

产品规格书

Product Specification

CUSTOMER 客户: _____

CUSTOMER PN 客户 PN: _____

HANG CRYSTAL P/N 杭晶物料编码: 3131M-32.768DTTLRRL

MODEL 产品型号: Tuning Fork SMD 3.2x1.5 Seam Seal

NOMINAL FREQ. 频率: 32.768kHz



ISSUE DATE 日期: 2021 / 04 / 20

CUSTOMER'S APPROVAL

客户确认

(PLEASE RETURN A COPY WITH APPROVAL)

(请将确认的复印件返回我司)

APPROVED	QA
	

SUZHOU HANGJING ELEC&TECH CO.,LTD

苏州杭晶电子科技有限公司

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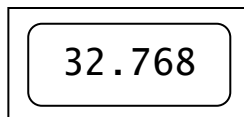
FAX 86 (0)512 65918005

Revision	Description / ECN	Prepared	Approved	Date
1	Initial release	Peter Y.	S. Shen	2021-04-20
2	Not issued			
3	Not issued			
4	Not issued			

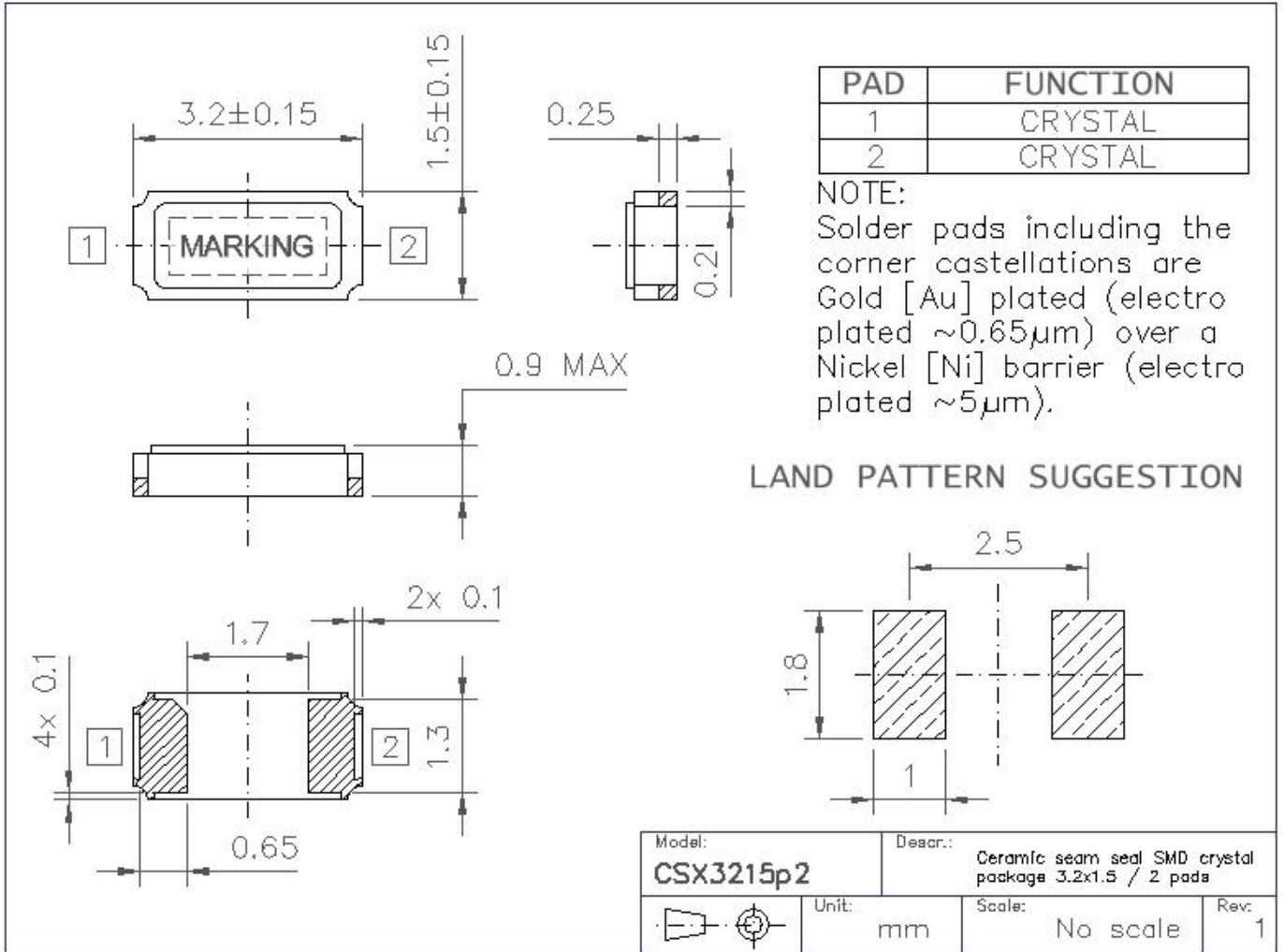
Parameters of the product:

	PARAMETERS	VALUES
1	Nominal Frequency	32.768000kHz
2	Vibration Mode	FUNDAMENTAL
3	Frequency Tolerance @+25±3°C	±5PPM
4	Frequency Coefficient (over temp)	-0.03±0.01ppm/Δ°C ²
5	Operating Temperature Range	-40°C~+85°C
6	Turnover Temperature	+25±5°C
7	Aging	±3PPM/year
8	Load Capacitance	12.5pF
9	Shunt Capacitance	2.0pF MAX
10	Motional Capacitance	3.0fF MIN
11	Equivalent Series Resistance	<70kΩ
12	Drive Level	0.2μW TYP // 1.0μW MAX
13	Q Factor	13,000 MIN
14	Insulation Resistance @100±15V _{DC}	>500MΩ
15	Storage Temperature Range	-55°C~125°C
16	Environmental Compliance	RoHS compliant

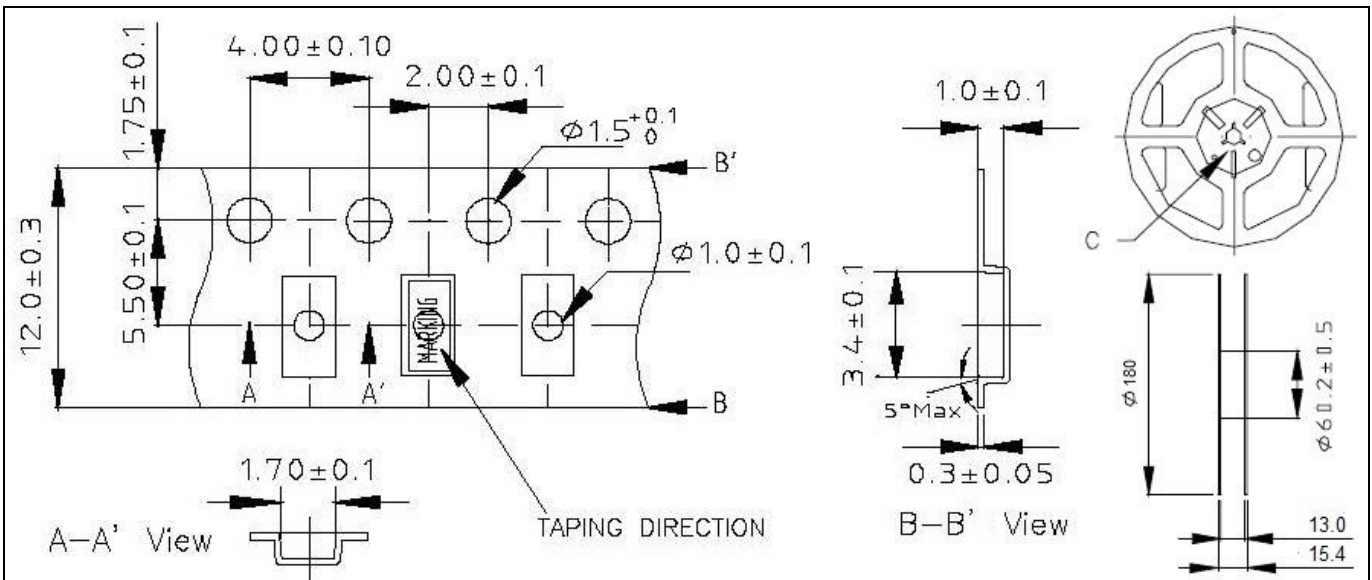
Marking:



Outline drawing / Dimensions:

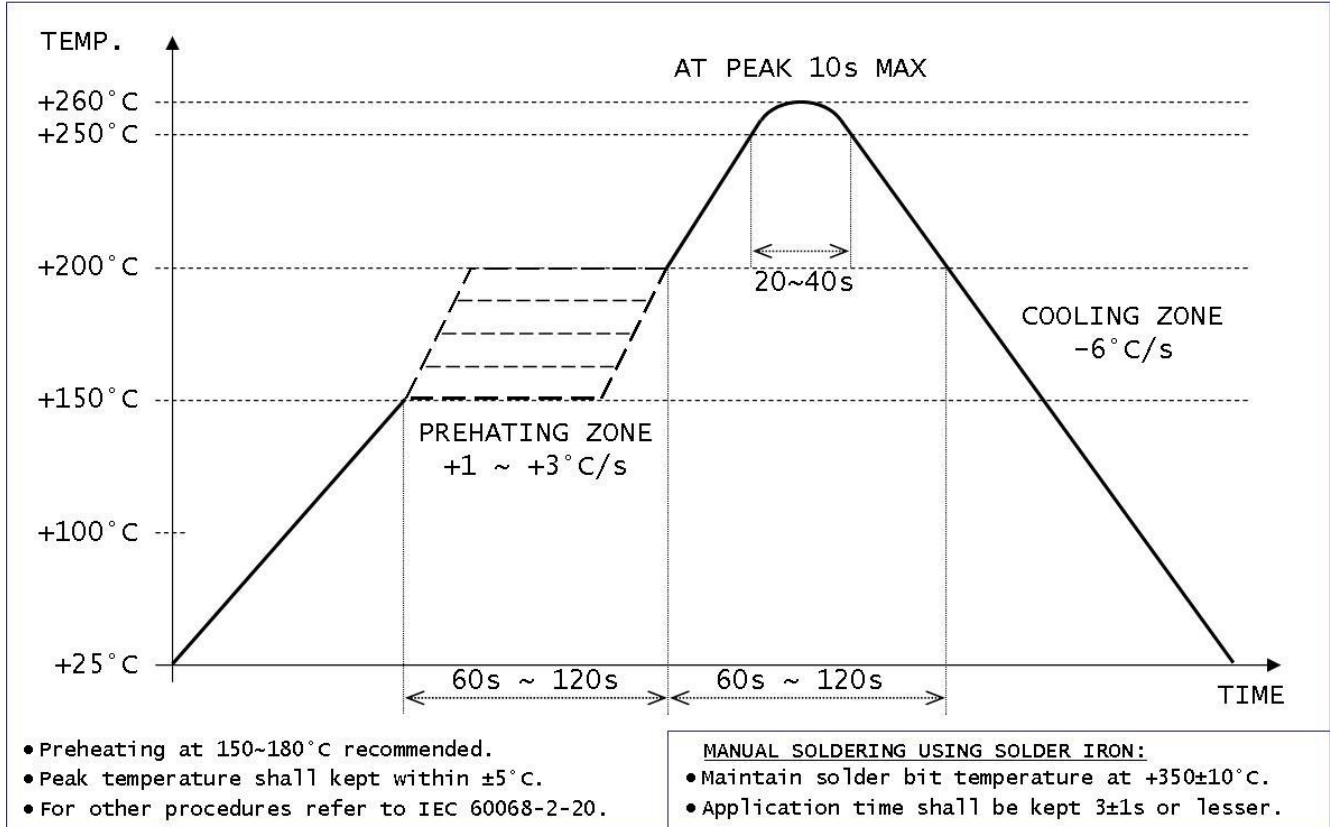


Packaging: Tape & Reel (EIA-481 compl.). QTY per reel: 3,000pcs



Recommended soldering:

RECOMMENDED REFLOW SOLDER PROFILE – PEAK TEMPERATURE UP TO +260°C



DWG_ReflowProfile_260

HCI QE 2014/10

NO SCALE

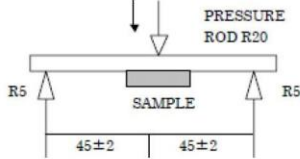
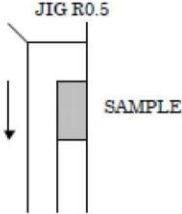
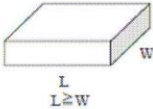
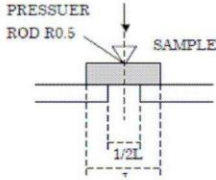
Rev.: 1

Reliability testing:

1. ENVIRONMENTAL PERFORMANCE

ITEM	CONDITION										
1. HIGH TEMPERATURE STORAGE	STORED AT 85±2°C FOR 500±12H. (If Customer's temperature request is higher than the standard, Temperature test must be done for customer requirements.) THEN 25±2°C OVER 2H BEFORE TESTING.										
2. LOW TEMPERATURE STORAGE	STORED AT -40±2°C FOR 500±12H. (If Customer's temperature request is lower than the standard, Temperature test must be done for customer requirements.) THEN 25±2°C OVER 2H BEFORE TESTING.										
3. HIGH TEMP. & HUMIDITY	STORED AT 60±2°C AND HUMIDITY 90~95% FOR 500±12 H. THEN 25±2°C OVER 2H BEFORE TESTING.										
4. TEMPERATURE CYCLE	THE CRYSTAL UNIT SHALL BE SUBJECTED TO 100 SUCCESSIVE CHANGE OF TEMPERATURE CYCLES, THEN 25±2°C OVER 2 H BEFORE TESTING, EACH CYCLE AS BELLOW : <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>TEMPERATURE</th> <th>DURATION</th> </tr> </thead> <tbody> <tr> <td>1. -40+0/-6°C</td> <td>30±3 MINUTES</td> </tr> <tr> <td>2. 25°C±2°C</td> <td>2~3 MINUTES</td> </tr> <tr> <td>3. 85+4/-0°C</td> <td>30 ±3 MINUTES</td> </tr> <tr> <td>4. 25°C±2°C</td> <td>2~3 MINUTES</td> </tr> </tbody> </table>	TEMPERATURE	DURATION	1. -40+0/-6°C	30±3 MINUTES	2. 25°C±2°C	2~3 MINUTES	3. 85+4/-0°C	30 ±3 MINUTES	4. 25°C±2°C	2~3 MINUTES
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4. 25°C±2°C	2~3 MINUTES										

2. MECHANICAL PERFORMANCE

ITEM	CONDITION
5. RESISTANCE TO SOLDERING HEAT	REFLOW CHART AS ATTACH SHEET. TWICE PASS.
6. DROP	Dumy : 150 g, Height : 180 cm, Dropped Cycle : 3 Cycle, DROP IT ONTO A CONCRETE BOARD FOR 6 DIRECTIONS (XX,YY'ZZ'). THIS SHOULD BE 1 CYCLE.
7. VIBRATION	FREQUENCY : 10~60Hz, AMPLITUDE (TOTAL EXCURSION) : 1.5mm±15%, SWEEP TIME(PERIOD) : 2~3 min, 3 DIRECTION (X, Y, Z) EACH FOR 2 Hrs.
8. FINE LEAK	HELIUM BOMBING 5.0~5.5 Kgf / cm ² FOR 2 HOURS.
9. TERMINAL STRENGTH	SHALL BE PRESSURIZED AT A SPEED OF APPROX.0.5mm/sec IN THE DIRECTION INDICATED BY THE ARROW UNTIL THE BENDING WIDTH REACHES 3mm AND HELD FOR 5 SECONDS. <div style="text-align: center;">  </div>
10. STICKING TENDENCY	A R0.5 JIG SHALL BE USED TO APPLY A 10N DEAD LOAD IN THE DIRECTION INDICATED BY THE ARROW TO THE ELEMENT AND RETAIN IT FOR 10 SECONDS. <div style="text-align: center;">  </div>
11. ELEMENT ASSEMBLY STRENGTH	A R0.5 PRESSURIZED BAR SHALL BE USED TO APPLY A 10N LOAD IN THE CENTER OF ELEMENT AND RETAIN IT FOR 10 SECONDS. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>L L ≥ W</p> </div> <div style="text-align: center;">  </div> </div>