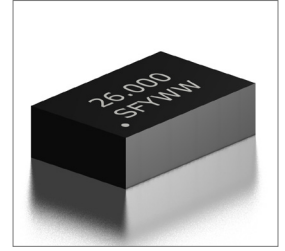


Features
<ul style="list-style-type: none"> <li>Stability <math>\pm 0.05</math>ppm Available</li> <li>Clipped Sinewave</li> <li>(VC)TCXO</li> <li>Two Package Types</li> <li>Extended Temperature Range</li> </ul>

Applications
<ul style="list-style-type: none"> <li>Base Stations</li> <li>Stratum 3</li> <li>Small Cell</li> </ul>



**Part Numbering Guide**

**SUS 53 K 33 S 48 V F - 10.000M**

**SUNTSU**  
ULTRA STABLE

5.2mm x 3.4mm

CLIPPED SINEWAVE

**SUPPLY VOLTAGE**  
33 : 3.3V $\pm 5\%$   
50 : 5.0V $\pm 5\%$

**FREQUENCY STABILITY**  
F :  $\pm 0.50$ ppm  
S :  $\pm 0.37$ ppm  
T :  $\pm 0.28$ ppm  
J :  $\pm 0.1$ ppm  
\*\*K :  $\pm 0.05$ ppm

**OPERATING TEMPERATURE RANGE**  
07 : 0°C - +70°C  
16 : -10°C - +60°C  
27 : -20°C - +70°C  
48 : -40°C - +85°C  
\*50 : -50°C - +90°C  
\*59 : -55°C - +95°C

**TCXO/VCTCXO**  
BLANK : TCXO  
V : VCTCXO

**FREQUENCY**  
MHz

**PULLABILITY**  
BLANK : TCXO  
F :  $\pm 8.0$ ppm  
G :  $\pm 5.0$ ppm  
H :  $\pm 12.0$ ppm

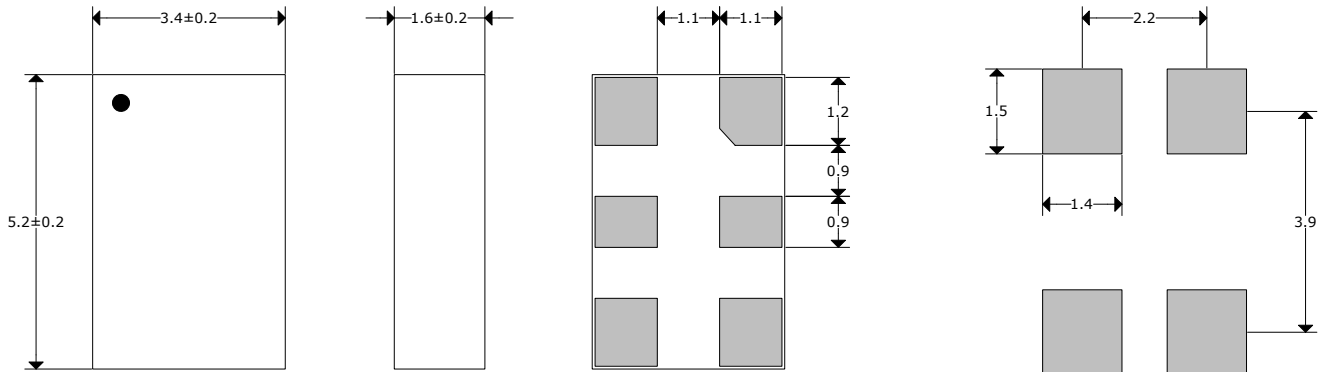
Cage Code: 4GUT4  
To customize your parameters contact a Suntsu representative.  
\* For operating temperature options 50 & 59 contact a Suntsu representative.  
\*\* For frequency stability option K contact a Suntsu representative; only available with Operating Temperature of -40°C - +85°C



Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	10		52	
Frequency Tolerance	ppm	$\pm 0.3$	$\pm 0.5$	$\pm 1.0$	at 25°C
Freq Stability vs Op Temp (ref at 25°C)	ppm	$\pm 0.05$		$\pm 0.5$	See part numbering guide for options.
Supply Sensitivity	ppm			$\pm 0.1$	V <sub>DD</sub> $\pm 5\%$
Load Sensitivity	ppm			$\pm 0.2$	Load $\pm 5\%$
Aging/First Year	ppm			$\pm 1.0$	Standard
Operating Temperature	°C	-55		95	See part numbering guide for options.
Storage Temperature	°C	-55		125	
Supply Voltage (V <sub>DD</sub> ) - 3.3V Option	V	3.135	3.3	3.465	
Supply Voltage (V <sub>DD</sub> ) - 5.0V Option	V	4.750	5.0	5.250	
Current (I <sub>DD</sub> )	mA			10	
Voltage (VC, VCTCXO) - 3.3V Option	V	0.5		2.5	
Voltage (VC, VCTCXO) - 5.0V Option	V	0.5		2.5	
Pullability (VCTCXO)	ppm	$\pm 5.0$		$\pm 12.0$	See part numbering guide for options.
Linearity (VCTCXO)	%			10	
Output Level (Clipped Sinewave)	Vp-p	0.8			
Output Load (Clipped Sinewave)	k $\Omega$ //pF		10//10		
Tuning Slope			Positive		
Start-Up Time	ms			10	
VC Input Impedance (VCTCXO)	k $\Omega$	200			
Phase Noise (Typical) 10Hz Offset	dBc/Hz			-92	
Phase Noise (Typical) 100Hz Offset	dBc/Hz			-120	
Phase Noise (Typical) 1KHz Offset	dBc/Hz			-140	
Phase Noise (Typical) 10KHz Offset	dBc/Hz			-145	
Phase Noise (Typical) 100kHz Offset	dBc/Hz			-150	

