

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> - $\pm 10\text{ppm}/\pm 10\text{ppm}$ (Tolerance/Stability) Available - RoHS Compliant - RESISTANCE WELD - AT-Cut or BT-Cut - Tape and Reel 	<ul style="list-style-type: none"> - Microprocessors - Computers - Modems - Wireless Applications



PART NUMBERING GUIDE	
<p>SUNTSU CRYSTAL → SXT HM 4 18 A A 48 A 4 T - 4.000M ←</p> <p>HC-49/US SMT →</p> <p>4 PAD →</p> <p>LOAD CAPACITANCE S: SERIES 7 - 30: 7pF - 30pF</p> <p>FREQUENCY TOLERANCE A: $\pm 50\text{ppm}$ B: $\pm 30\text{ppm}$ C: $\pm 25\text{ppm}$ D: $\pm 20\text{ppm}$ E: $\pm 15\text{ppm}$ F: $\pm 10\text{ppm}$</p> <p>Cage Code: 4GUT4 To customize your parameters contact a Suntsu representative. * For frequency stability option F contact a Suntsu representative. ** For operating temperatures up to $-55\sim 125^\circ\text{C}$ contact a Suntsu representative.</p>	<p>FREQUENCY (MHz) MODE OF OPERATION BLANK: FUNDAMENTAL B: BT-CUT FUNDAMENTAL T: THIRD OVERTONE THE HEIGHT OF PACKAGE 4: 4.0mm MAX 5: 5.0mm MAX PACKAGE TYPE A: A-TYPE B: B-TYPE OPERATING TEMPERATURE RANGE** 07: 0°C to $+70^\circ\text{C}$ 16: -10°C to $+60^\circ\text{C}$ 17: -10°C to $+70^\circ\text{C}$ 27: -20°C to $+70^\circ\text{C}$ 38: -30°C to $+85^\circ\text{C}$ 48: -40°C to $+85^\circ\text{C}$</p> <p>FREQUENCY STABILITY A: $\pm 50\text{ppm}$ B: $\pm 30\text{ppm}$ C: $\pm 25\text{ppm}$ D: $\pm 20\text{ppm}$ E: $\pm 15\text{ppm}$ F: $\pm 10\text{ppm}^*$</p>

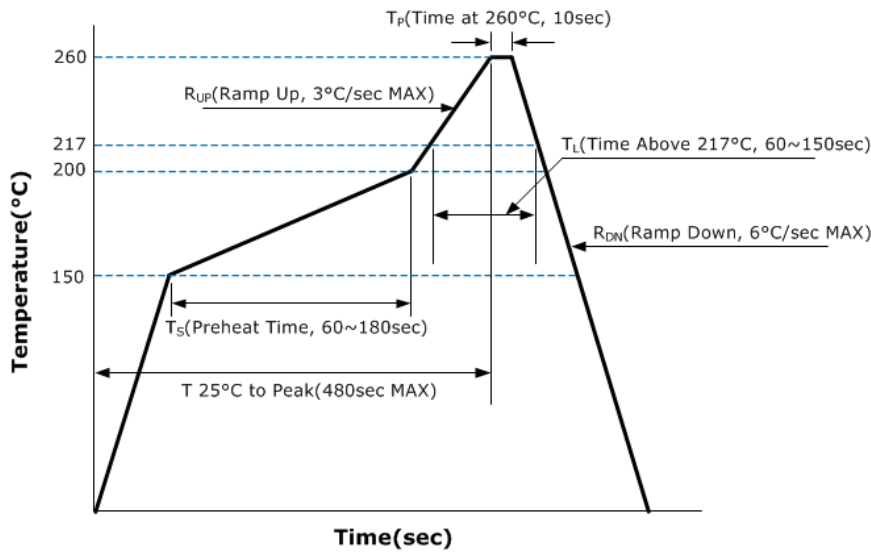
ELECTRICAL PARAMETERS	UNITS	MIN.	TYP.	MAX.	REMARKS
Frequency Range	MHz	3		40	AT-Cut Fundamental.
		20		50	BT-Cut Fundamental.
		24		90	3 rd Overtone.
Frequency Tolerance at $+25^\circ\text{C}$	ppm	-10		+10	See part numbering guide for options.
Frequency Stability vs. Operating Temperature (Ref. 25°C)	ppm	-10		+10	See part numbering guide for options.
vs. Aging	ppm	-3		+3	First year @ $+25^\circ\text{C}$.
Operating Temperature	$^\circ\text{C}$	-40		+85	See part numbering guide for options.
Storage Temperature	$^\circ\text{C}$	-40		+125	
Load Capacitance	pF	7		30	See part numbering guide for options.
Shunt Capacitance	pF			7	
Drive Level	μW		100	500	
Insulation Resistance	M Ω	500			@ $100\text{V}_{\text{DC}} \pm 15\text{V}$.
Equivalent Series Resistance	3.000MHz ~ 3.799MHz			180	AT-Cut Fundamental.
	3.800MHz ~ 4.499MHz			150	AT-Cut Fundamental.
	4.500MHz ~ 5.999MHz			120	AT-Cut Fundamental.
	6.000MHz ~ 7.999MHz			100	AT-Cut Fundamental.
	8.000MHz ~ 9.999MHz			80	AT-Cut Fundamental.
	10.000MHz ~ 12.999MHz			60	AT-Cut Fundamental.
	13.000MHz ~ 19.999MHz			50	AT-Cut Fundamental.
	20.000MHz ~ 40.000MHz			30	AT-Cut Fundamental.
	20.000MHz ~ 50.000MHz			40	BT-Cut Fundamental.
24.000MHz ~ 39.999MHz			100	3 rd Overtone.	
40.000MHz ~ 90.000MHz			80	3 rd Overtone.	

