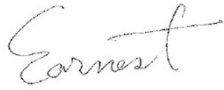



APPROVAL SHEET

Customer Name : _____
Customer P/N : _____
Frequency : 32.768000 KHz
Aker Approved P/N : D31N-032768-B-D4-03
Aker MPN : D31N-032768-B-D4-03
REVISION : A0
ISSUED DATE : 2023/2/9

APPROVED	CHECKED	PREPARED
		
APPROVED BY CUSTOMER		

AKER TECHNOLOGY CO., LTD.

ADDRESS : NO 11-3, Jianguo Rd., Tanzi Dist., Taichung City 427, Taiwan.

TEL : 886-4-25335978

FAX : 886-4-25336011

Web: www.aker.com.tw

MSL:Level 1

RoHS compliant

TUNING FORK CRYSTAL SPECIFICATION

1. ELECTRICAL CHARACTERISTICS

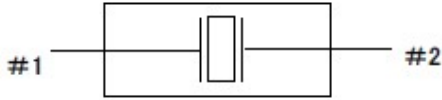
Item	Symbol	Rating	Note
Storage temperature range	T _{stg}	-55~+125°C	
Maximum drive level	DL max.	0.5 μW max.	

Item	Symbol	Rating	Note
Operating temperature range	T _{use}	-40~+85°C	
Drive level	DL	0.1 μW typ.	

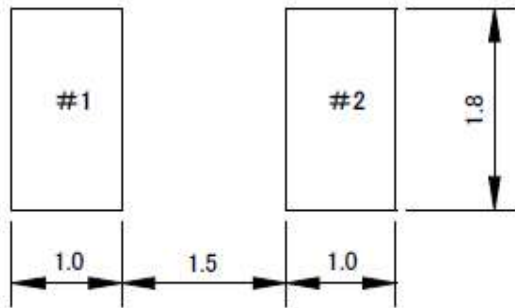
Measurement temperature :25±2°C

	Item	Symbol	Specifications	Conditions
1	Nominal frequency	f _{nom}	32.768 kHz	
2	Frequency tolerance	f _{tol}	± 20 × 10 ⁻⁶	
3	Load capacitance	C _L	9.0 pF	
4	Motional resistance	R ₁	70 kΩ max.	Measured with ATI 4192A Impedance analyzer OSC LEVEL = 0.1V
5	Motional capacitance	C ₁	3 fF typ.	
6	Shunt capacitance	C ₀	1 pF typ.	Measured with ATI 4192A Impedance analyzer OSC LEVEL = 0.1V
7	Turnover temperature	T _i	25 ± 5°C	Measure this coefficient at 3 points of 10°C, 25°C, 40°C using C-MOS circuit
8	Parabolic coefficient	B	(-3±1) × 10 ⁻⁸ /°C ²	
9	Frequency aging	f _{age}	± 3 × 10 ⁻⁶ /year	25±3°C, First year
10	Insulation resistance	IR	500 MΩ min.	Measured with ATI 4329A Insulation Resistance Meter Apply DC100V

2 . INTERNAL CONNECTION:

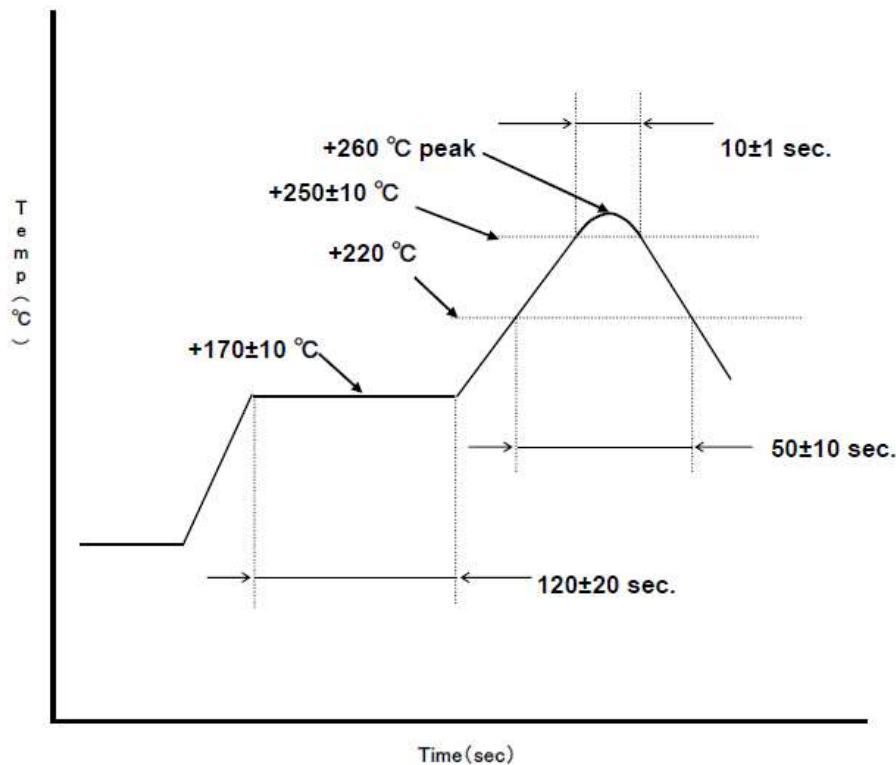


3 . RECOMMENDED SOLDERING PATTERN:(Unit : mm)

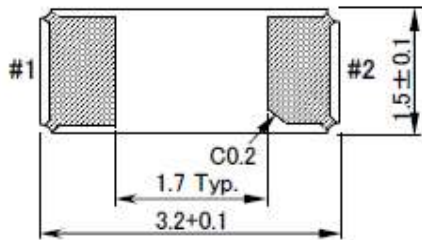
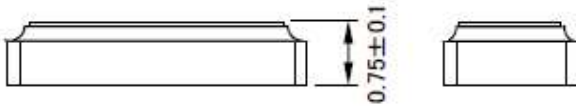
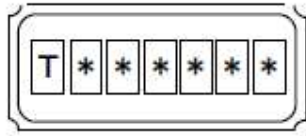


4. SOLDERING REFLOW PROFILE :

Pre-Heating temperature : +170°C Pre-Heating time : 120sec
 Heating temperature : +220°C Heating time : 50sec



5. DIMENSIONS : (Unit : mm)



T □ □ □ □ □ □
*1 *2 *3 *4 *5 *6 *7

- *1 Product name #
- *2 Type of product
- *3 Specification
- *4 CL (7pF:B, 9pF:J, 12.5pF:F)
- *5 Year of Production(Last digit of year)
- *6,7 Week of Production(01 ~ 52)