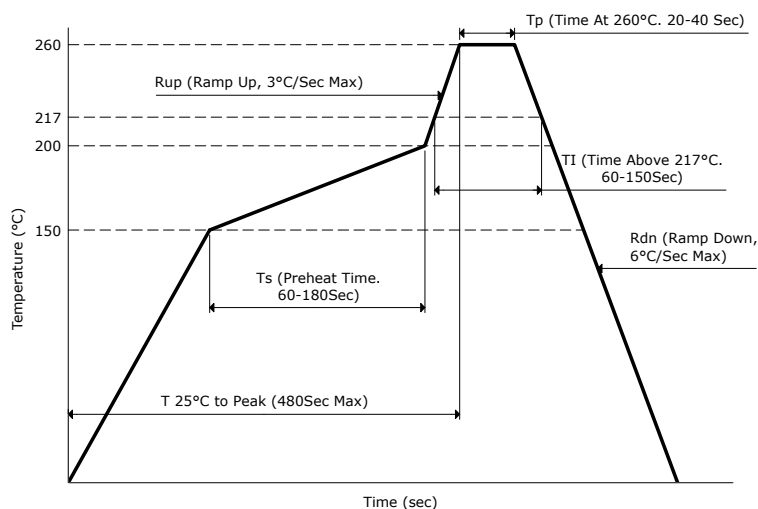
Outline Drawing & Recommended Landed Pattern

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



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



Line 1 : **A X Y W W**

Manufacturing Identifier

Week

Year

Load Capacitance

A : 6pF

B : 7pF

J : 9pF

F : 12.5pF

Tape And Reel Dimensions

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

3,000pcs / Reel

