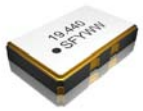
STC53C SERIES

5.0mm x 3.2mm CERAMIC SMT (VC)TCXO

FEATURES	APPLICATIONS
- ±1.0ppm (Frequency Stability) Available - CMOS - (VC)TCXO - RoHS Compliant - Tape and Reel	- Base Stations - IP networking - Cellular and Cordless Phones



PART NUMBERING GUIDE

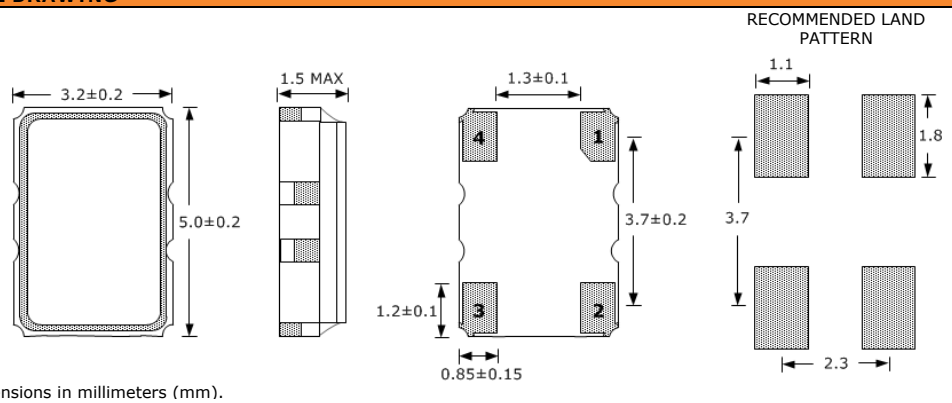
STC 53 C 33 R 48 V E – 19.440M

- **SUNTSU TCXO**
- **5.0mm x 3.2mm**
- **CMOS**
- **SUPPLY VOLTAGE**
  - 25: 2.5V±5%
  - 27: 2.7V±5%
  - 30: 3.0V±5%
  - 33: 3.3V±5%
- **FREQUENCY STABILITY**
  - N: ±5.0ppm
  - O: ±2.5ppm
  - P: ±2.0ppm
  - Q: ±1.5ppm
  - R: ±1.0ppm
- **FREQUENCY (MHz)**
- **PULLABILITY**
  - BLANK: TCXO
  - E: ±12.0ppm
  - F: ±8.0ppm
  - G: ±5.0ppm
- **TCXO / VCTCXO**
  - BLANK: TCXO
  - V: VCTCXO
- **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

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		ppm	-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			-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			6	
Control Voltage (V_C, VCTCXO)		V	0		VDD	Center Voltage: VDD*50%.
Pullability (VCTCXO)		ppm	±5.0		±12.0	See part numbering guide for options.
Linearity (VCTCXO)		%			10	
Output Load (CMOS)		pF			15	
Output Logic Levels	Output Logic High (V_{OH})	V	0.9*V_{DD}			
	Output Logic Low (V_{OL})				0.1*V_{DD}	
Rise (T_R) and Fall (T_F) Time		ns			5	
Symmetry (Duty Cycle)		%	45	50	55	
Start-Up Time		ms			3	
VC Input Impedance (VCTCXO)		kΩ	100			
Phase Noise (Typical)	10Hz Offset	dBc/Hz		-85		
	100Hz Offset			-115		
	1kHz Offset			-135		
	10kHz Offset			-145		
	100kHz Offset			-150		

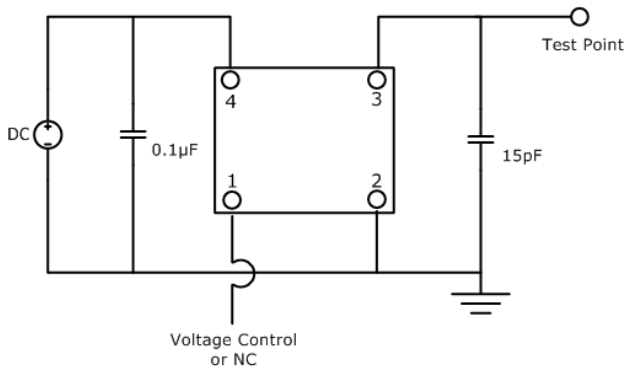
OUTLINE DRAWING



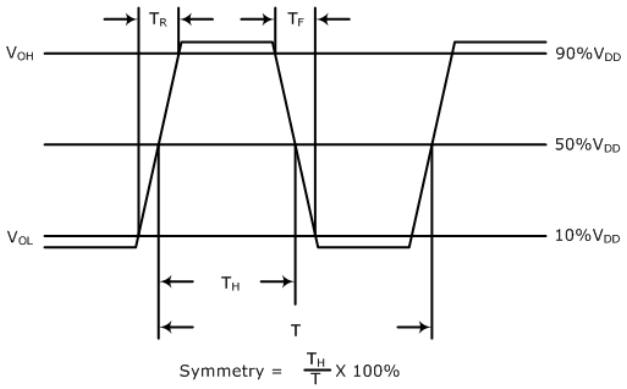
PIN	FUNCTION
1	V_C(VCTCXO) or N/C (TCXO)
2	GND
3	OUTPUT
4	V_{DD}