OUTLINE DRAWING		
<p>5.0 MAX or 4.0 MAX</p> <p>12.5 MAX</p> <p>4.85 MAX</p> <p>1.2± 0.1</p>	<p>ELECTRODE ARRANGEMENT (BOTTOM VIEW)</p> <p>A-TYPE</p> <p>B-TYPE</p> <p>1.3± 0.1</p> <p>9.0± 0.1</p>	<p>RECOMMENDED LAND PATTERN</p> <p>2.2</p> <p>2.3</p> <p>9.0</p> <p>3.2</p>
<p>NOTE: Dimensions in millimeters (mm).</p>		

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



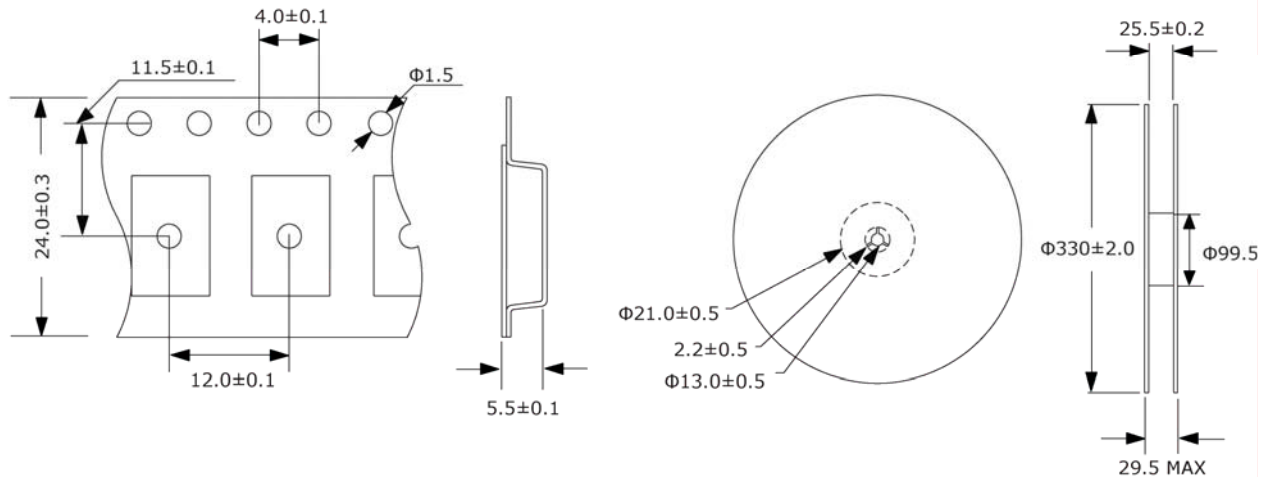
MARKING

Line 1: XX.XXX S F Y WW

Frequency in MHz ↑ ↑ ↑ ↑
 Suntsu ↑ ↑ ↑ ↑
 Manufacturing Identifier Year Week

TAPE AND REEL DIMENSIONS

1,000pcs/reel



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