



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

All dimensions are millimeters.

CAD:	TCR
Review:	EG
Appr:	JL
Page:	1/4
Date:	May 17, 2023

Specification Title:

**Quartz Crystal
Surface Mount
HC-49/U-S SMD 4 pad Package
General Product Specification**

Series Name: CA4 Series

Electrical Specifications:

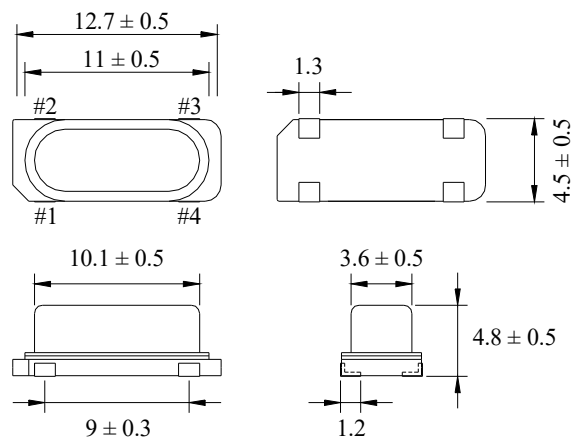
Frequency Range		4.000 to 50.000	MHz
Mode of Oscillation	Fundamental	4.000 to 36.000	MHz
	Third Overtone	24.000 to 50.000	
Frequency Tolerance at 25°C	Standard	±30	PPM Max
	Optional	±25	
		±20	
		±15	
		±10	
Frequency Stability over Temperature Range	Standard	±30	PPM Max
	Optional	±100	
		±50	
		±25	
		±20	
		±15	
Operating Temperature Range	Standard	-20 to +70	°C
	Extended	-40 to +85	
Storage Temperature Range		-55 to +125	
Aging		±5	PPM Max/Year
Load Capacitance		6 to 47 and Series Resonance	pF
Shunt Capacitance		7.0	pF Max
Equivalent Series Resistance(ESR)		See ESR Table	Ohms
Drive Level		100	mW Max
Insulation Resistance		500 at 100 Vdc ± 15 Vdc	M Ohm

Frequency Range and ESR Values:

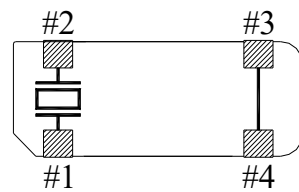
Frequency Range in MHz	ESR Ohm Max	Mode of Operation	Frequency Range in MHz	ESR Ohm Max	Mode of Operation
4.000 to 4.999	80	Fundamental	24.000 to 29.999	100	Third Overtone
5.000 to 5.999	80	Fundamental	30.000 to 39.999	100	Third Overtone
6.000 to 7.999	50	Fundamental	40.000 to 50.000	50	Third Overtone
8.000 to 15.999	40	Fundamental			
16.000 to 36.000	30	Fundamental			

RoHS Compliant Pb - Lead Free	Ltr	Revisions	Date	Appr

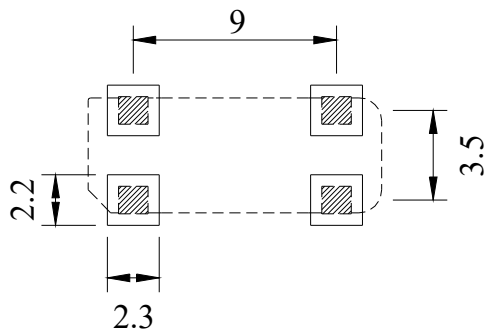
Mechanical Outline:



PAD CONNECTION



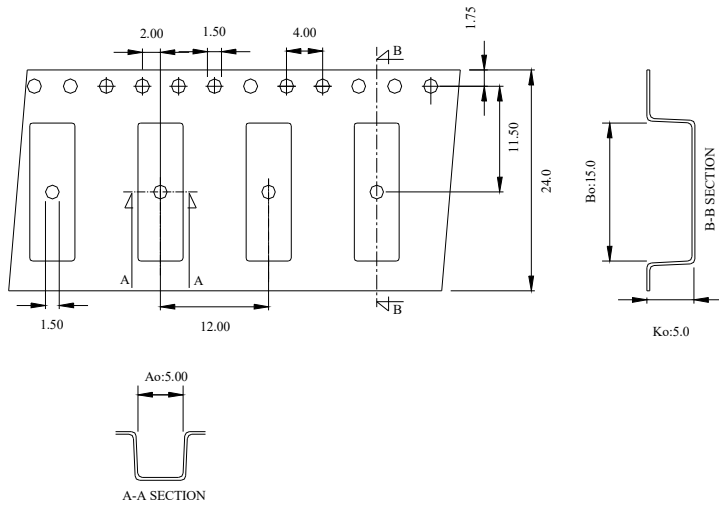
SUGGESTED LAND PATTERN :



