

| FEATURES | APPLICATIONS |
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| <ul style="list-style-type: none"> - ±1.0ppm (Frequency Stability) Available - Clipped Sinewave - (VC)TCXO - RoHS Compliant - Tape and Reel | <ul style="list-style-type: none"> - Base Stations - IP Networking - Cellular and Cordless Phones |



| PART NUMBERING GUIDE | |
|--|--|
| <p>SUNTSU TCXO → STC 53 K 33 R 48 V E - 19.440M ← FREQUENCY (MHz)</p> <p>5.0mm x 3.2mm</p> <p>CLIPPED SINEWAVE</p> <p>SUPPLY VOLTAGE 25: 2.5V±5% 27: 2.7V±5% 30: 3.0V±5% 33: 3.3V±5%</p> <p>FREQUENCY STABILITY N: ±5.0ppm O: ±2.5ppm P: ±2.0ppm Q: ±1.5ppm R: ±1.0ppm</p> | <p>PULLABILITY BLANK: TCXO E: ±12.0ppm F: ±8.0ppm G: ±5.0ppm</p> <p>TCXO/ VCTCXO BLANK: TCXO V: VCTCXO</p> <p>OPERATING TEMPERATURE RANGE 07: 0°C to +70°C 16: -10°C to +60°C 17: -10°C to +70°C 27: -20°C to +70°C 38: -30°C to +85°C 48: -40°C to +85°C</p> |

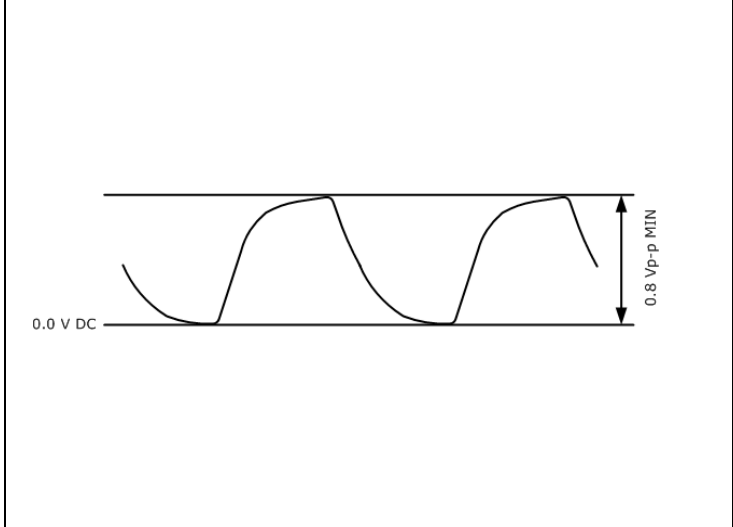
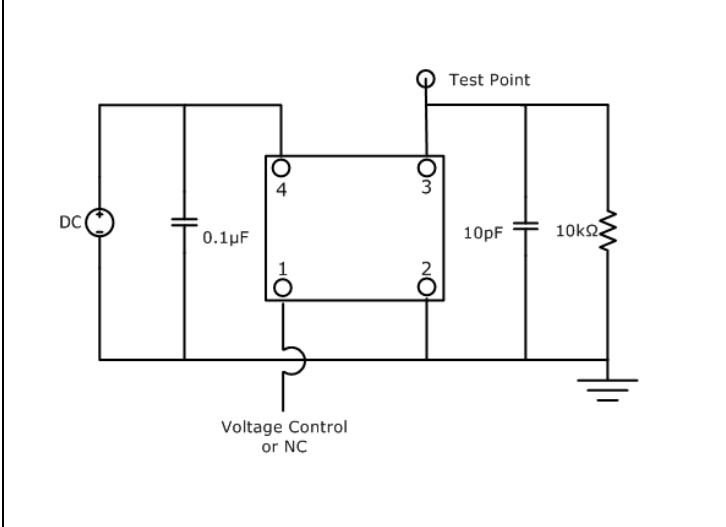
Cage Code: 4GUT4
 To customize your parameters contact a Suntsu representative.

