



APPROVAL SHEET

Customer Name : _____
Customer P/N : _____
Frequency : 32.768000 KHz
Aker Approved P/N : D31-032768-BDTD41
Aker MPN : D31-032768-BDTD41
REVISION : A0
ISSUED DATE : 2016/12/12

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	:	
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APPROVED	:	Earnest
PREPARED	:	Kiku
		SHEET : 2 of 4
		REV . : A0

TUNING FORK OSC SPECIFICATION

1. ELECTRICAL CHARACTERISTICS

Measurement temperature: 25±2°C

Item	Symbol	Specification	Condition
1	Nominal frequency	f _{nom}	32.768 kHz
2	Frequency tolerance	f _{tol}	± 20 × 10 ⁻⁶
3	Load capacitance	C _L	6.0 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 5 points of -40°C, -20°C, 25°C, 60°C, 85°C
8	Parabolic coefficient	B	(-0.03±10%) × 10 ⁻⁶ /°C ² using C-MOS circuit.
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

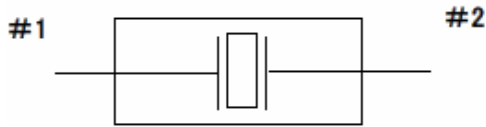
2. ENVIRONMENTAL CHARACTERISTICS :

Item	Symbol	Rating	Note
Storage temperature range	T _{stg}	-55~+125°C	
Maximum drive level	DL max.	1.0 μW max.	
Operating temperature range	T _{use}	-40~+85°C	
Drive level	DL	0.1 μW typ.	

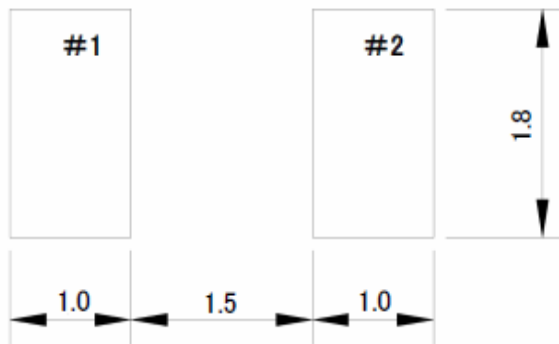
Please kindly be noted that AKER DO NOT guarantee parts quality which involves human security application.

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3 . INTEMAL CONNECTION:

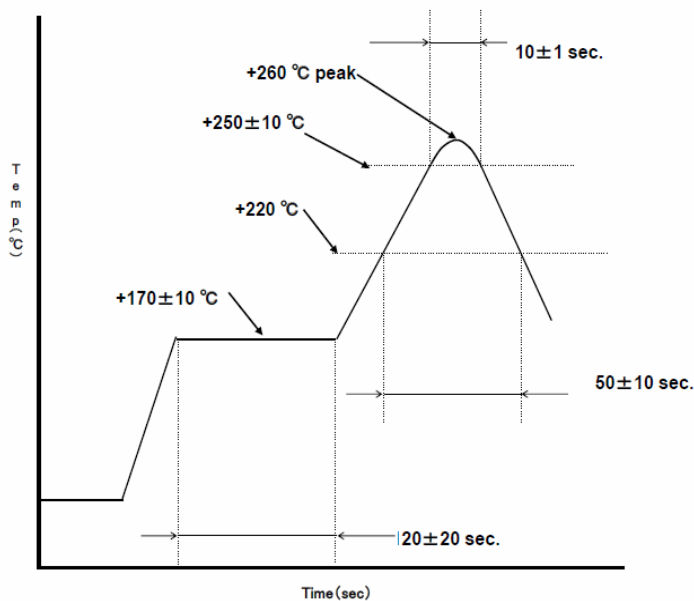


4 . RECOMMENDED SOLDERING PATTEM:



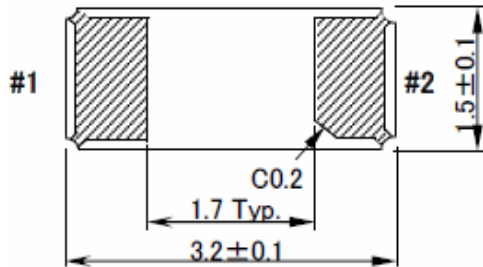
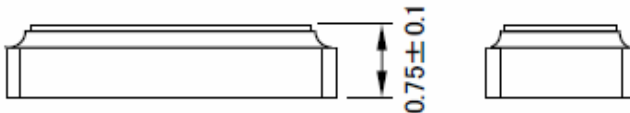
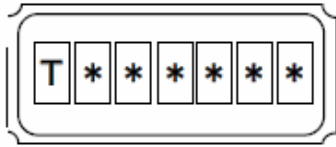
5. SOLDERING REFLOW PROFILE :

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



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6 . 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 (6pF:A, 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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