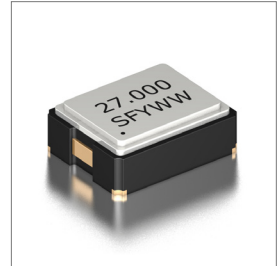


Features
• $\pm 20$ ppm (Frequency Stability) Available
• Ultra Low Phase Noise
• Ceramic Package
• CMOS
• Tape and Reel

Applications
• Digital Audio Master Clocks
• High Quality Audio
• Smartphone and Tablets
• Wireless Module
• Notebook PC and DSC



**Part Numbering Guide**

**SUO 22 C 3 A 48 1 - 27.000M**

SUNTSU ULTRA LOW JITTER OSC

2.5mm x 2.0mm

CMOS

SUPPLY VOLTAGE

- 1 : 1.8V $\pm$ 5%
- 2 : 2.5V $\pm$ 5%
- 3 : 3.3V $\pm$ 5%

FREQUENCY STABILITY

- A :  $\pm 50$ ppm
- B :  $\pm 30$ ppm
- C :  $\pm 25$ 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

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



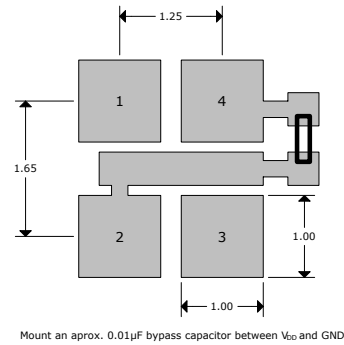
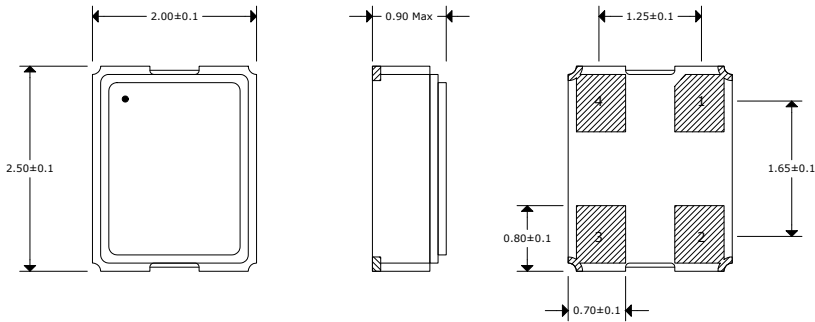
Cage Code : 4GUT4

To customize your parameters, contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	20		50	
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 <sub>DD</sub> )	V	1.8		3.3	See part numbering guide for options
Current (I <sub>DD</sub> )	mA			15	
Output Load (CMOS)	pF			15	
Output Logic Levels High (V <sub>OH</sub> )	V	0.9*V <sub>DD</sub>			
Output Logic Levels Low (V <sub>OL</sub> )	V			0.1*V <sub>DD</sub>	
Rise (TR) and Fall (TF) Time	ns			6	
Symmetry (Duty Cycle)	%	40	50	60	
Tri-State Input Voltage - Enable	V	0.7*V <sub>DD</sub>			No Connection
Tri-State Input Voltage - Disable	V			0.3*V <sub>DD</sub>	
Start-Up Time	ms			4	
Phase Noise @ 10Hz	dBc/Hz		-101		
Phase Noise @ 100Hz	dBc/Hz		-134		
Phase Noise @ 1KHz	dBc/Hz		-161		
Phase Noise @ 10KHz	dBc/Hz		-167		
Phase Noise @ 100KHz	dBc/Hz		-173		
Phase Noise @ 1MHz	dBc/Hz		-173		
Phase Noise @ 5MHz	dBc/Hz		-173		
Phase Jitter (12kHz ~ 5MHz)	fs		43		At 24.576MHz

**Outline Drawing & Land Pattern**

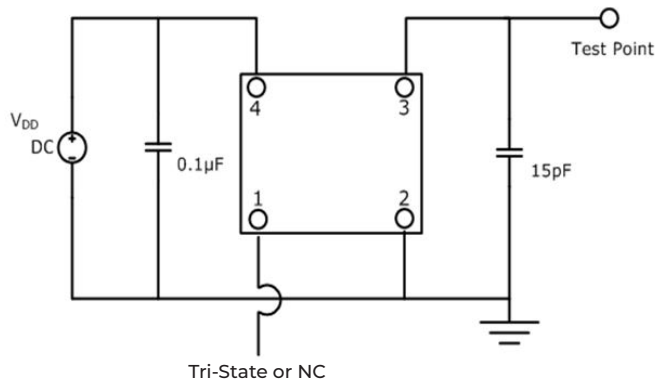
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