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

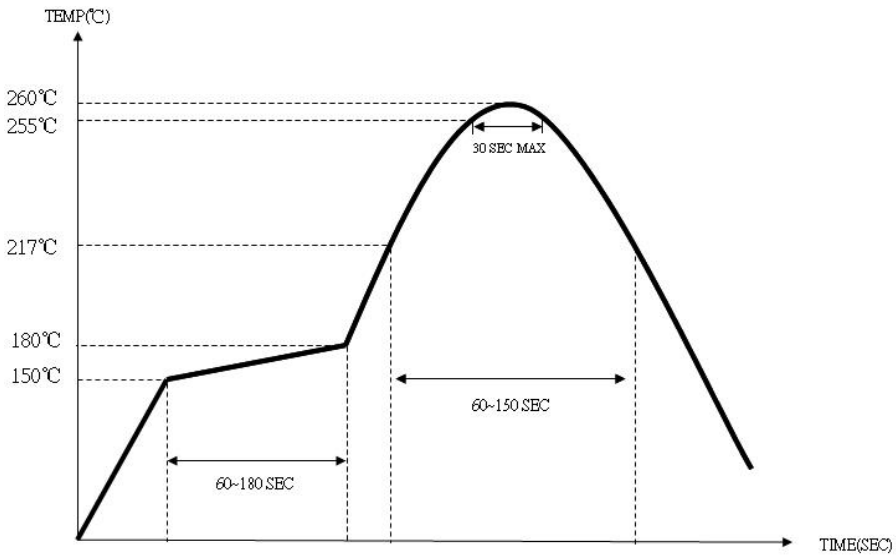
Page:	2/4	Date: May 17, 2023	P/N:	CA4 Series	
-------	-----	--------------------	------	-------------------	--

Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series		C	Parameter
Package		A4	HC-49/U-S SMD 4 pad
		-	
Frequency		4.000 to 50.000	MHz
		-	
Load Capacitance		10	10 pF
		12	12 pF
		16	16 pF
		18	18 pF
		20	20 pF
		32	32 pF
		S	Series
		-	
Frequency Tolerance	Standard	30	±30PPM
	Option	25	±25PPM
		20	±20PPM
		15	±15PPM
		10	±10PPM
Frequency Stability	Standard	30	±30PPM
	Option	100	±100PPM
		50	±50PPM
		25	±25PPM
		20	±20PPM
		15	±15PPM
	10	±10PPM*	
		-	
Mode of Oscillation		See Notes	Fundamental
		3	Third Overtone
		-	
Temperature Range	Standard	See Notes	-20 to +70 °C
	Option	X	-40 to +85 °C
		-	
Package Height	Standard	See Notes	5.3
	Option	4	4
		-	
Packaging		See Notes	Bulk
		R	Tape and Reel

Part Number Example:

CA4-24.000-18-3050-R

CA4: HC-49/U-S SMD 4 Pad Package

24.000 MHz Nominal Frequency

18pF Load Capacitance

3050: ±30 PPM Tolerance and ±50 PPM Stability

Fundamental Mode

-20 to +70°C Temperature Range

Standard Height - 5.3 mm

R: Tape and Reel Packaging

Notes:

- 1- Standard Temperature Range, Package Height (5.3mm), and Fundamental Mode do not need to be included in Part Number description.**
- 2- Product is shipped in Tape and Reel configuration. Each reel contains 1000 pieces.**
- 3- Quantities less than 1000 are shipped bulk. 100 pieces in ESD bags.**
- 4- Specification subject to change without notice.**

Page:	4/4	Date: May 17, 2023	P/N:	CA4 Series
-------	-----	--------------------	------	-------------------