| ELECTRICAL PARAMETERS | UNITS | MIN. | TYP. | MAX. | REMARKS |
|---|------------------|-------|------|-----------------|---------------------------------------|
| Frequency Range | MHz | 6 | | 40 | |
| Frequency Tolerance at +25°C | | -1.5 | | +1.5 | 1 hour after reflow. |
| Frequency Stability vs. Operating Temperature (Ref. 25°C) | | -1.0 | | 1.0 | See part numbering guide for options. |
| vs. Supply Voltage | ppm | -0.3 | | 0.3 | V _{DD} ±5% change. |
| vs. Load | | -0.2 | | 0.2 | ±10% change. |
| vs. Aging | | -1.0 | | 1.0 | 1 year. |
| Operating Temperature | °C | -40 | | +85 | See part numbering guide for options. |
| Storage Temperature | | -55 | | +125 | |
| Supply Voltage (V _{DD}) | V | 3.135 | 3.3 | 3.465 | See part numbering guide for options. |
| Current (I _{DD}) | mA | | | 2 | |
| Control Voltage (V _C , VCTCXO) | V | 0 | | V _{DD} | Center Voltage: V _{DD} *50%. |
| Pullability (VCTCXO) | ppm | ±5.0 | | ±12.0 | See part numbering guide for options. |
| Linearity (VCTCXO) | % | | | 10 | |
| Output Load (Clipped Sinewave) | kΩ//pF | | | 10//10 | |
| Output Logic Levels | V _{P-P} | 0.8 | | | |
| Symmetry (Duty Cycle) | % | 40 | 50 | 60 | |
| Start-Up Time | ms | | | 3 | |
| VC Input Impedance (VCTCXO) | kΩ | 100 | | | |
| Phase Noise (Typical) | 10Hz Offset | | -85 | | |
| | 100Hz Offset | | -115 | | |
| | 1kHz Offset | | -135 | | |
| | 10kHz Offset | | -145 | | |
| | 100kHz Offset | | -150 | | |

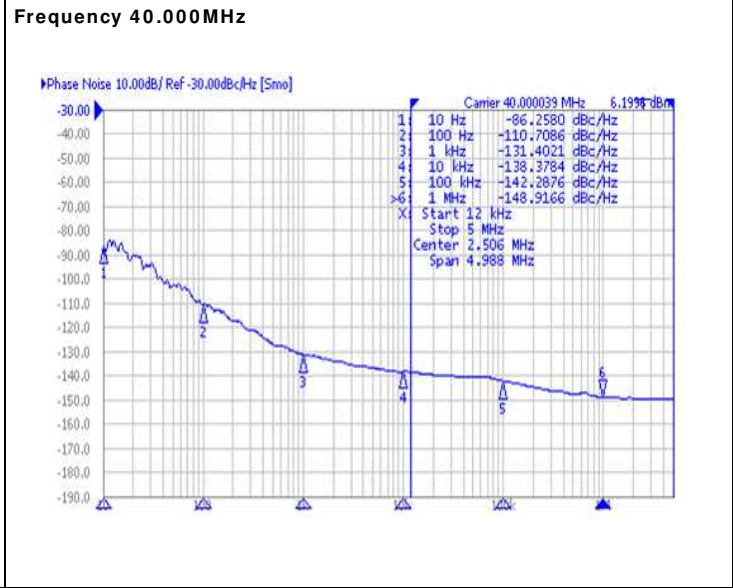
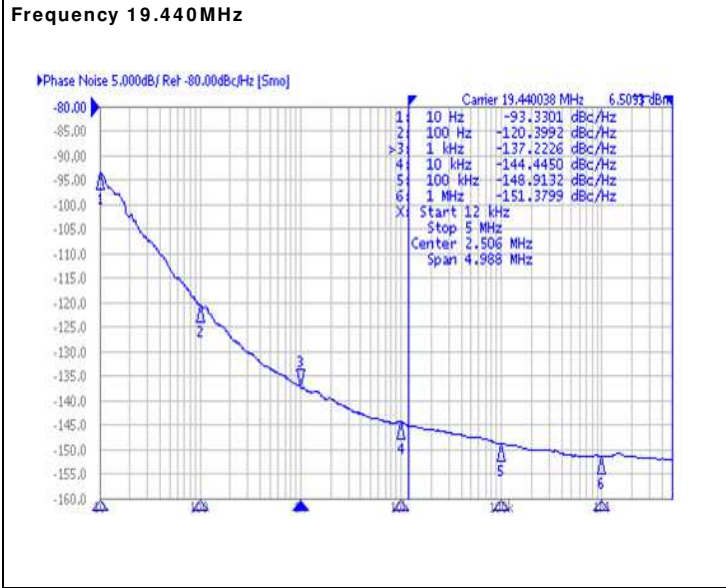
| OUTLINE DRAWING | | | | | | | | | | | |
|-----------------|--|-----|----------|---|--------------------------------------|---|-----|---|--------|---|-----------------|
| | <p>RECOMMENDED LAND PATTERN</p> <table border="1"> <thead> <tr> <th>PIN</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>V_C(VCTCXO) or NC (TCXO)</td> </tr> <tr> <td>2</td> <td>GND</td> </tr> <tr> <td>3</td> <td>OUTPUT</td> </tr> <tr> <td>4</td> <td>V_{DD}</td> </tr> </tbody> </table> | PIN | FUNCTION | 1 | V _C (VCTCXO) or NC (TCXO) | 2 | GND | 3 | OUTPUT | 4 | V _{DD} |
| PIN | FUNCTION | | | | | | | | | | |
| 1 | V _C (VCTCXO) or NC (TCXO) | | | | | | | | | | |
| 2 | GND | | | | | | | | | | |
| 3 | OUTPUT | | | | | | | | | | |
| 4 | V _{DD} | | | | | | | | | | |

