



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



**SPECIFICATION FOR APPROVAL**

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 32.768 KHz




HOLDER TYPE TYPE G1 TUNING FORK X'TAL

SPEC. NO. ( P/N ) G13270007

CUSTOMER P/N \_\_\_\_\_

ISSUE DATE Jan.6,2011

VERSION D

| APPROVED  | PREPARED  | QA  |
|---|---|---|
|  |  |  |
| APPROVED BY CUSTOMER :  |   | AVL Status  |
| Please return one copy with approval to PSE-TW                                      |   |   |

**PSE Technology Corporation**

No.2, Tzu-Chiang 5th Rd, Chung Li Industrial Park,  
 Chung Li City, Taoyuan County, Taiwan (R.O.C.)  
 TEL: 886-3-451-8888  
 FAX: 886-3-461-3865  
<http://www.saronix-ecera.com.tw>

\*RoHS Exception  
 \*HF-Halogen Free  
 \*REACH Compliant



# TYPE G1 TUNING FORK X'TAL

G13270007

VER. D 6-Jan-11

## ELECTRICAL SPECIFICATIONS

SRe Part Number : G13270007

| Parameters                   | Symbol | Specifications | Units               | Notes            |
|------------------------------|--------|----------------|---------------------|------------------|
| Nominal Frequency            | Fn     | 32.768         | KHz                 |                  |
| Mode of Oscillation          | MO     | Fundamental    |                     | +2° X-Cut        |
| Load Capacitance             | CL     | 12.5           | pF                  | Typical          |
| Calibration Tolerance        |        | ± 20           | ppm                 | at 25°C ± 5°C    |
| Operating Temperature Range  | TR     | -10~60         | °C                  |                  |
| Drive Level                  | DL     | 1              | μW                  | Max.             |
| Equivalent Series Resistance | ESR    | 35             | KΩ                  | Max.             |
| Shunt Capacitance C0         | C0     | 1.6            | pF                  | Typical          |
| Temperature Coefficient      | K      | -0.035         | ppm/°C <sup>2</sup> | Typical          |
| Aging                        |        | ± 5            | ppm                 | Max 1st year     |
| Insulation Resistance        |        | 500            | MΩ                  | at DC 100V ± 15V |

\*\*RoHS Complaint Product

## Reliability ( Mechanical and Environmental Endurance )

| No. | Test Items | Test Method and Condition  | Requirements   |
|-----|------------|--|--|
| 1   | Vibration  | (1) Vibration Frequency: 10 to 55Hz<br>(2) Vibration Amplitude: 1.5mm<br>(3) Cycle Time: 1-2min(10-55-10Hz)<br>(4) Direction: X.Y.Z<br>(5) Duration: 2h/each direction | Frequency Change: ±10ppm Max.<br>Resistance Change: 5kohm Max. |
| 2   | Shock      | 3 Times free drop from 75cm height to hard wooden board of thickness more than 30mm  | Frequency Change: ±10ppm Max.<br>Resistance Change: 5kohm Max. |
| 3   | Leakage    | Put crystal units into a hermetic container and Helium for 0.5-0.6Mpa, and keep it for 1h;<br>Check the leakage by a Helium leak detector                              | Leakage: $1 \times 10^{-8}$ Pa·m <sup>3</sup> /s Max.          |



# TYPE G1 TUNING FORK X'TAL

**G13270007**

VER. D 6-Jan-11

|   |                            |   |  |
|---|----------------------------|---|--|
| 4 | Lead Strength (DIP)        | The crystal lead with the 0.9kg(9N) power (keep it for 30s±5s) and bend the crystal lead 90° with 0.45kg power and two times<br><br>( which you want to bend should be more than 1.5mm from the case) | The crystal lead is not abnormality  |
| 5 | High Temperature Endurance | The crystal units shall be put in somewhere for 2 hrs at temperature of 85°C±2°C, then keep it for 1 to 2 hrs under room temperature.   | Frequency Change: ±10ppm Max.<br>Resistance Change: 5kohm Max.   |
| 6 | Low Temperature Endurance  | The crystal units shall be put in somewhere for 2 hrs at temperature of -25°C, then keep it for 1 to 2 hrs under room temperature.  |  |
| 7 | Humidity Endurance         | The crystal units shall be put in somewhere at 40°C in relative humidity of 90-95% for 48 hrs, then keep it for one or two hours under room temperature.  |  |
| 8 | Temperature Cycle          | Temperature shift from low(-40°C) to high(100°C, keep 30 mins), satisfy high(100°C) to low(-40°C, keep 30 mins), then go up to room temperature for 5 cycles.   |  |
| 9 | Salt Spray Test            | Put the crystal units in the salt spray room (salt density: 5%) at the temperature of 35°C for 96 hrs. Then clean it with water and dry its surface.  |  |
|   |                            |   | The appearance shall has no abnormality and soldering is good.<br>Frequency Change: ±10ppm Max.<br>Resistance Change: 5kohm Max. |

# TYPE G1 TUNING FORK X'TAL

G13270007

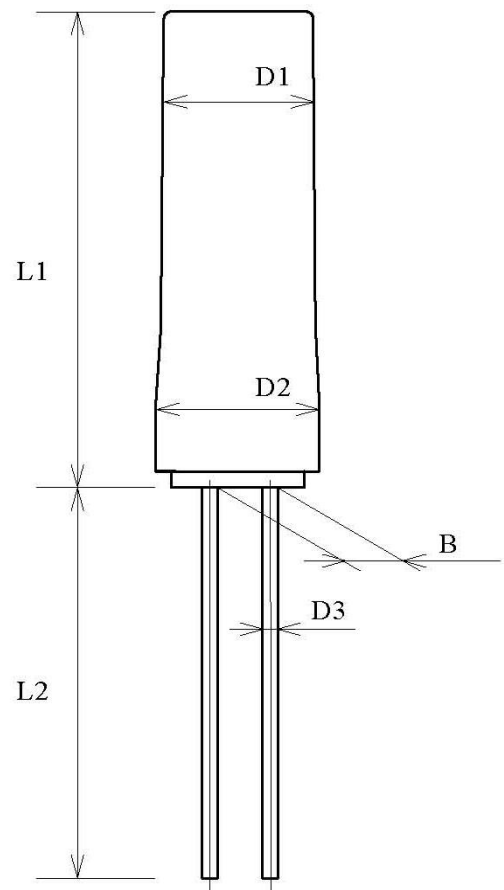
VER. D 6-Jan-11

## MARKING

32768

## DIMENSIONS (Unit:mm)

|    |             |
|----|-------------|
| L1 | 8.0±0.2     |
| L2 | 9.6±0.5     |
| D1 | φ 3.0±0.1   |
| D2 | φ 3.0±0.1   |
| D3 | φ 0.32±0.05 |
| B  | 0.8±0.2     |



# TYPE G1 TUNING FORK X'TAL

G13270007

VER. D 6-Jan-11

## PACKING

