Accurate Kinetic Energy

No.11-3 Jianguo Rd., T.E.P.Z. 42760 Taiwan, ROC

All dimensions are millimeters.

CAD:	TCR	
Review:	EG	
Appr:	JL	
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Specification Title:

Microprocessor Crystal Unit
Low Profile
2.0 x 1.6 millimeter Surface Mount - 4 Pad
General Product Specification

Series Name: C1E Series

Electrical Specifications:

Frequency Range		**16.000 to 96.000**	**MHz**
Mode of Oscillation	**Fundamental**	**16.000 to 96.000**	**MHz**
Frequency Tolerance at 25°C	**Standard**	**±30**	**PPM Max (Note 1)**
	Optional	**±50**	
		±20	
		±15	
		±10	
Frequency Stability over Temperature Range	**Standard**	**±50**	**PPM Max (Note 1)**
	Optional	**±100**	
		±30	
		±25	
		±20	
		±15	
Operating Temperature Range	**Standard**	**-20 to +70**	℃
	Optional	**-40 to +85**	
	Optional	**-40 to +105**	
	Optional	**-40 to +125**	
Storage Temperature Range		**-55 to +125**	
Aging		**±3**	**PPM Max/Year**
Load Capacitance		**6 to 47 and Series Resonance**	**pF**
Shunt Capacitance		**3.0**	
Equivalent Series Resistance(ESR)		**See ESR Table**	**Ohm**
Drive Level		**100**	**uW Max**
Insulation Resistance		**500 at 100 Vdc ± 15 Vdc**	**M Ohm**

Frequency Range and ESR Values:

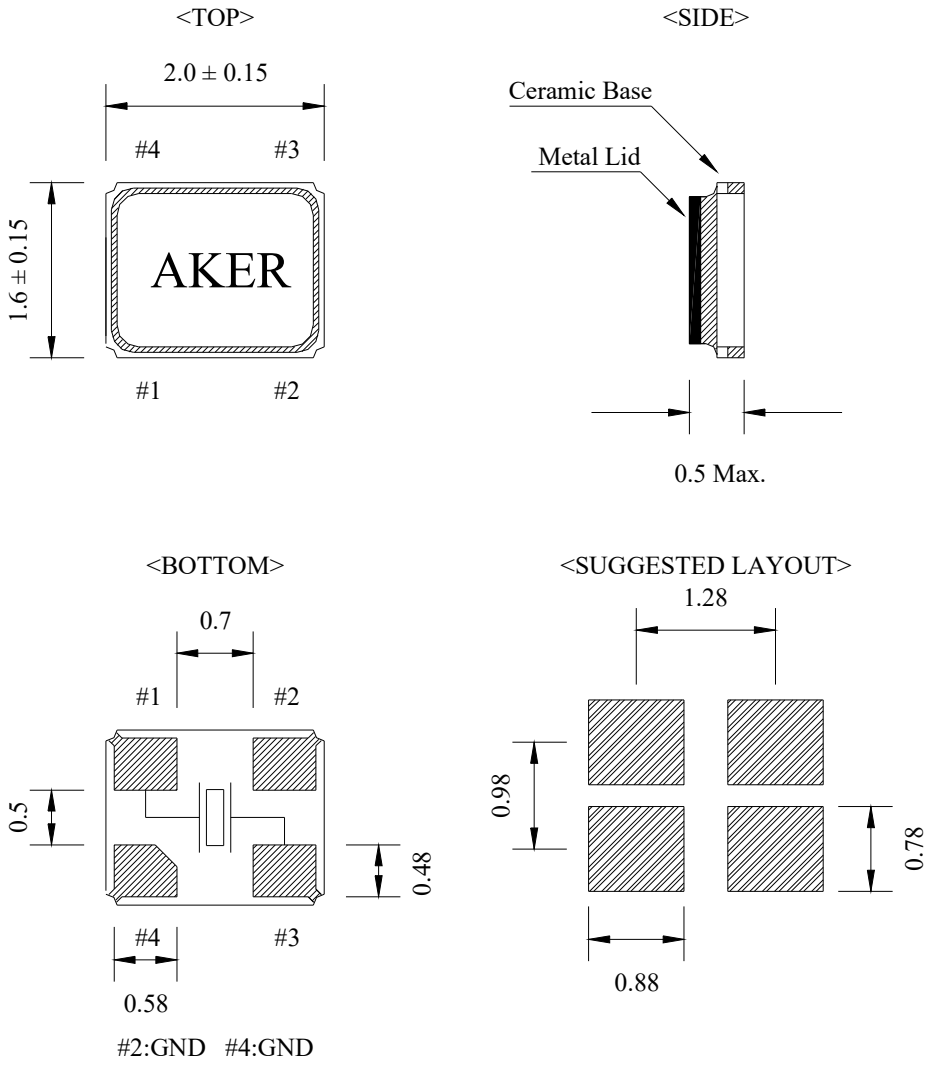
Frequency Range in MHz	ESR Ohm Max	Mode of Operation
16.000 to 19.199	200	Fundamental
19.200 to 21.999	100	Fundamental
22.000 to 35.999	80	Fundamental
36.000 to 96.000	60	Fundamental