NOTE: Dimensions in millimeters (mm).

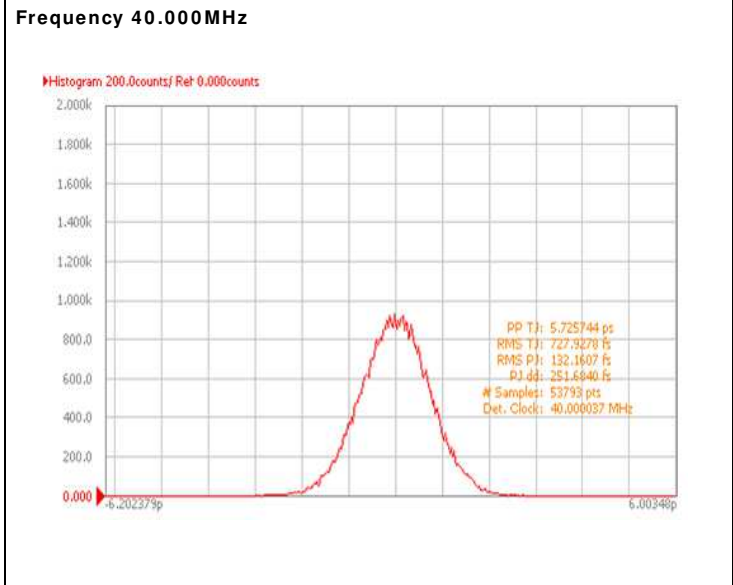
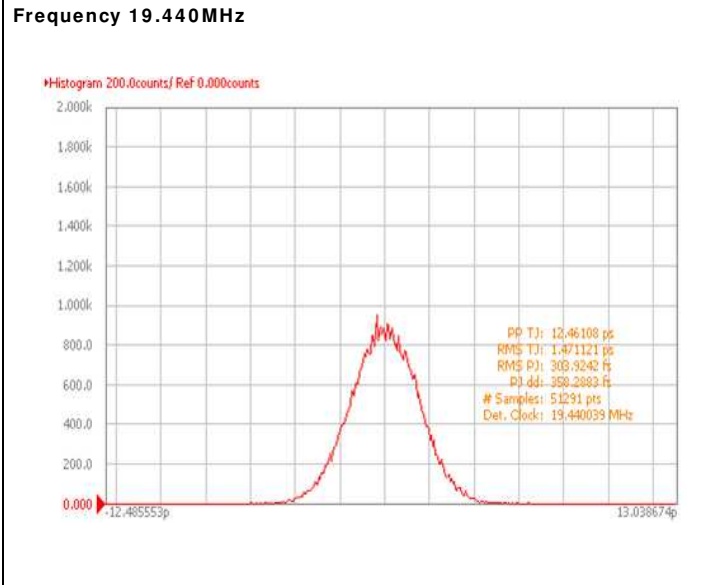
TEST CIRCUIT (CLIPPED SINEWAVE) WAVEFORM (CLIPPED SINEWAVE)



TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052A)