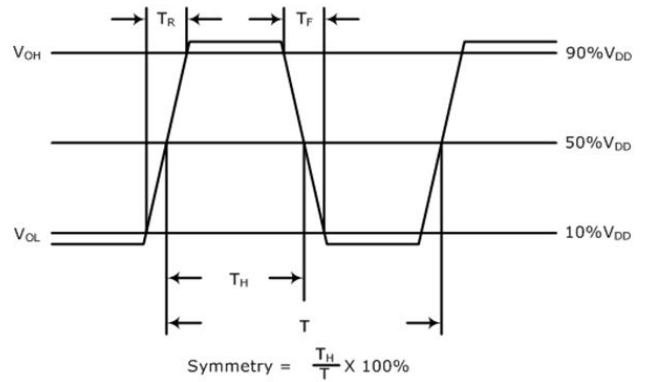
Pin	Function
1	Tri-State or NC
2	GND
3	OUTPUT
4	V <sub>DD</sub>

Mount an approx. 0.01µF bypass capacitor between V<sub>DD</sub> and GND

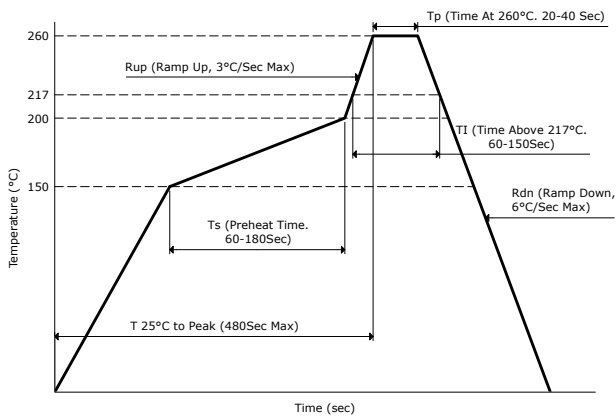
**Test Circuit (CMOS)**



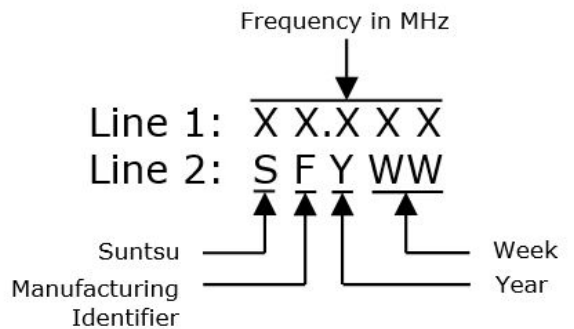
**Waveform (CMOS)**



**Reflow Profile**



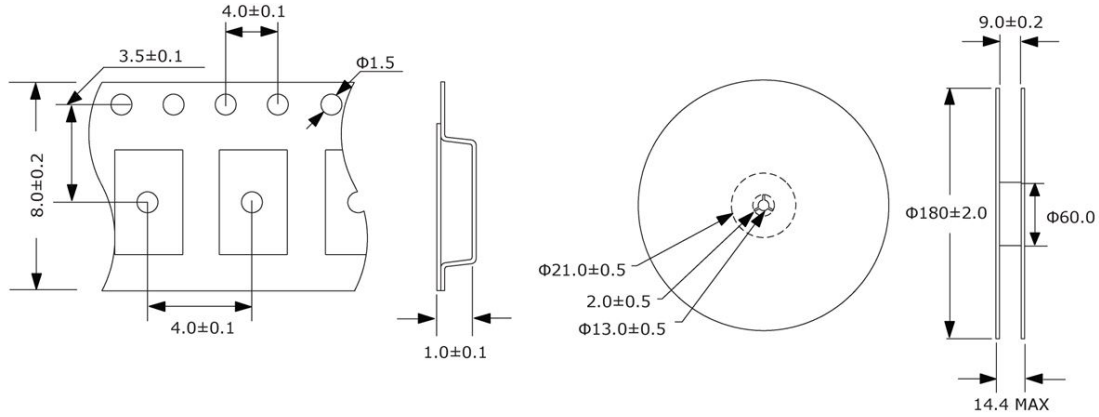
**Part Marking**



**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