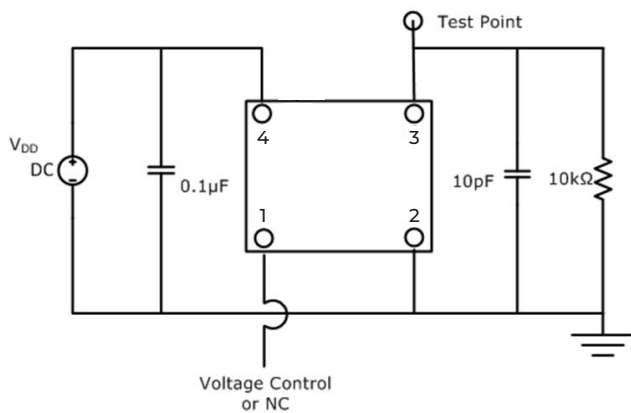
**Outline Drawing & Land Pattern**

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

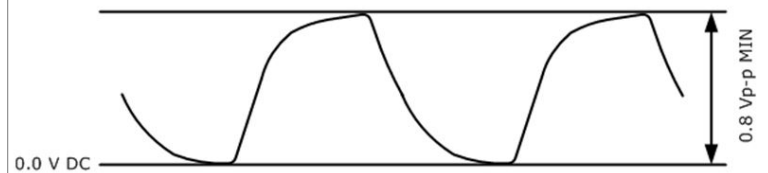


PIN	FUNCTION
1	V <sub>CON</sub> /NC
2	GND
3	OUTPUT
4	V <sub>DD</sub>

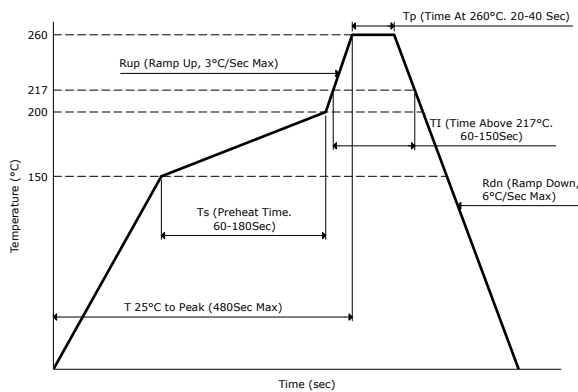
**Test Circuit (Clipped Sinewave)**



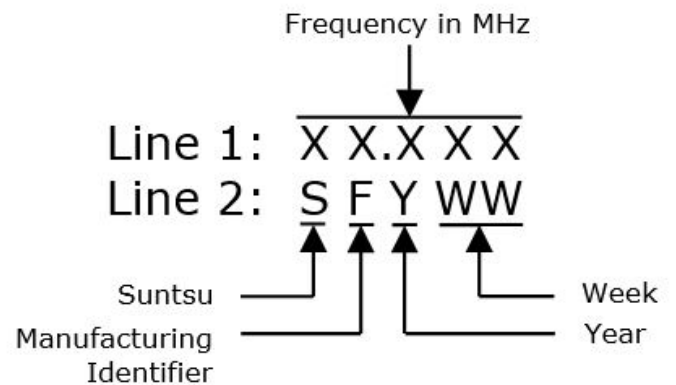
**Waveform (Clipped Sinewave)**



**Reflow Profile**



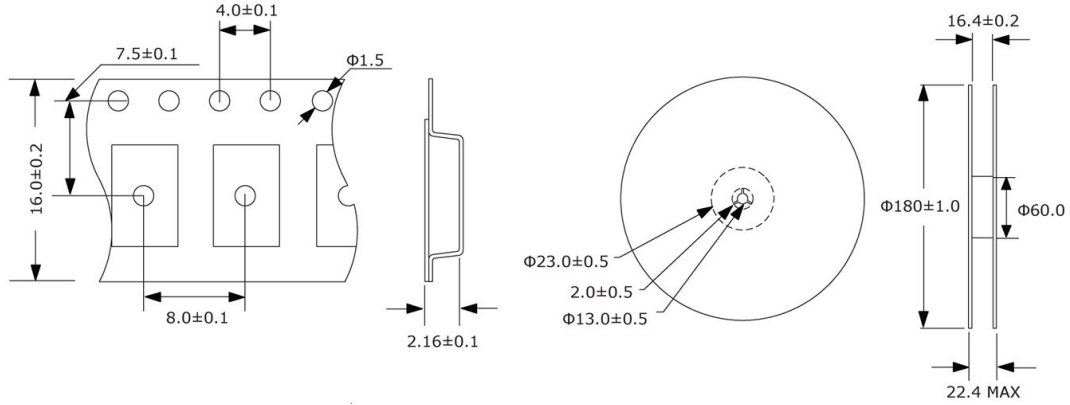
**Part Marking**



**Tape And Reel Dimensions**

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

1,000pcs/Reel



**Reliability**

Temperature Stress Test	IEC60068, GJB360B
Mechanical Stress Test	IEC60068, GJB360B
EMC Test (ESD)	IEC61000, JESD22
Solderability	EIA/JESD22-B102-C
Contact Pads	Gold over Nickel
RoHS	RoHS Directive 2011/65/EU Annex II Recasting 2002/95/EC