APPROVAL SHEET

 Customer Name :

 Customer P/N :

 Frequency : 26.000000 MHz

 Aker Approved P/N: CXAN-026000-AD12D40

 Aker MPN : CXAN-026000-AD12D40

 Rev. : 1

 ISSUE DATE : May.26.2023

APPROVED	CHECKED	PREPARED
Lei		Kiku
APPROVED BY CU	STOMER	

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RoHS compliant



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APPROVED	:	Xtal	SHEET: 1 of 9	
PREPARED	:	Kiku	REV . : 1	

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Rev.	Date	Reviser	Revise contents
1	2023/5/26	Kiku	Initial Released
	1		



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APPROVED	:	Xtal	SHEET: 2 of 9		
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SMD CRYSTAL SPECIFICATION

1. ELECTRICAL CHARACTERISTICS

■ Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurement and tests are as follow:

Ambient temperature: 25±5°C

Relative humidity : 40%~70%

If there is any doubt about the results, measurement shall be made within the following limits:

Ambient temperature: 25±3°C

Relative humidity : 40%~70%

AKER Model : CXAN-211

Oscillation Mode : Fundamental

■ Cutting Mode : AT CUT

■ Measurement Equipment : 250B(Measured FL)

■ Insulation Resistance: More than 500M ohms at DC 100V

		Electrical Spec				
Parameters	Symbol	Min.	Тур.	Max.	Units.	Notes
Nominal Frequency	FL	20	6.00000	0	MHz	
Frequency Tolerance			±20		ppm	at 25° C $\pm 3^{\circ}$ C
Frequency Stability			±20		ppm	Operating Temp (Refer 25°C)
Load Capacitance	CL	12			рF	
Aging			±3		ppm	First Year at 25°℃
Operating Temperature		-40	~	85	$^{\circ}\!\mathbb{C}$	
Storage Temperature Range		-55	~	125	$^{\circ}\!\mathbb{C}$	
Drive Level	DL	100		uW		
Equivalent Series Resistance	ESR	100		Ω	@Series	
Shunt Capacitance	C0			3	pF	

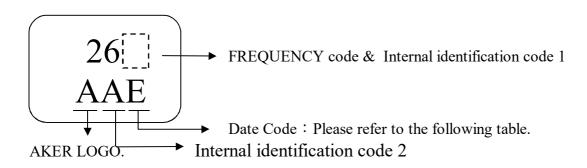
^{*}Please kindly be noted that AKER DO NOT guarantee parts quality which involves human security application.*



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(Unit:mm)

2. MARKING:

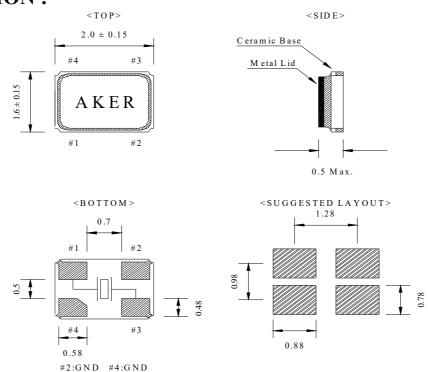


Date Code Table

	Month Year		1	2	3	4	5	6	7	8	9	10	11	12
2019	2023	(4N+3)	Α	В	С	D	Е	F	G	Н	J	K	L	М
2020	2024	(4N+0)	N	Р	Q	R	S	Т	U	V	W	Х	Υ	Z
2021	2025	(4N+1)	а	b	С	d	е	f	g	h	j	k		m
2022	2026	(4N+2)	n	р	q	r	S	t	u	٧	W	Х	У	Z

A cycle every four years

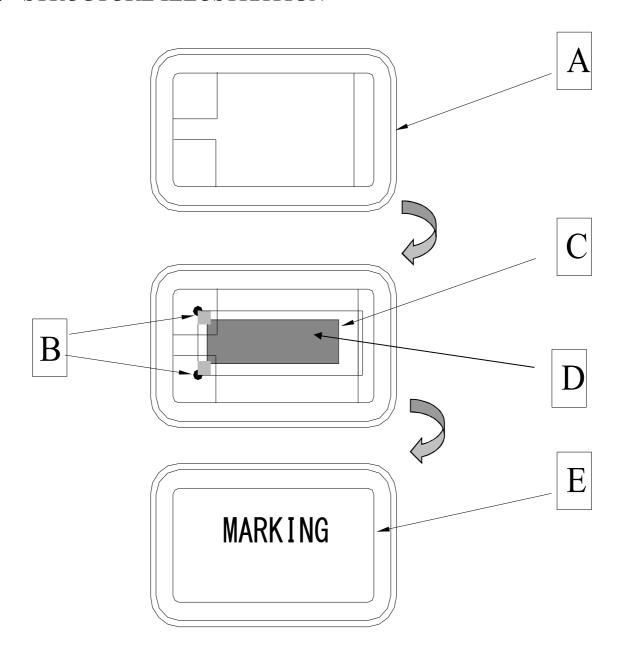
3. DIMENSION:





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4. STRUCTURE ILLUSTRATION



	COMPONENTS	MATERIALS	CO	MPONENTS	MATERIALS
A	Base (Package)	Ceramic(Al ₂ O ₃)+Kovar(Fe/Co/Ni)	D	Electrode	Cr / Ag
В	Conductive adhesive	Ag / Silicon resin	Е	Lid	Fe/Co/Ni
С	Crystal blank	SiO ₂			

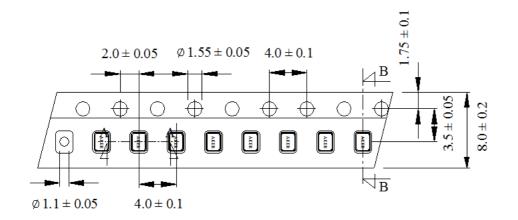


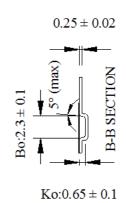
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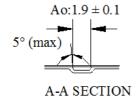
5. PACKING:

TAPE SPECIFICATION

(Unit:mm)



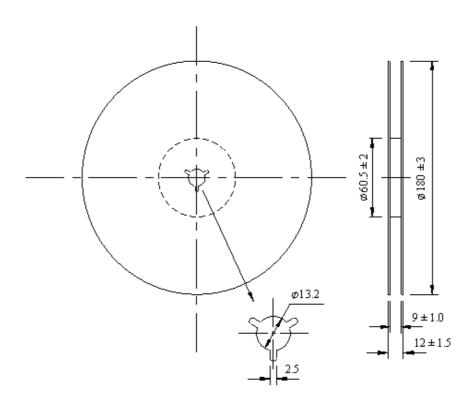




Feeding

OUTLINE DIMENSION

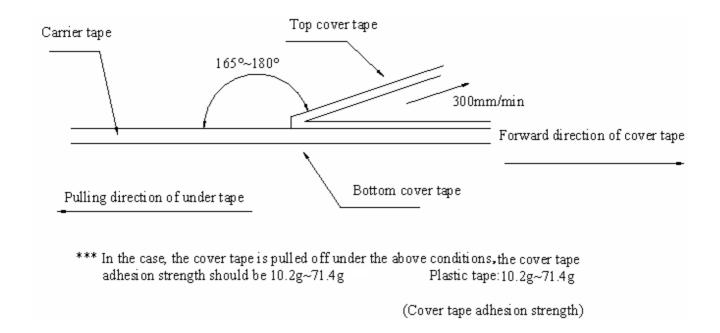
(Unit:mm)



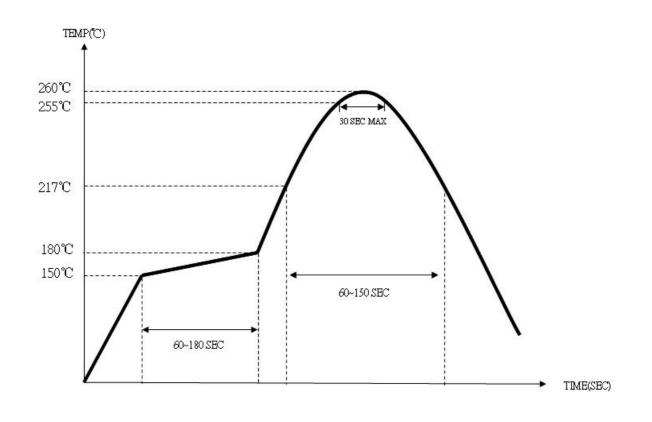


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6. COVER TAPE ADHESION STRENGTH:



