

APPROVAL SHEET

 Customer
 Name
 :

 Customer
 P/N
 :

 Frequency
 :
 32.768000
 KHz

 Aker Approved P/N
 :
 D31N-032768-B-AL-01

 Aker MPN
 :
 D31N-032768-B-AL-01

 REVISION
 :
 A0

 ISSUED DATE
 :
 2022/8/25

APPROVED	CHECKED	PREPARED				
Earnest		Kiku				
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



Aker Approved P/N:	D31N-0327		68-B-AL-01
APPROVED :		Earnest	SHEET: 1 of 4
PREPARED :		Kiku	REV . : A0
			Confidential

Rev.	Date	Reviser	Revise contents
A0	2022/8/25	Kiku	Initial Released



ker Approved	l P/N	:	D31N-0)32	2768	8-B- <i>F</i>	\L-()1
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APPROVED : Earnest SHEET : 2 of 4

PREPARED : Kiku REV . : A0

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TUNING FORK CRYSTAL SPECIFICATION

1. ELECTRICAL CHARACTERISTICS

Item	Symbol	Rating	Note
Storage temperature range	T_stg	-55~+125°C	
Maximum drive level	DL max.	1.0 μW max.	

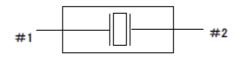
Item	Symbol	Rating	Note
Operating temperature range	T_use	-40∼+85°C	
Drive level	DL	0.1 μW typ.	

Item	Symbol	Specifications	Conditions
Nominal frequency	f_nom	32.768 kHz	
Frequency tolerance	f_tol	± 20 × 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	Ti	25 ± 5°C	Measure this coefficient at 3 points of 10°C, 25°C, 40°C using
Parabolic coefficient	В	$(-3\pm1) \times 10^{-8}$ /°C ²	C-MOS circuit
Frequency aging	f_age	± 3 × 10 ⁻⁶ /year	25±3°C,First year
Insulation resistance	IR	500 MΩ min.	Measured with ATI 4329A Insulation Resistance Meter Apply DC100V

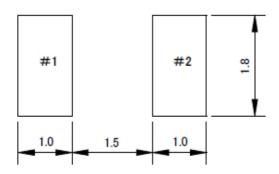


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2. INTERNAL CONNECTION:

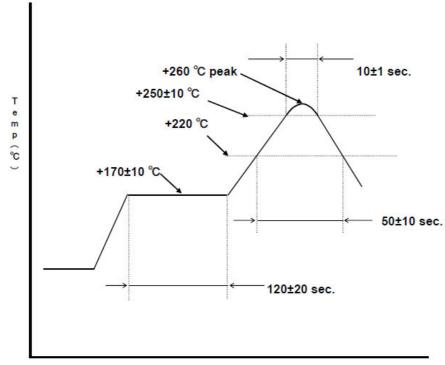


3. RECOMMENDED SOLDERING PATTERN: (Unit: mm)



4. SOLDERING REFLOW PROFILE:

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



Time(sec)

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

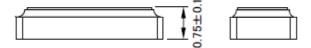


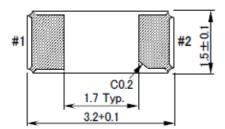
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5. DIMENSIONS: (Unit: mm)







Marking

- *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)