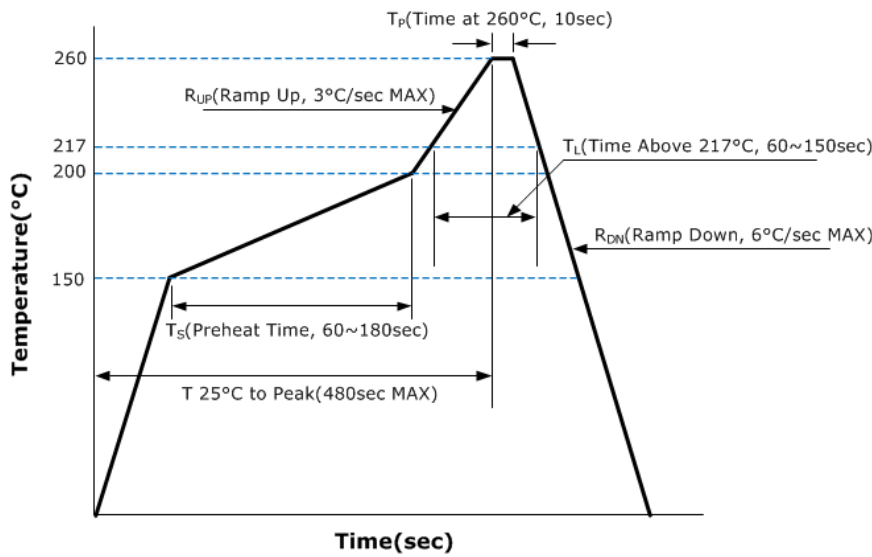
TYPICAL JITTER PERFORMANCE (MEASURED BY AGILENT E5052A)



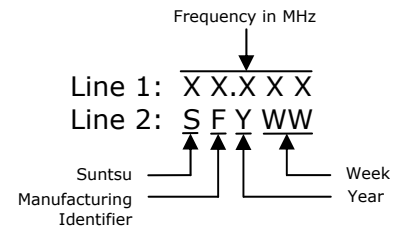
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

| | |
|------------------------------|---------------------------------------|
| Temperature Cycling | MIL-STD-883, Method 1010, Condition B |
| Fine Leak Test | MIL-STD-883, Method 1014, Condition A |
| Gross Leak Test | MIL-STD-883, Method 1014, Condition C |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Vibration | MIL-STD-883, Method 2007, Condition A |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Moisture Sensitivity | J-STD-020, MSL 1 |
| Resistance to Soldering Heat | MIL-STD-202, Method 210, Condition K |
| Resistance to Solvents | MIL-STD-202, Method 215 |
| Solderability | MIL-STD-883, Method 2003 |

REFLOW PROFILE

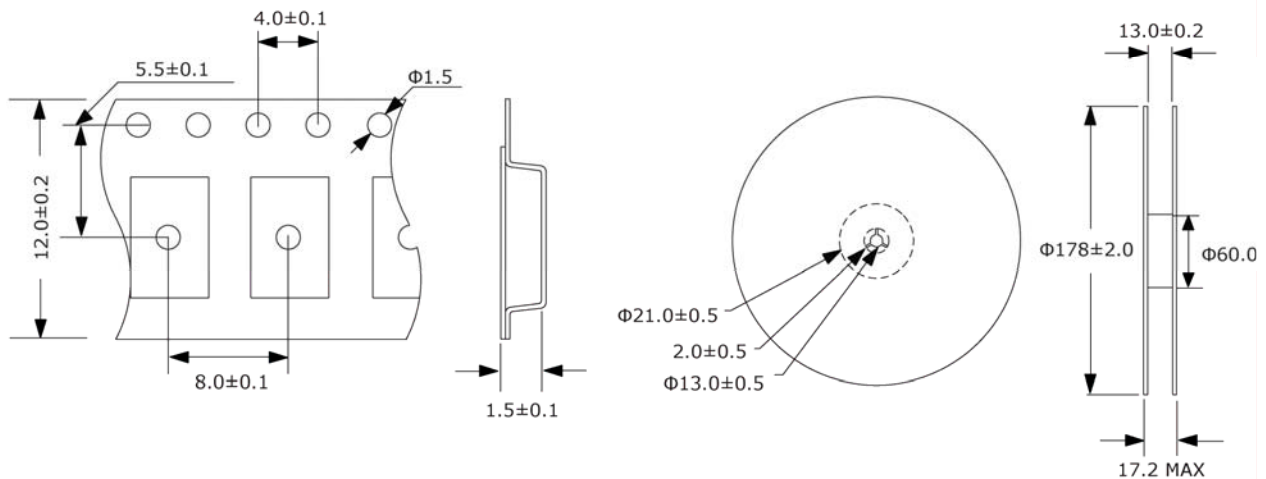


MARKING



TAPE AND REEL DIMENSIONS

3,000pcs/reel



NOTE: Dimensions in millimeters (mm); drawing is not to scale.