

深圳市炬焯科技有限公司
CHIP SUN TECHNOLOGY CO., LTD

**APPROVAL
SHEET**



CUSTOMER: MICROS sp.j. W.Kedra i J.Lic

DESCRIPTION: SMD3.2*1.5 32.768KHz Quartz Crystal Resonator

MANUFACTURER PART NO.: FTX32.768K6SM3S-20DEW

CUSTOMER PART NO: _____

USED IN MODEL: _____

REVISION A1

承 认 APPROVAL		
工程部 TECHNOLOGY DEPT.	品质部 QUALITY DEPT.	采购部 PURCHASING DEPT.

Date: November 8, 2023



深圳市炬焯科技有限公司

CHIP SUN TECHNOLOGY CO., LTD

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<u>Rev</u>	<u>Revise page</u>	<u>Revise contents</u>	<u>Date</u>	<u>Ref.No.</u>	<u>Reviser</u>
A1	ALL	Initial released	2023-11-08	N/A	David Jiang

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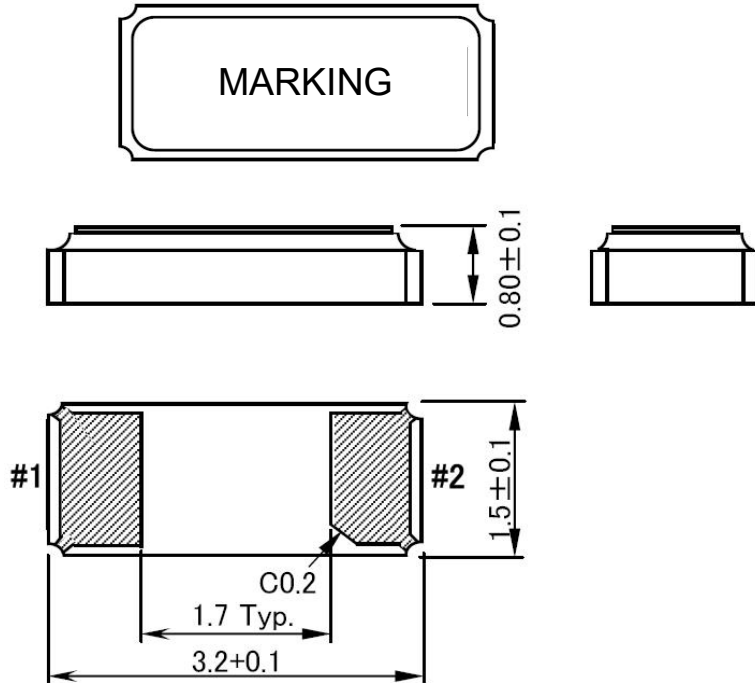
1. QUARTZ CRYSTAL UNIT SPECIFICATION

- 1.1 Frequency: 32.768KHz
- 1.2 Holder Type : SMD3.2×1.5×0.8 mm
- 1.3 Frequency Tolerance : ±20ppm at 25°C
- 1.4 Equivalent Resistance : 70KΩ Max.
- 1.5 Operating Temperature Range : -40°C To +85°C
- 1.6 Storage Temperature Range : -55°C To +125°C
- 1.7 Temperature Coefficient : $-0.03 \times 10^{-6} / ^\circ\text{C}^2$ Typ.
- 1.8 Turn-over Temperature : +25°C±5°C
- 1.9 Loading Capacitance (CL) : 6pF
- 1.10 Drive Level : 0.1uW Typ. 1.0uW Max.
- 1.11 Shunt Capacitance (C0) : 1.1pF Typical
- 1.12 Motional Capacitance (C1) : 4.1fF Typical
- 1.13 Q Factor : 13K Min.
- 1.14 Insulation Resistance : More than 500M ohms
- 1.15 Aging: ±3 ppm/Year Max
Ta=+25°C±3°C, first year
- 1.16 Dimensions and marking Refer to page.3
- 1.17 Emboss carrier tape & reel Refer to page.5 and page.6
- 1.18 Note

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2. DIMENSIONS (Unit: mm)

