

PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR123/U

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and [MIL-PRF-3098](#).

Pertinent characteristics: 50 MHz to 125 MHz; fifth mechanical overtone; controlled; series resonance.

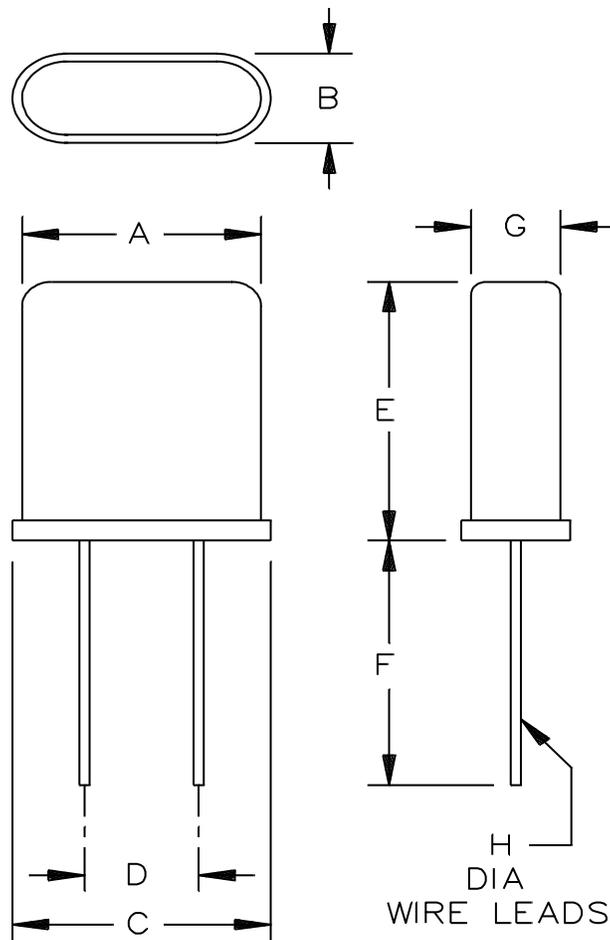


FIGURE 1. Crystal unit - CR123/U.

MIL-PRF-3098/100E

Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.402	---	10.21
B	---	.183	---	4.65
C	---	.435	---	11.05
D	.184	.200	4.67	5.08
E	---	.530	---	13.46
F	.50	---	12.7	---
G	---	.150	---	3.81
H	.015	.019	0.38	0.48

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking to be in accordance with [MIL-PRF-3098](#).

FIGURE 1. Type CR123/U, crystal unit - Continued.

REQUIREMENTS:

Dimensions, marking, and configuration: See [figure 1](#).

Frequency range: 50 MHz to 125 MHz, inclusive.

Capacitance, shunt: 4.5 pF, maximum.

Frequency tolerances:

Operating temperature range: ± 10 ppm.

Reference temperature: ± 10 ppm.

Room temperature: ± 80 ppm.

Frequency stability: ± 2.5 ppm.

Mode of oscillation: Fifth mechanical overtone.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Reference temperature: $+85^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

Temperature ranges:

Operating (controlled): $+80^{\circ}\text{C}$ to $+90^{\circ}\text{C}$, inclusive.

Operable: -55°C to $+80^{\circ}\text{C}$ and $+90^{\circ}\text{C}$ to $+100^{\circ}\text{C}$.

Equivalent resistance: 60 ohms, maximum.

Unwanted modes: Minimum unwanted mode effective resistance of 120 ohms or an unwanted to main mode resistance ratio of 3:1, whichever is greater.

Shock (specified pulse):

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 10 percent.

Vibration: [Method 204](#), [MIL-STD-202](#), test condition A; 0.06 inch double amplitude or 5 gravity units, whichever is less.

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 10 percent.

Thermal shock: ± 10 ppm.

Aging:

Frequency change permitted: ± 5 ppm.

Reference documents. In addition to [MIL-PRF-3098](#), this document references the following:

[MIL-STD-202](#)

MIL-PRF-3098/100E

The margins of this specification sheet are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Air Force - 84, 99

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NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.