



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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Date:	August 01, 2024

Specification Title:

**Microprocessor Crystal Unit
Low Profile
1.2 x 1.0 millimeter Surface Mount - 4 Pad
General Product Specification**

Series Name: C12 Series

Electrical Specifications:

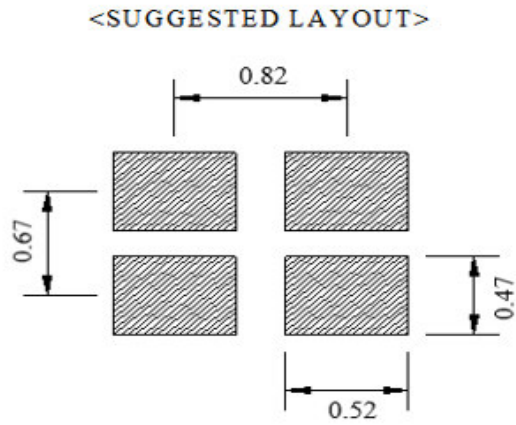
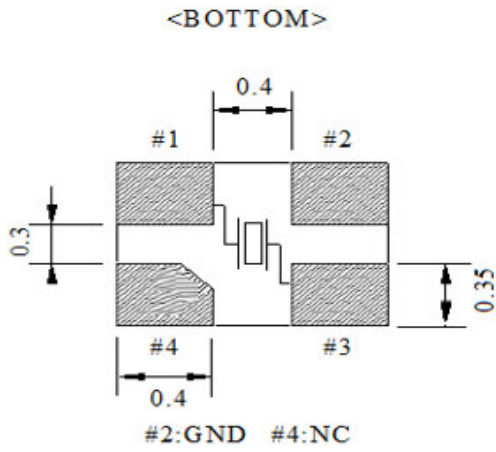
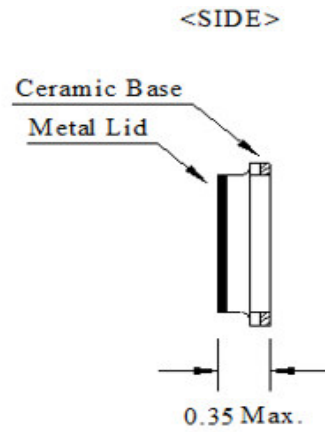
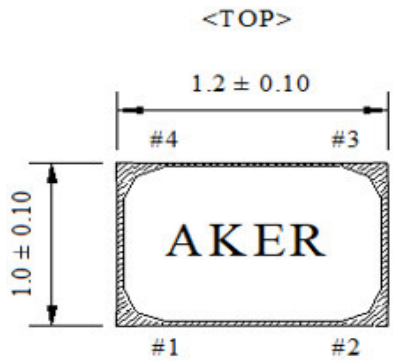
Frequency Range		32.000 to 80.000	MHz
Mode of Oscillation	Fundamental	32.000 to 80.000	MHz
Frequency Tolerance at 25°C	Standard	±30	PPM Max (Note 1)
	Optional	±50	
		±20	
		±15	
		±10	
Frequency Stability over Temperature Range	Standard	±50	PPM Max (Note 1)
	Optional	±100	
		±30	
		±25	
		±20	
Operating Temperature Range	Standard	-20 to +70	°C
	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
32.000 to 40.000	150	Fundamental
40.001 to 60.000	100	Fundamental
61.001 to 80.000	80	Fundamental