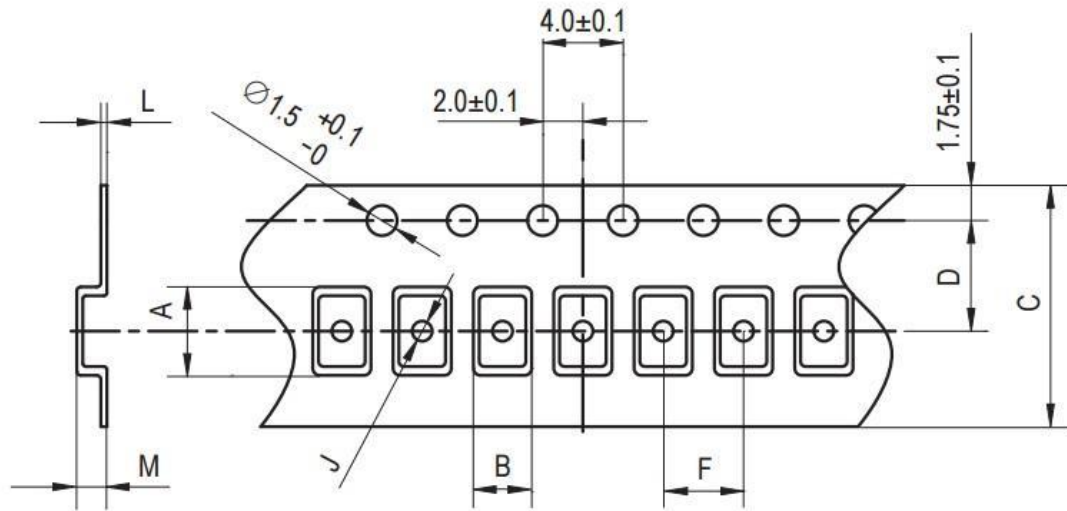


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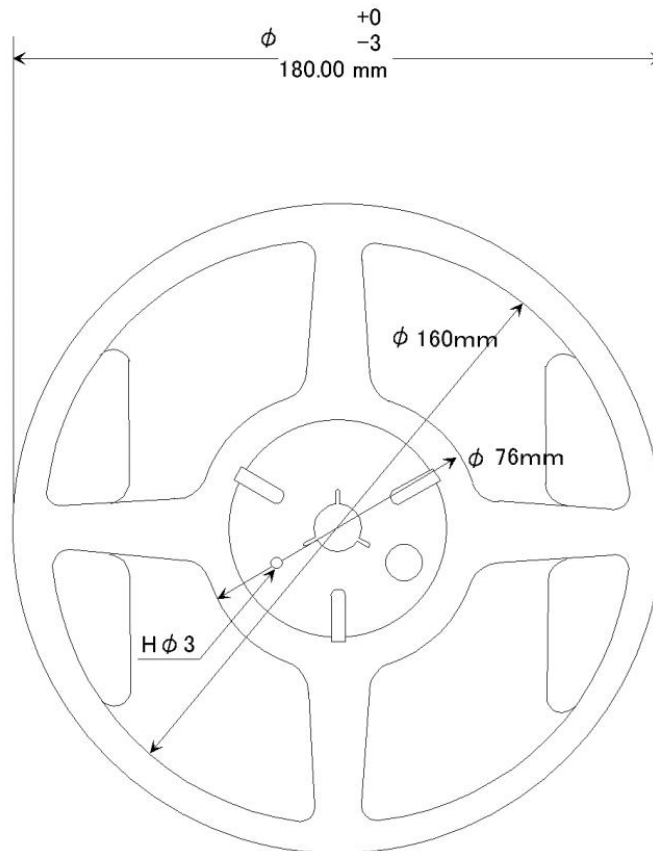
3. CARRIER TAPE & REEL

a.) Dimensions of Carrier Tape Unit: mm



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.4	1.7	12.0	5.5	4.0	1.0	0.3	1.2	180	3000pcs

b.) Dimensions of Reel



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c.) Storage condition

Temperature: +40deg.C Max.

Relative Humidity: 80% Max.

d.) Standard packing quantity

3,000PCS / REEL

e.) Material of the tape

Material(Carrier tape) : Black conductive PS

Material (Cover tape) : Clear PE

Material (Reel) : PS

f.) Label contents

.The type of product

.Our specification No.

.Your Part No.

.Lot No.

.Nominal Frequency

.Quantity

.Our Company Name

Sticks label for every reel.

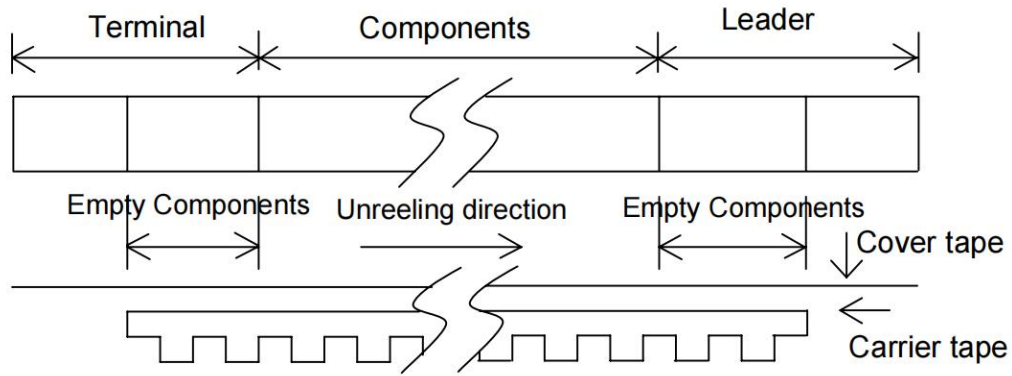
INSPECTION RECORDS	
PO NO.:	
CUSTOMER P/N:	
FT P/N:	
LOT NO.:	
PACKAGE:	
FREQUENCY:	
REMARKS:	
QUANTITY:	
Chip Sun Technology Co.,Ltd.	