NOTE: Dimensions in millimeters (mm).

TEST CIRCUIT (CMOS)

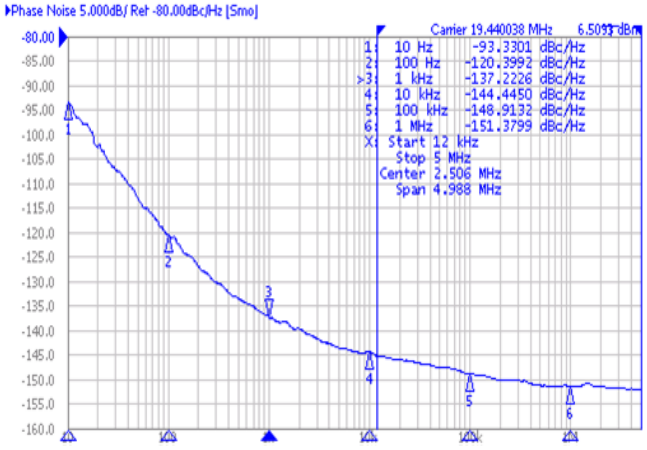


WAVEFORM (CMOS)

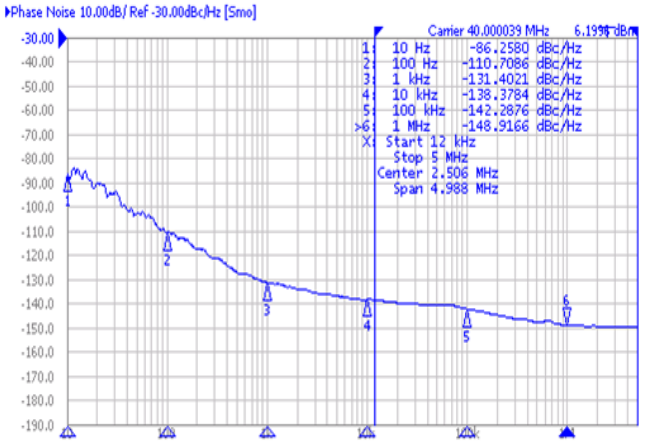


TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052A)

Frequency 19.440MHz

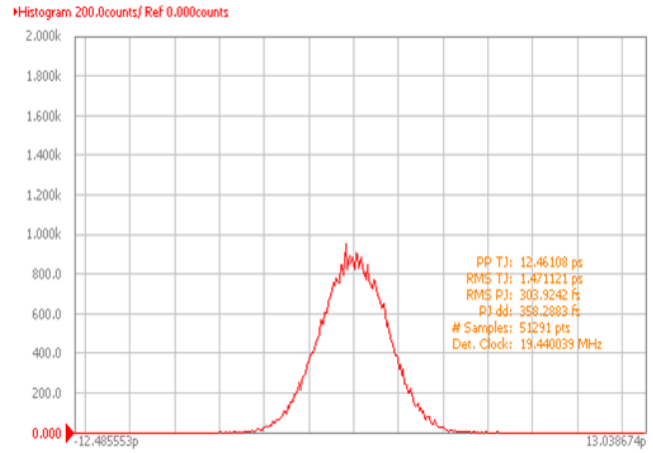


Frequency 40.000MHz

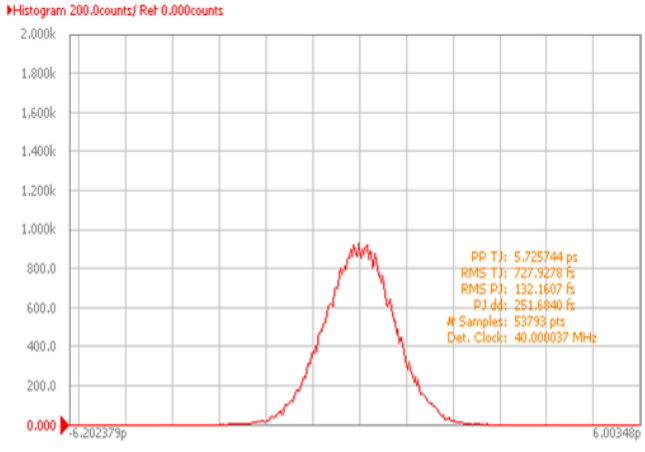


TYPICAL JITTER PERFORMACE (MEASURED BY AGILENT E5052A)