RoHS Compliant
Pb - Lead Free

Ltr	Revisions	Date	Appr

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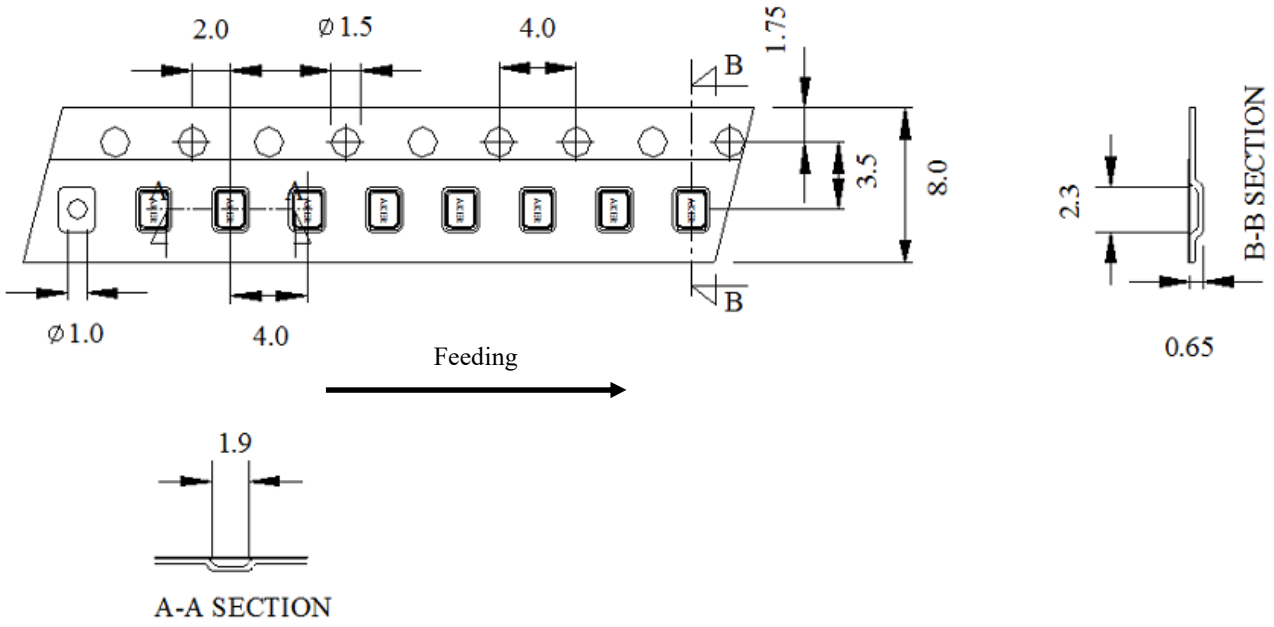
Mechanical Outline:



Package is Seam Sealed Ceramic-Metal.
Dimensions are millimeters.