g.) Taping dimension

Leader	Cover-tape	The length of cover-tape in the leader is more than 400 mm including empty embossed area.
	Carrier-tape	After all products were packaged, must remain more than twenty pieces or 400 mm empty area, which should be sealed by cover-tape.
Terminal	Cover-tape	The tip of cover-tape shall be fixed temporary by paper tape and roll around the core of reel one round.
	Carrier-tape	The empty embossed area which are sealed by top cover-tape must remain more the 40 mm.

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h.) Joint of tape

The carrier-tape and top cover-tape should not be jointed.

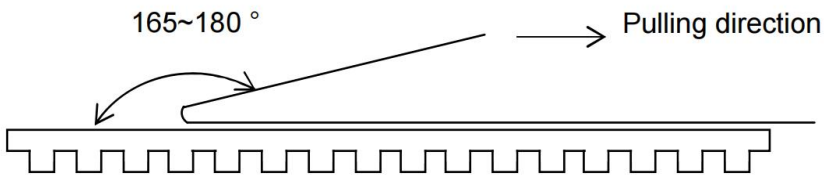
i.) Release strength of cover tape

It has to be between 0.1N to 0.7N under following condition.

Pulling direction 165° to 180°

Speed 300mm/min.

Otherwise unless specified.



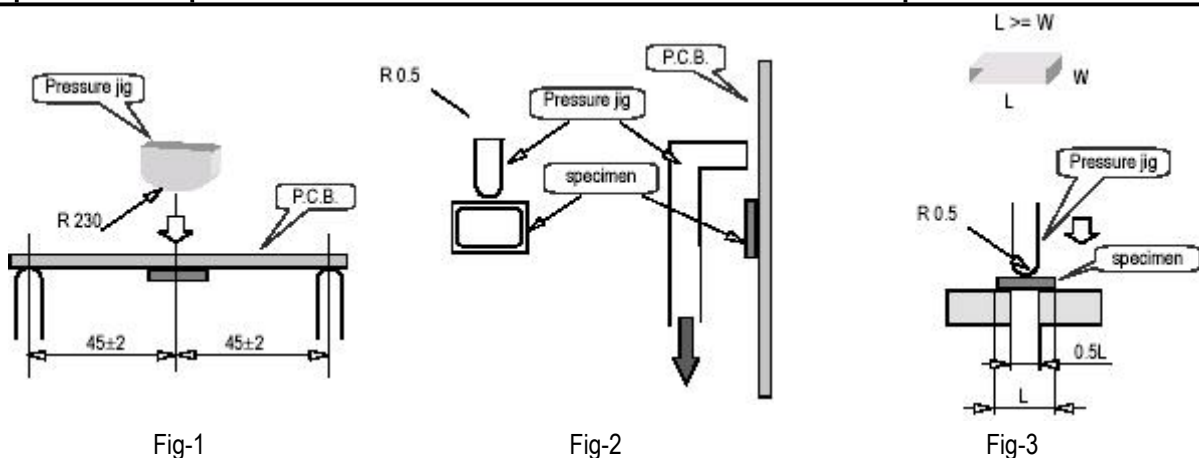
Other standards shall be based on JIS C 0806-1990.

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4. Mechanical Endurance: Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

