

- Features**
- ±20ppm (Tolerance) Available
  - Gull-Wing Leads For SMD Type
  - Reflow Capable
  - Tape and Reel

- Applications**
- Real Time Clock
  - Measurement instruments
  - Wireless Applications



**Part Numbering Guide**

**SWG 62 2 12 D 48 - 32.768K**

SUNTSU GULL-WING CRYSTAL

6.3mm x 2.5mm

2 LEAD

**LOAD CAPACITANCE**  
 12 : 12.5pF  
 9 : 9.0pF  
 7 : 7.0pF  
 6 : 6.0pF

**FREQUENCY TOLERANCE**  
 D : ±20ppm  
 F : ±10ppm

**FREQUENCY**  
kHz

**OPERATING TEMPERATURE RANGE**  
 16 : -10°C - +60°C  
 48 : -40°C - +85°C



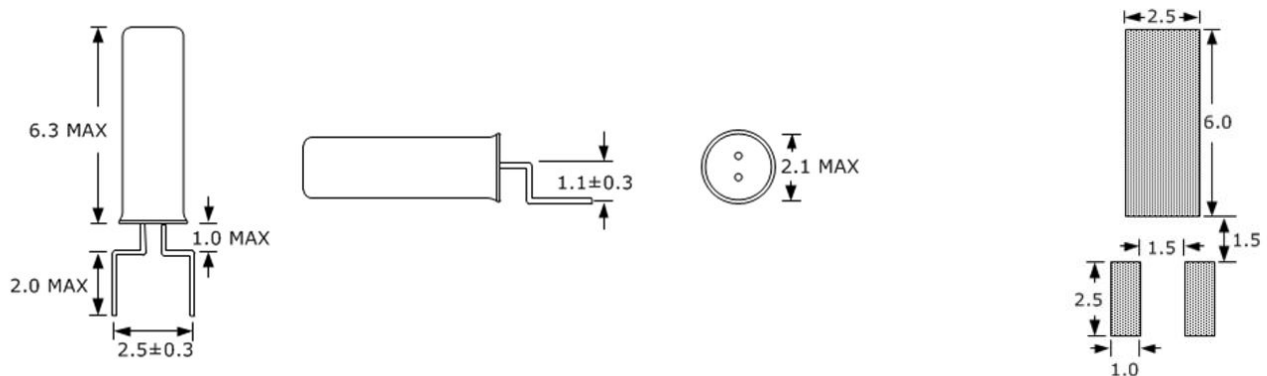
Cage Code: 4GUT4

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 <sup>2</sup>	-0.040	-0.034	-0.028	
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	6		12.5	See part numbering guide for options.
Shunt Capacitance	pF		1.5		
Drive Level	μW			1	
Insulation Resistance	MΩ	500			@ 100VDC ± 15V.
Equivalent Series Resistance	kΩ			50	

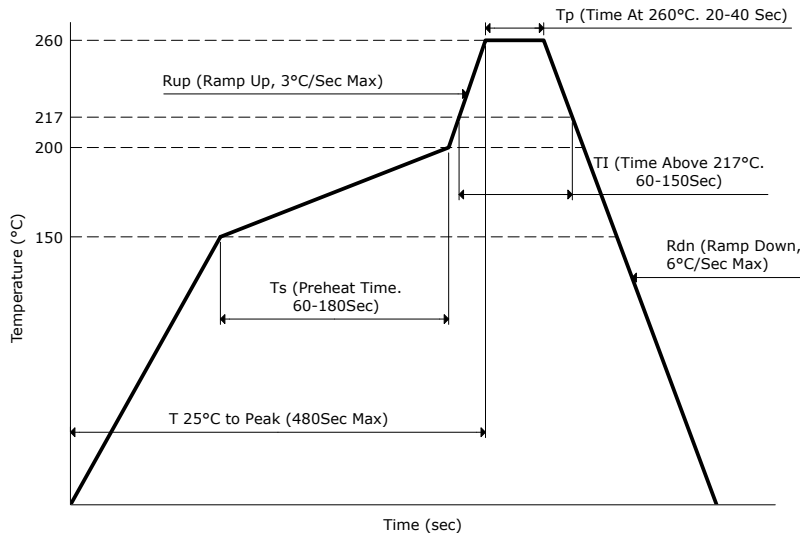
**Outline Drawing & Recommended Land Pattern**

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 B
Moisture Resistance	MIL-STD-883, Method 1004	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	Hermetically Sealed, MSL=N/A: Not Applicable	Solderability	MIL-STD-883, Method 2003

**Reflow Profile & Part Marking**



Line 1: 32.768 Y WW  
 Frequency in kHz      Year      Week

**Tape And Reel Dimensions**

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