



Accurate Kinetic Energy

APPROVAL SHEET

Customer Name : 亚特联
Customer P/N :
Frequency : 32.768000 KHz
Aker Approved P/N : D31N-032768-3D1C430
Aker MPN : D31N-032768-3D1C430
REVISION : A0
ISSUED DATE : 2020/9/21

APPROVED	CHECKED	PREPARED
<i>Earnest</i>		<i>Kika</i>
APPROVED BY CUSTOMER		

AKER TECHNOLOGY CO., LTD.

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RoHS compliant



CUST. P/N	:	
Aker Approved P/N	:	D31N-032768-3D1C430
APPROVED	:	Earnest
PREPARED	:	Kiku
		SHEET : 2 of 4
		REV . : A0

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.	

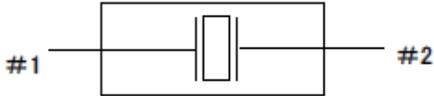
Item	Symbol	Rating	Note
Operating temperature range	T_use	-40~+85°C	
Drive level	DL	0.1 μW typ.	

Item	Symbol	Specifications	Conditions
Nominal frequency	f_nom	32.768 kHz	
Frequency tolerance	f_tol	$\pm 20 \times 10^{-6}$	
Load capacitance	C _L	12.5 pF	
Motional resistance	R ₁	70 kΩ max.	Measured with ATI 4192A Impedance analyzer OSC LEVEL = 0.1V
Motional capacitance	C ₁	3 fF typ.	
Shunt capacitance	C ₀	1 pF typ.	Measured with ATI 4192A Impedance analyzer OSC LEVEL = 0.1V
Turnover temperature	T _i	25 ± 5°C	Measure this coefficient at 3 points of 10°C, 25°C, 40°C using C-MOS circuit
Parabolic coefficient	B	$(-3 \pm 1) \times 10^{-8} / ^\circ\text{C}^2$	
Frequency aging	f_age	$\pm 3 \times 10^{-6} / \text{year}$	25±3°C, First year
Insulation resistance	IR	500 MΩ min.	Measured with ATI 4329A Insulation Resistance Meter Apply DC100V

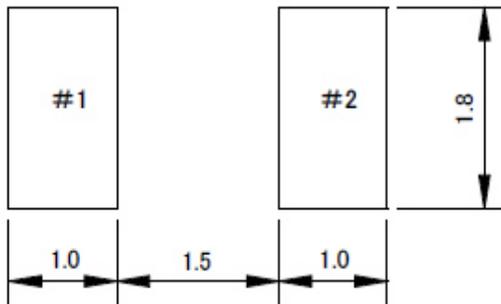
Please kindly be noted that AKER DO NOT guarantee parts quality which involves human security application.

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2 . INTERNAL CONNECTION:

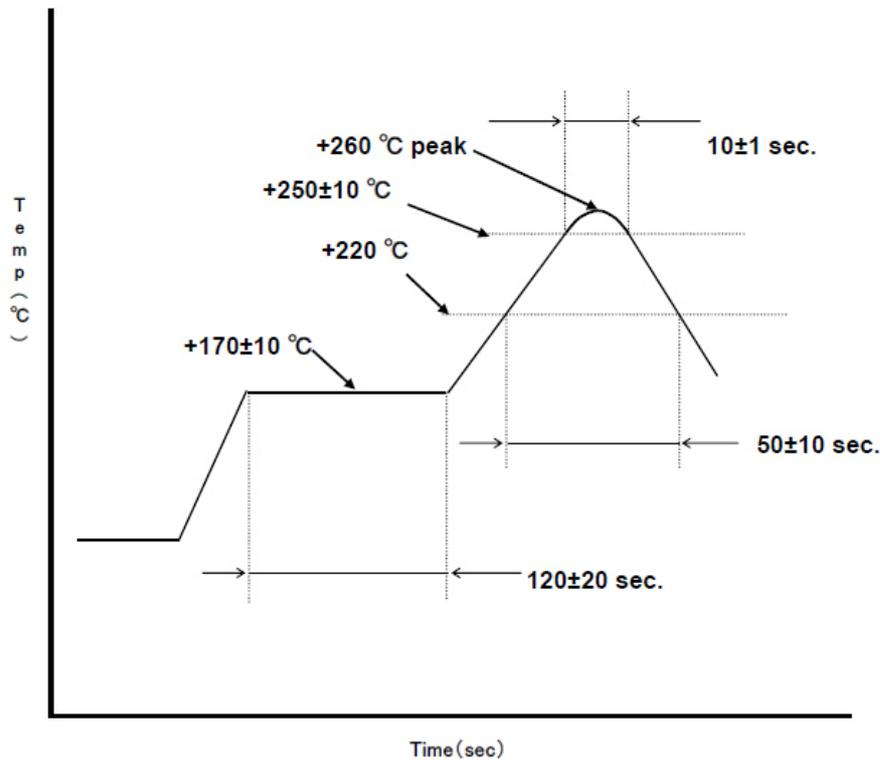


3 . RECOMMENDED SOLDERING PATTERN:(Unit : mm)



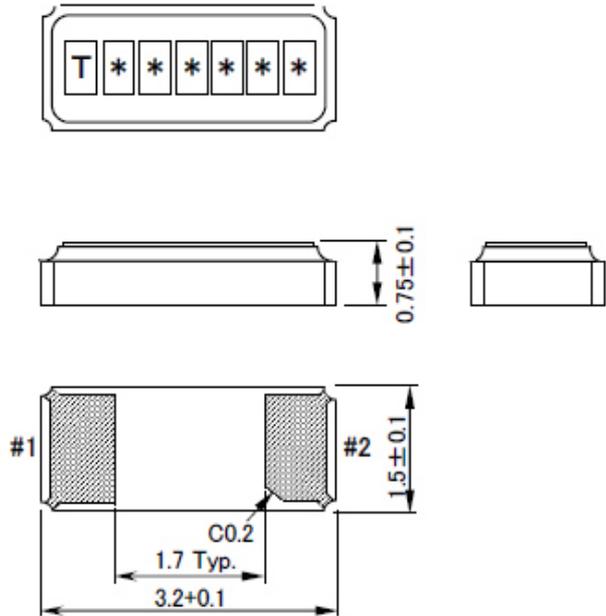
4. SOLDERING REFLOW PROFILE :

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



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	SHEET	: 4 of 4
	REV.	: A0

5 . DIMENSIONS : (Unit : mm)



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*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)

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