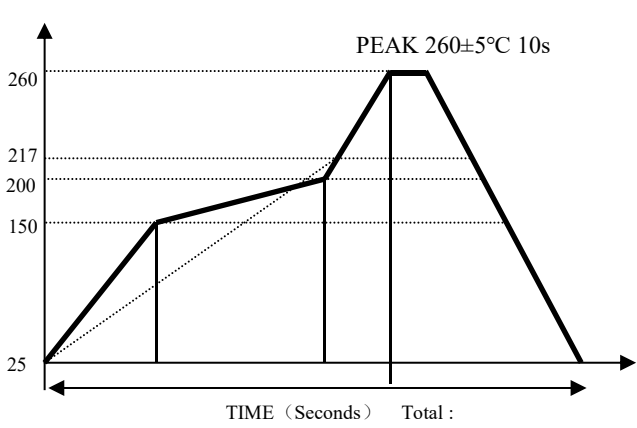
Item	Conditions	Specifications
4.1	Drop	Fall freely from 100 cm of height 3 times on a firm wood
4.2	Mechanical Shock	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times.
4.3	Vibration	(1)Vibration Frequency: 10~55Hz (2)Cycle: 1 to 2 Min. (3)Full Cycle: 1.5mm P-P. (4)Direction: X.Y.Z (5)Time: 2 Hours / Each Direction
4.4	Substrate Bending	Mount the specimen on substrate. Apply the following pressure Direction: see Fig –1 Speed: 0.5 mm/sec Hours: 5 ± 1 sec Amount of substrate: 3 mm Max.
4.5	Adhesion	Mount the specimen on substrate. Apply the following pressure Direction: see Fig –2 Weight: 10N Hours: 10 ± 1 sec
4.6	Body strength	Mount the specimen on substrate. Apply the following pressure Direction: see Fig –3 Weight: 10N Hours: 10 ± 1 sec
4.7	Seal	Fine Leak: 4.5kgf/cm ² 2hours 1×10 ⁻⁹ Pa.m ³ /sec Gross Leak: 4.5kgf/cm ² 2hours 1.5×10 ⁻⁵ Pa.m ³ /sec

Without mechanical damage such as breaks.
Without electrode peeling.
Electrical characteristics shall be satisfied.



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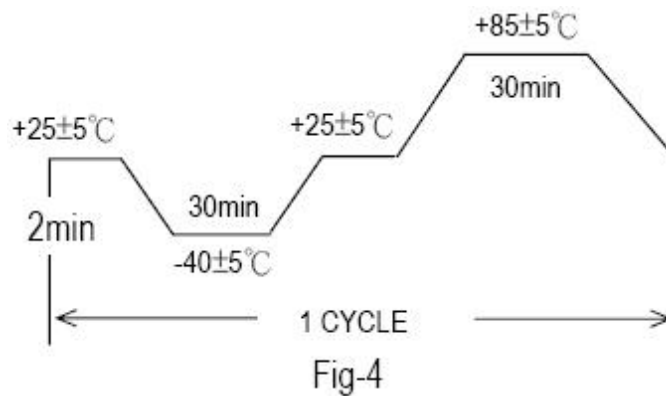
4.8	Solder ability	Pre-heat temperature : +150±10°C Pre-heat time : 60~120s When the temperature of the specimen is reached at +215±3°C, it shall be left for 30±1sec. Peak temperature 240±5°C Material: Pb-free (Sn-3.0Ag-0.5Cu) Flux : Rosin resin methyl alcohol solvent (1:4) The electrodes should be covered by a new solder at least 90% of immersed area.	MIL-STD-883E 2003
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4.9	Resistance to Soldering Heat	<p>Run in Reflow Reflow soldering shall be allowed Only two(2) time.</p> <p style="text-align: center;">Available for Lead Free Soldering</p>  <table border="1" data-bbox="446 1276 1037 1411"> <tr> <td>(1)</td> <td>Preheat</td> <td>160~180 deg.C</td> <td>120sec.</td> </tr> <tr> <td>(2)</td> <td>Primary heat</td> <td>220 deg.C</td> <td>60sec.</td> </tr> <tr> <td>(3)</td> <td>Peak</td> <td>260 deg.C</td> <td>10sec. Max.</td> </tr> </table>	(1)	Preheat	160~180 deg.C	120sec.	(2)	Primary heat	220 deg.C	60sec.	(3)	Peak	260 deg.C	10sec. Max.	MIL-STD-202F
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5. Environmental Endurance: Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

	Item	Conditions	Specifications
5.1	Humidity	+60°C±2°C, RH 80~85%, Duration of 500 hours. The units are then allowed to stand for approx 2 hours in room temperature before checking	MIL-STD-202F
5.2	Storage in Low Temperature	Temperature: -40±2°C , Duration of 500 hours. The units are then allowed to stand at room temperature for approx 2 hours before checking.	MIL-STD-883E
5.3	Storage in High Temperature	Temperature: +85°C±2°C, Duration of 500 hours. The units are then allowed to stand at room temperature for approx 2 hours before checking.	MIL-STD-883E
5.4	Thermal Shock	Temperature 1: -40°C±5°C Temperature 2: +85°C±5°C Temperature change between T1 and T2 at soonest Run 100 cycles, maintain T1 and T2 30minutes each in one cycle (Refer to Fig-4)	MIL-STD-883E



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