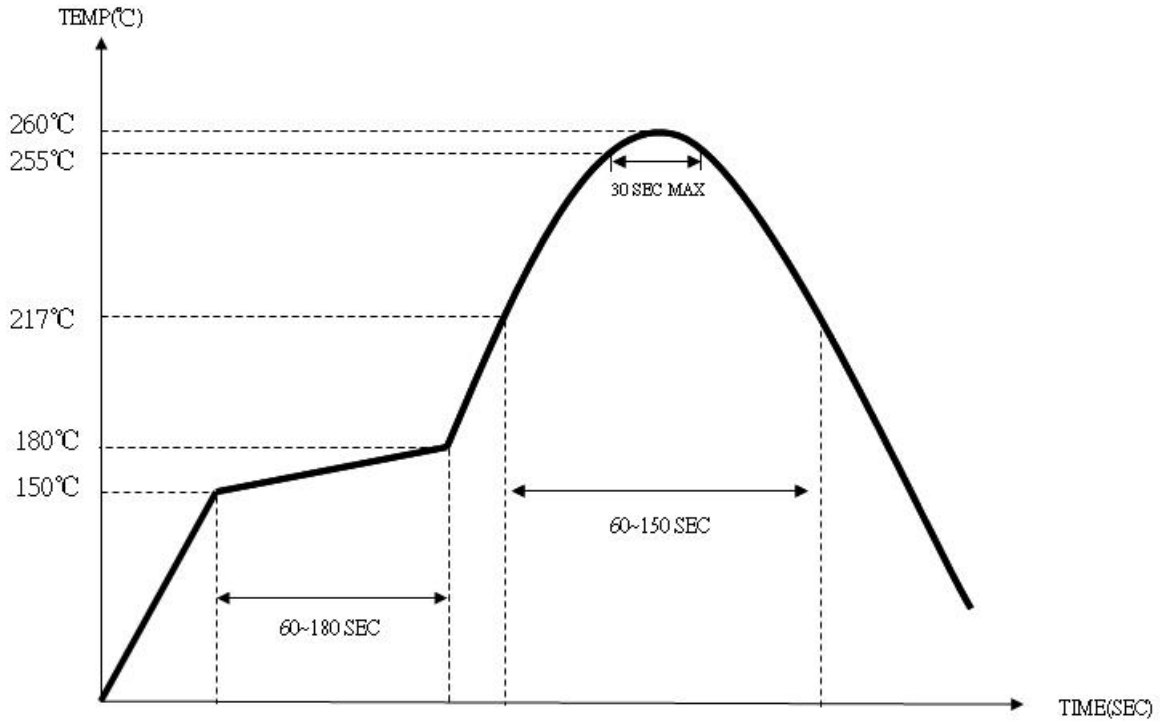
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Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



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How to build a Part Number:

Series		C	Parameter
Package		1E	2.0 x 1.6 mm - 4 Pad
		-	
Frequency		16.000 to 96.000	MHz
		-	
Load Capacitance		7	7pF
		10	10 pF
		12	12 pF
		16	16 pF
		18	18 pF
		20	20 pF
		32	32 pF
		S	Series
		-	
Frequency Tolerance (Note 1)	Standard	30	±30PPM
	Option	25	±25PPM
		20	±20PPM
		15	±15PPM
		10	±10PPM
Frequency Stability (Note 1)	Standard	50	±50PPM
	Option	30	±30PPM
		25	±25PPM
		20	±20PPM
		15	±15PPM
		-	
Temperature Range	Standard	See Notes	-20 to +70 ℃
	Option	X	-40 to +85 ℃
	Option	X1	-40 to +125 ℃
	Option	X2	-40 to +105 ℃
		-	
Packaging		M	250pcs Reel
		R	1000pcs Reel
		R3	3000pcs Reel

Part Number Example:
C1E-50.000-10-3050-R3
C1E- 2.0 x 1.6 mm SMD Seam Seal Crystal Unit - 4 Pad
50.000 MHz Nominal Frequency
10 pF Load Capacitance
3050: ±30 PPM Frequency Tolerance and ±50 PPM Frequency Stability
Fundamental Mode
-20 to +70℃ Temperature Range
R3: Tape and Reel Packaging - 3000pcs

Notes:
1- Frequency Tolerance and Stability options are limited due to physical size.
*** ±10 PPM Temperature Stability is only available from -30 to +85° C.**
2- Standard Temperature Range does not need to be included in Part Number description.
3- Product is shipped in Tape and Reel configuration.
4- Quantities less than 250pcs are shipped in tape only.
5- Specification subject to change without notice.

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