

SPEC NO.: CU-212SMD

## Specification

TO:STE

Model Name: Crystal Oscillator

PART NO: SOC5032-2.048M-30-3.3V-E

CUSTOMER PART NO.:

### APPROVAL SHEET

|                                                                  |             |
|------------------------------------------------------------------|-------------|
| Approved?                                                        | Yes         |
|                                                                  | No.         |
| Customer's comments are welcomed here.                           |             |
| Pls return this copy as a certificate of your approval by email. |             |
| Approved By                                                      | Date: _____ |

**STRONG ELECTRONICS&TECHNOLOGY LIMITED**

Tel:86-755-84528985 Fax: 86-755-84528986

Email:[info@strongfirst.com.cn](mailto:info@strongfirst.com.cn)

[www.strongfirst.com.cn](http://www.strongfirst.com.cn)

## History Record

| Date                                                                                | Part No.                      | SPEC No.            | Description.   | Remarks.        |
|-------------------------------------------------------------------------------------|-------------------------------|---------------------|----------------|-----------------|
|                                                                                     |                               |                     |                |                 |
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|                                                                                     |                               |                     |                |                 |
|                                                                                     |                               |                     |                |                 |
|  | ISO9001:2000<br>ISO14001:2004 | Approved by         | Check by       | Design by       |
|                                                                                     |                               | May-15-2009         | May-10-2009    | Jan-16-2009     |
| Reversions                                                                          | Total Page                    | <i>Xu gang dong</i> | <i>Liu jun</i> | <i>Wang kon</i> |
| CU-02SMD                                                                            |                               |                     |                |                 |

## SPECIFICATION

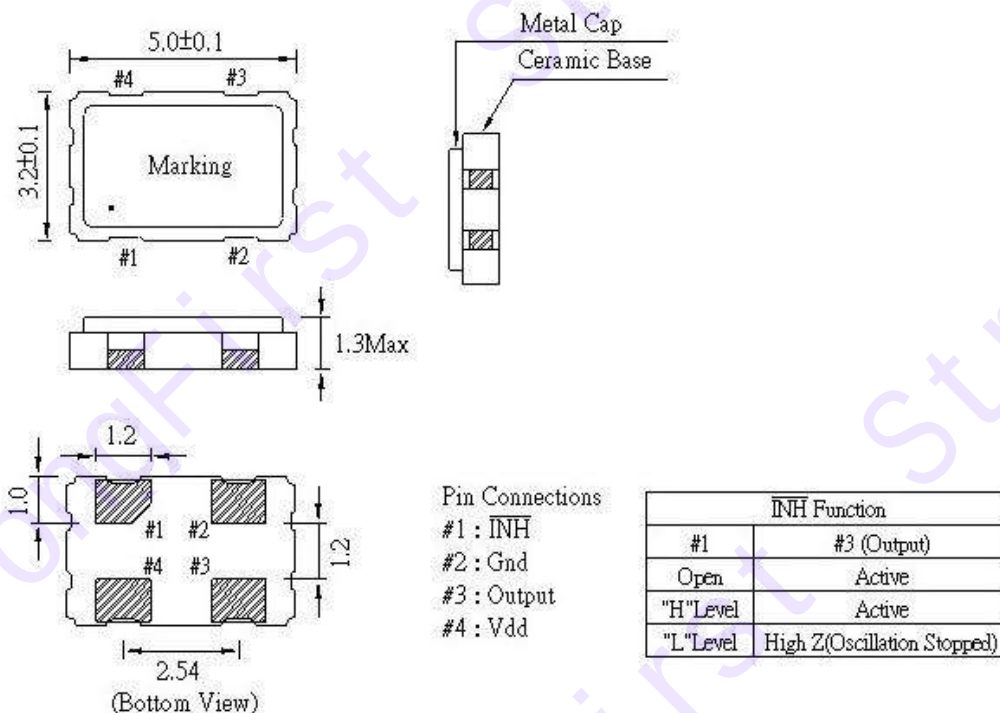
### 1. RANGE:

This specification shall cover the characteristics of crystal oscillator with Strong's P/N: SOC5032-2.048M-30-3.3V-E

### 2. ELECTRICAL SPECIFICATION

| ITEM                   | SPECIFICATION                                |
|------------------------|----------------------------------------------|
| Package                | SMD5.0*3.2MM 4 pads                          |
| Output Signal Waveform | CMOS                                         |
| Frequency Range        | 2.048MHz                                     |
| Current Consumption    | 30mA Max                                     |
| Frequency Stability    | ± 30ppm Max                                  |
| Load                   | 15pF                                         |
| Output Symmetry        | 45~55 (at 50%VDD)                            |
| Rise Time/Fall Time    | 10nS Max.                                    |
| Temperature Range      | Operating: -40~+85℃<br>Storage: -55℃ to 125℃ |
| Supply Voltage         | 3.3V+-5%                                     |
| Output Level           | 1V Max                                       |
| Aging                  | ± 3ppm/year Max                              |
| Tri-state              | Compatible                                   |

### 3. DIMENSION



### 4. 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  $90^\circ$  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 ( $+260^\circ\text{C} \pm 5^\circ\text{C}$ ) for 3 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. |                 |

## 5. 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 +105°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                                                                                                                       | -45°C ± 2°C |
|             | Length of test                                                                                                                    | 96 hours    |
| Results:    | There should be no stain on surface of products.<br>Frequency and wave form of tested products must remain within specifications. |             |

2) Aging test

|             |                |              |
|-------------|----------------|--------------|
| Conditions: | Temperature    | +105°C ± 5°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  $500\text{ M}\Omega/100\text{ Vac}$ . minimum  
b. Resistance and wave form must remain within specifications.

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