

RoHS Compliant Pb - Lead Free	Ltr	Revisions	Date	Appr

Electrical Specifications:

Frequency Range		12.000 to 52.000	MHz
Mode of Oscillation	Fundamental	12.000 to 52.000	MHz
Frequency Tolerance at 25°C	Standard	±30	PPM Max
	Optional	±25	
		±20	
		±15	
		±10	
Frequency Stability over Temperature Range	Standard	±50	PPM Max
	Optional	±30	
		±25	
		±20	
		±15	
Operating Temperature Range	Standard	-10 to +70	°C
	Extended	-40 to +85	
Storage Temperature Range		-55 to +125	
Aging		±3	PPM Max/Year
Load Capacitance		10 to 32 and Series Resonance	pF
Shunt Capacitance		5.0	
Equivalent Series Resistance(ESR)		See ESR Table	Ohm
Drive Level		100	uW Typ
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
12.000 to 19.999	50	Fundamental
20.000 to 29.999	40	Fundamental
30.000 to 52.000	30	Fundamental



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

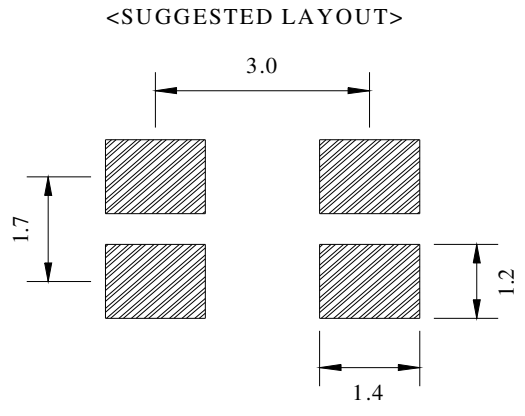
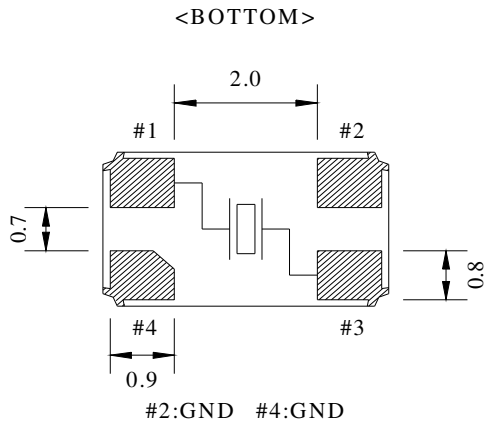
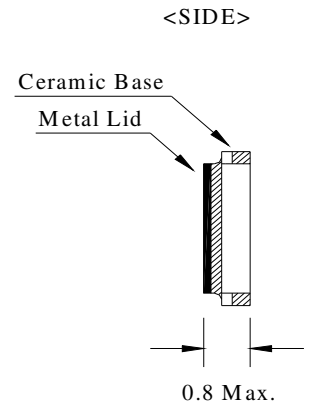
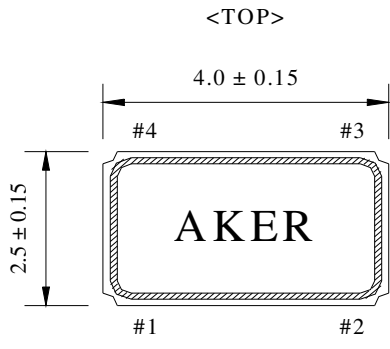
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Specification Title:

**Microprocessor Crystal Unit
Low Profile
2.5 x 4.0 millimeter Surface Mount
General Product Specification**

Part Number: C4S Series

Mechanical Outline:



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

How to build a Part Number:

Series		C	Parameter
Package		4S	4.0 x 2.5 mm
-			
Frequency		12.000 to 52.000	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	50	±50PPM
	Option	30	±30PPM
		25	±25PPM
		20	±20PPM
		15	±15PPM
		10	±10PPM*
-			
Mode of Oscillation		See Notes	Fundamental
-			
Temperature Range	Standard	See Notes	-10 to +70 °C
	Option	X	-40 to +85 °C
-			
Packaging		R	Tape and Reel

Part Number Example:

C4S-16.000-32-3050-R
C4S- 2.5 x 4.0 mm SMD Seam Seal Ceramic-Metal Package
16.000 MHz Nominal Frequency
32 pF Load Capacitance
3050: ±30 PPM Frequency Tolerance and ±50 PPM Frequency
Stability Fundamental Mode
-10 to +70° C Temperature Range
R: Tape and Reel Packaging

Notes:

- 1- Fundamental mode does not need to be included in Part Number description.
 * ±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. Each reel contains 1000 pieces.
- 4- Quantities less than 1000 are shipped bulk in ESD pouches.
- 5- Specification subject to change without notice

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