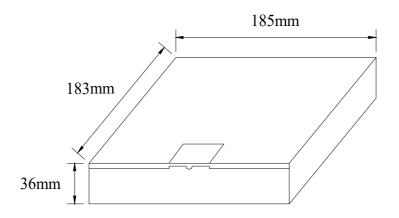
7. SOLDERING REFLOW PROFILE





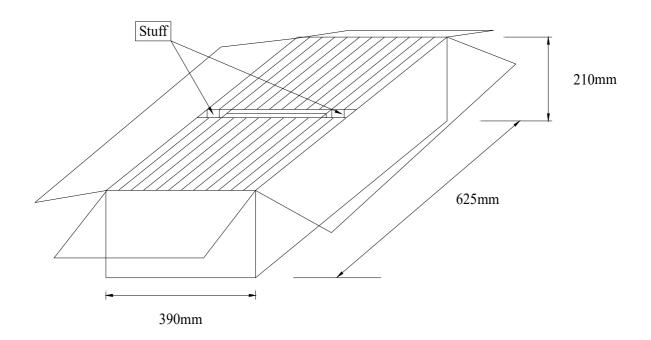
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8. PACKING:



BOX = 3000 PCS / REEL(MAX)





SMD product packs 32 BOX=The outside box packs (3000 PCS *32 BOX = 96000 PCS)(MAX)



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9. MECHANICAL PERFORMANCE

9. MECHANICAL PERFURMANCE					
TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE			
9.1 Drop Test	The specimen is measured for its frequency and resistance before the test. It is then dropped from a hight of 75 cm or more as a free fall object onto a hard wooden plate of 30mm or more in thickness. (in accordance with JIS-C0044)				
9.2 Vibration Test	The specimen is measured for its frequency and resistance before the test. Most them into X,Y and Z axes, respectively, for the vibration test. Vibration condition: Frequency range; 20~2000HZ Peak to peak amplitude: 1.52 mm Peak acceleration: 20G Sweep time: 20 minute / axis Pendicular total test time: 4 hours	To satisfy the electrical performance.			
9.3 Resistance to Soldering Test	(in accordance with MIL-STD-883F: 2007.3) The specimen is measured for its frequency and resistance before the test. Place the specimen on the belt of the converynace and let it pass through the reflow with the presetted temperature condition. After passing twice the reflow place, the specimen under the referee condition for -~2 hours and then measure its electrical performance. Temperature Condition of IR Simulation: The temperature range of the preheated section is setted at 150~180°C for 60~120 sec. For the next section the temperature range is setted at 217~260°C for 45~90 sec. and within this time range the specimen should be able to sustain at the peak temperature, 260+/-3°C, for 10 sec long. (in accordance with JESD22-B106-B)				
9.4 Fine Leak Test	Place the specimen in a pressurized container and pressurize it with the detection gas (mixed gas consisting of 95% or more helium) for at least 2 hours. Complete the measurement of the concentration of helium within 30 min after taking it out from the pressurized container. (in accordance with MIL-STD-883F: 1014.11) The referee condition.	Less than 1.0 * 10 ⁻⁸ atm .c.c. / sec, Helium			
	The referee condition. Temperature $25 \pm 2 ^{\circ}C$ Humidity $44 \sim 55 ^{\circ}M$ Pressure $86 \sim 106 \text{ kPa}$ (in accordance with MIL-STD-883E : 1014. 9)				



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10. CLIMATIC RESISTANCE

	TE RESISTANCE	
TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE
10.1 Low Temp Exposure Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the chamber and kept it at the temperature of - $40 \pm 3^{\circ}$ C for 168 ± 6 hours . Take the specimen out of the chamber and measure itselectrical performance after leaving $1 \sim 2$ hours under the referee condition. (in accordance with JIS-C0020)	
10.2 Aging Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and keep it at the temperature of $+125 \pm 3^{\circ}\mathbb{C}$ for 720 ± 48 hours. And then take the specimen out of the chamber and measure its electrical performance after leaving for $1 \sim 2$ hours under the referee condition . (in accordance with JIS-C0021)	To satisfy the electrical performance.
10.3 High Temperature & High Humidty	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and kept it at the temperature of $+85 \pm 5$ °C and humidity of 85 ± 5 % for 168 ± 6 hours and then take the specimen out and measure its electrical performance after leaving for $1 \sim 2$ hours under the referee condition. (in accordance with MIL-STD-883F : 1004.7)	
10.4 Temperature Cycle Test	The specimen is measured for its frequency and resistance before the test . Subject the specimen to the 100 cycles of temperature ranges stated below . High temp . + 125 ± 3 °C (15 ± 3 min).	

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