RoHS Compliant Pb - Lead Free	Ltr	Revisions	Date	Appr

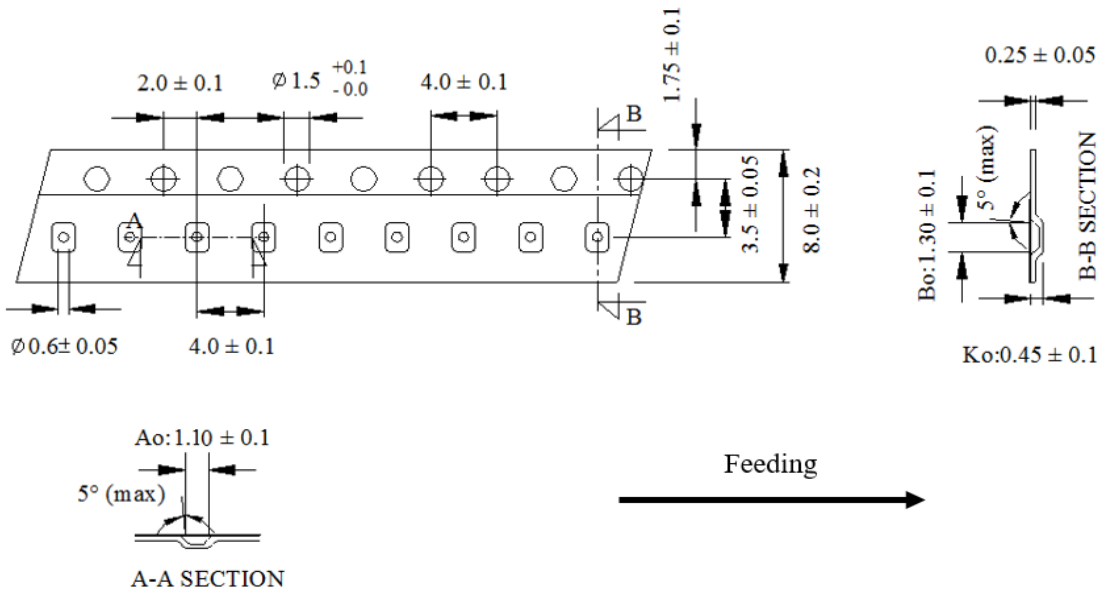
Mechanical Outline:



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

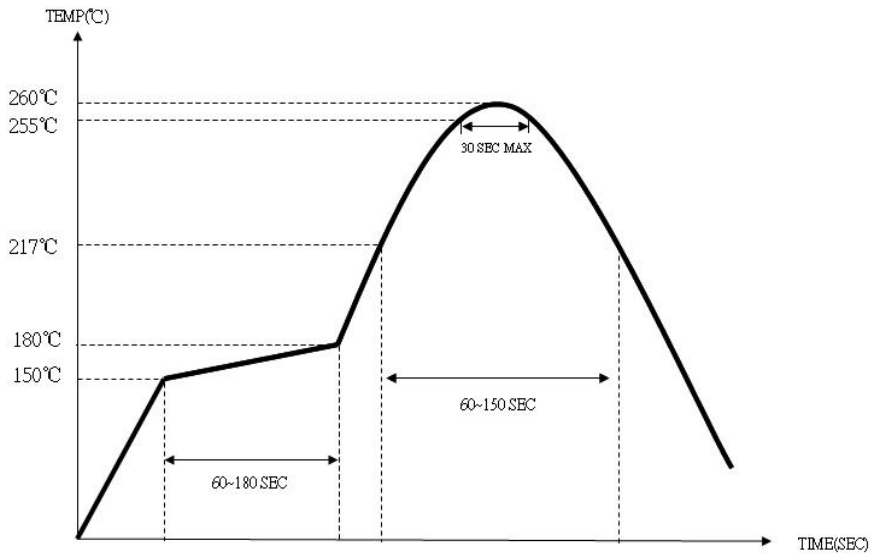
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Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series		C	Parameter
Package		12	1.2 x 1.0 mm - 4 Pad
-			
Frequency		32.000 to 80.000	MHz
-			
Load Capacitance	6		6pF
	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	100	±100PPM
		30	±30PPM
		25	±25PPM
		20	±20PPM
		15	±15PPM
-			
Temperature Range	Standard	See Notes	-20 to +70 °C
	Option	X	-40 to +85 °C
	Option	X1	-40 to +125 °C
	Option	X2	-40 to +105 °C
-			
Packaging	M		250pcs Reel
	R		1000pcs Reel
	R3		3000pcs Reel

Part Number Example:

C12-40.000-10-3030-X-R

C12- 1.2 x 1.0 mm SMD Seam Seal Crystal Unit - 4 Pad

40.000 MHz Nominal Frequency

10 pF Load Capacitance

3030: ±30 PPM Frequency Tolerance and ±30 PPM Frequency Stability

X: -40 to +85°C Temperature Range

R: Tape and Reel Packaging - 1000pcs

Notes:

- 1- Frequency Tolerance and Stability options are limited due to physical size.
- 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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