

PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR111/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: 17 MHz to 62 MHz; third mechanical overtone; noncontrolled; series resonance.

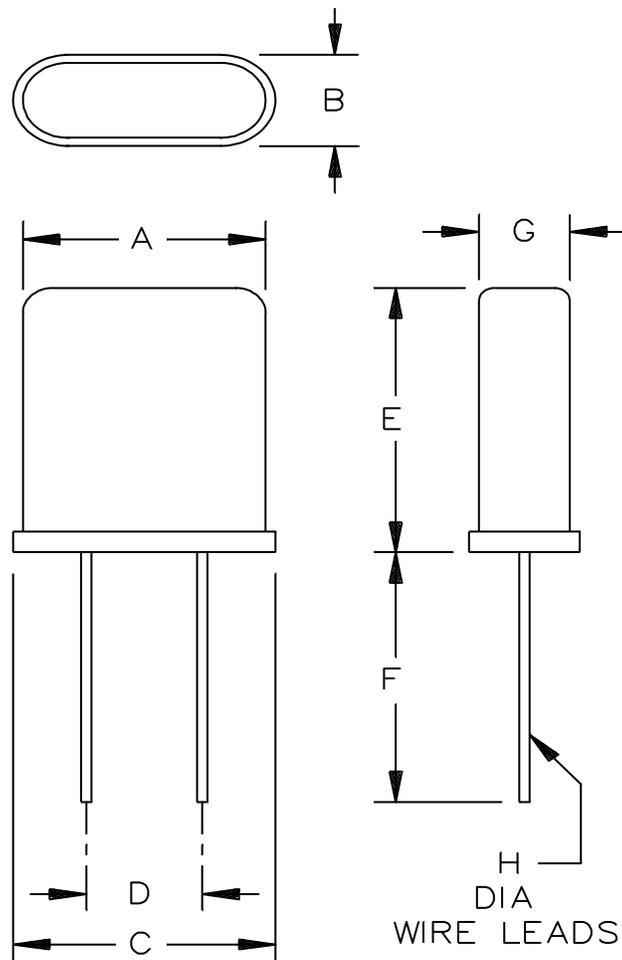


FIGURE 1. Crystal unit - CR111/U.

MIL-PRF-3098/87G

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 CR111/U, crystal unit - Continued.

REQUIREMENTS:

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

Frequency range: 17 MHz to 62 MHz, inclusive.

Capacitance, shunt: 4 pF, maximum.

Mode of oscillation: Third mechanical overtone.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Reference temperature: $+30^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

Operating temperature range (noncontrolled): -55°C to $+105^{\circ}\text{C}$, inclusive.

Frequency tolerances:

Operating temperature range: ± 50 ppm.

Reference temperature: ± 15 ppm.

Equivalent resistance: 40 ohms, maximum.

Shock (specified pulse): [Method 213, MIL-STD-202](#), with the following exceptions: 18 impact shocks of 5 gravity units each, time duration 11 milliseconds ± 1 millisecond. Three shocks shall be applied in each direction along each of three mutually perpendicular planes.

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 15 percent or 2 ohms, whichever is greater.

Vibration: [Method 204, MIL-STD-202](#), test condition A; 0.03 inch double amplitude or 5 gravity units, whichever is less.

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 15 percent or 2 ohms, whichever is greater.

Thermal shock:

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 15 percent or 2 ohms, whichever is greater.

Aging:

Frequency change permitted: ± 5 ppm.

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

[MIL-STD-202](#)

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.

MIL-PRF-3098/87G

Custodians:

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

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Air Force - 84, 99

(Project 5955-2012-008)

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>.