

Specification

TO:STE

Model Name: Crystal Unit

PART NO: 49U-2.000M-20-30-30

CUSTOMER PART NO.:

Approval sheet:

	Yes
Approved	No.
<p>Customer's comments are welcomed here.</p> <p>Pls return this copy as a certificate of your approval by email.</p> <p>Approved By Date: _____</p>	

STRONG ELECTRONICS&TECHNOLOGY LIMITED

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History Record

Date	Part No.	SPEC No.	Description.	Remarks.
<div style="background-color: #00FF00; color: white; padding: 2px; font-size: 8px;"> RoHS Compliant Lead free Lead-free soldering </div>	ISO9001:2000 ISO14001:2004	Approved by	Check by	Design by
		May-15-2007	May-10-2005	Jan-16-2005
Reversions	Total Page	<i>Xu gang dong</i>	<i>Liu jun</i>	<i>Wang kon</i>

1. Range:

This specification shall conform with the characteristics of crystal unit with Strong's P/N: 49U-2.000M-20-30-30

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
PACKAGE TYPE	49U
NOMINAL FREQUENCY	2.000MHz
LOAD CAPACITANCE	20pF
OSCILLATION MODE	Fundamental
FREQUENCY TOLERANCE AT 25°C ± 2°C	± 30PPM
EQUIVALENT SERIES RESISTANCE	400 Ω Max.
DRIVE LEVEL	0.5MW
OPERATING TEMPERATURE RANGE	-20°C~+70°C
STORAGE TEMPERATURE	-45°C~+85°C
FREQUENCY STABILITY	± 30PPM
SHUNT CAPACITANCE	<7PF
AGING	± 3PPM/YEAR
INSULATION RESISTANCE	>500M Ω at DC 100V

3. MECHANICAL SPECIFICATION

1) Terminal Strength

* Lead pulling test

Conditions: Load	907.2 gram
Direction	To the downward
Duration of applied force	5 seconds

Results: There should be no distortion in appearance.

* Lead bending test

Conditions: Load	453.6 gram
Bending angle	90° to normal position
Rate of bending	3 seconds in each cycle
Number of bending	3

Results: There should be no distortion in appearance.

2) Lead solder ability test

Conditions: Dipping in solder(+230°C ± 5°C)for 5 seconds

Results: More than 95% of surface being tested should be coated uniformly with solder.

3) Vibration test

Conditions: Frequency	10 – 55Hz
Amplitude	0.762mm
Sweep	1.0 minute

Duration 2 hours
Results: Frequency and wave form of tested products must
Remain within specifications.

4) Drop test

Conditions: Method of drop Natural drop
Dropping floor Hard wood board
Height 30cm
Number of drops 3 times
Results: Frequency and wave form of tested products must
remain within specifications.

4. ENVIRONMENTAL SPECIFICATION

1) Temperature test

* Temperature cycling test

Conditions: Steps of cycle 1) At -55°C,30 minutes
2) At +25°C,10 - 15 minutes
3) At +85°C,30 minutes
4) At +25°C,10 - 15 minutes
Number of cycles 3 times
Results: Frequency and wave form of tested products must
remain within specifications.

* Low Temperature test

Conditions: Temperature $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Length of test 96 hours
Results: There should be no stain on surface of products.
Frequency and wave form of tested products must
remain within specifications.

2) Aging test

Conditions: Temperature $+85^{\circ}\text{C} \pm 20^{\circ}\text{C}$
Length of test 96 hours
Results: Deviation of frequency must be less than $\pm 3\text{ppm}$

3) Salt spray test

Conditions: Temperature $+35^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Length of test 48 hours
NaCl % 5%
Results: There should be no stain on surface of products.

4) Humidity test

Conditions: Temperature $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$

	Relative humidity	90 - 95%
	Length of test	96 hours
Results:	a. Insulation resistance must be 500 M Ω /100 Vac. minimum	
	b. Resistance and wave form must remain within specifications.	

5. DIMENSION

