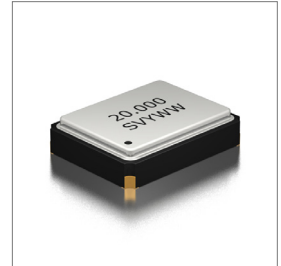


| Features                                       |
|--|
| • $\pm 20$ ppm (Frequency Stability) Available |
| • Ultra Low Phase Noise                        |
| • Ceramic Package                              |
| • CMOS   |
| • Tape and Reel                                |

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



**Part Numbering Guide**

**SUO 32 C 3 A 48 1 - 27.000M**

SUNTSU ULTRA LOW JITTER OSC

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

- 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



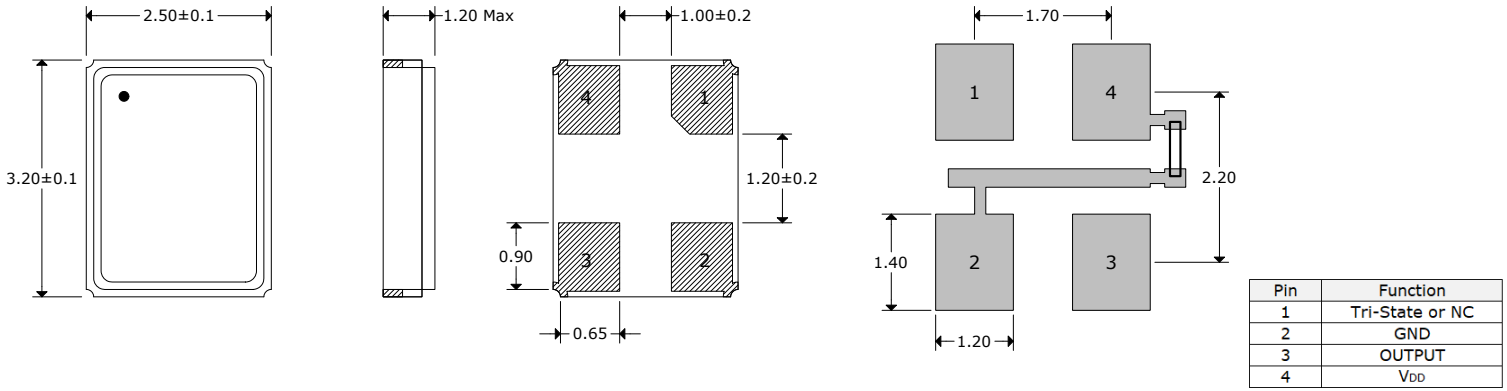
Cage Code : 4GUT4

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                         |

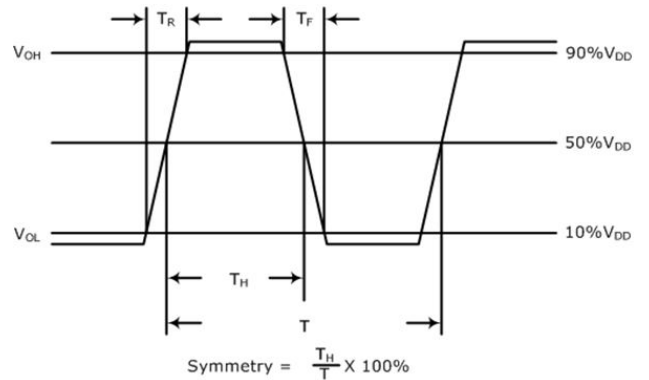
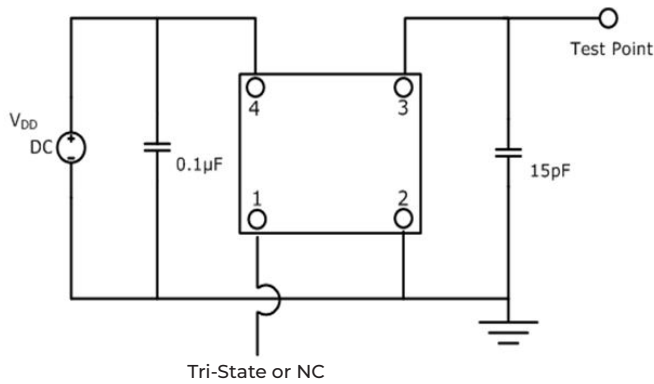
**Outline Drawing & Land Pattern**

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



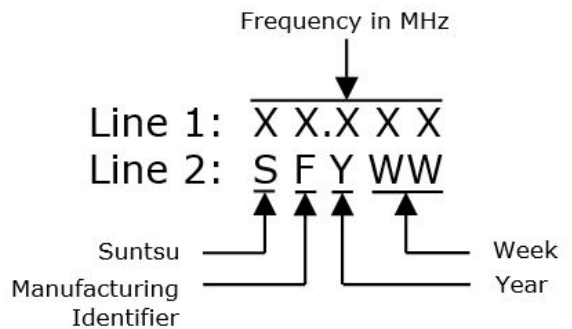
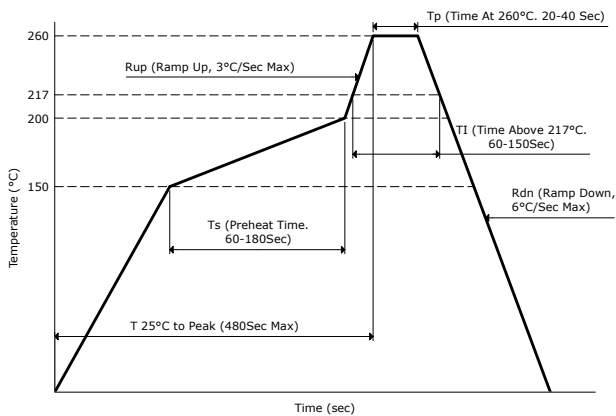
**Test Circuit (CMOS)**

**Waveform (CMOS)**



**Reflow Profile**

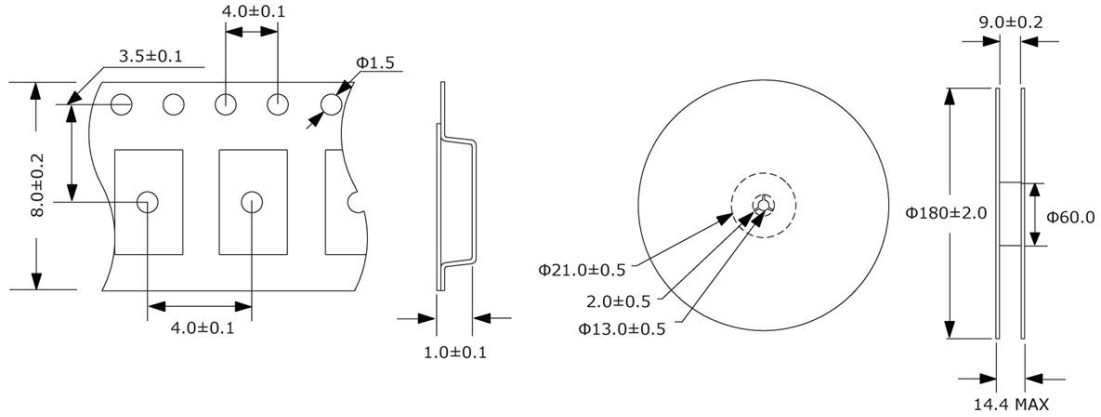
**Part Marking**



**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  |