Frequency 19.440MHz

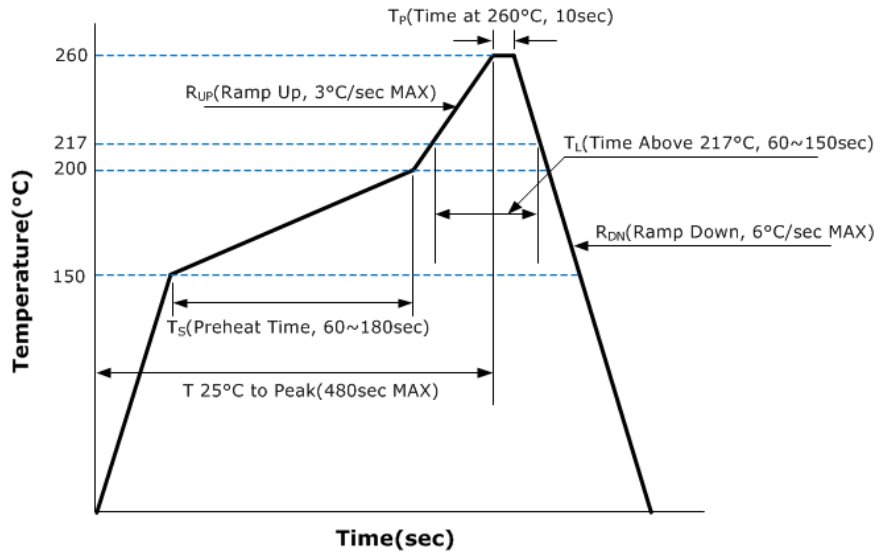


Frequency 40.000MHz

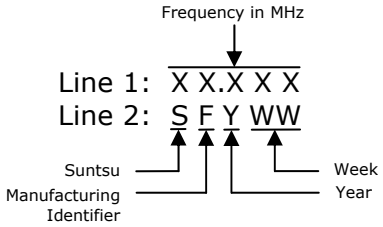


ENVIRONMENTAL & MECHANICAL SPECIFICATIONS	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2007, Condition 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

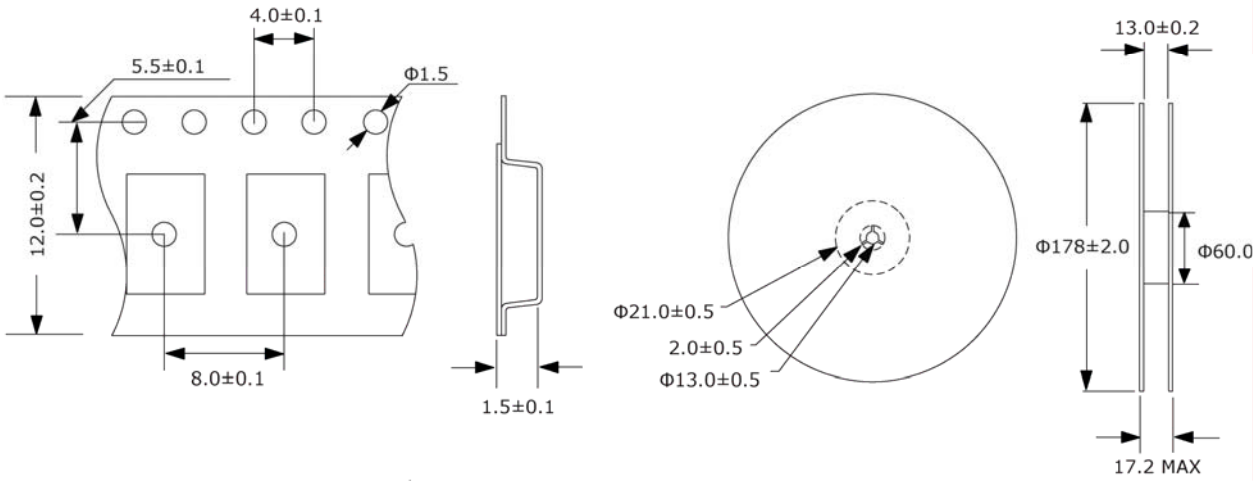


MARKING



TAPE AND REEL DIMENSIONS

3,000pcs/reel



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