

INCH-POUND
MIL-PRF-3098/90C
7 August 2009
SUPERSEDING
MIL-PRF-3098/90B
17 May 2004

PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR114/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 sheet and [MIL-PRF-3098](#).

Pertinent characteristics: 2.9 MHz to 3.85 MHz; fundamental; noncontrolled; series resonance.

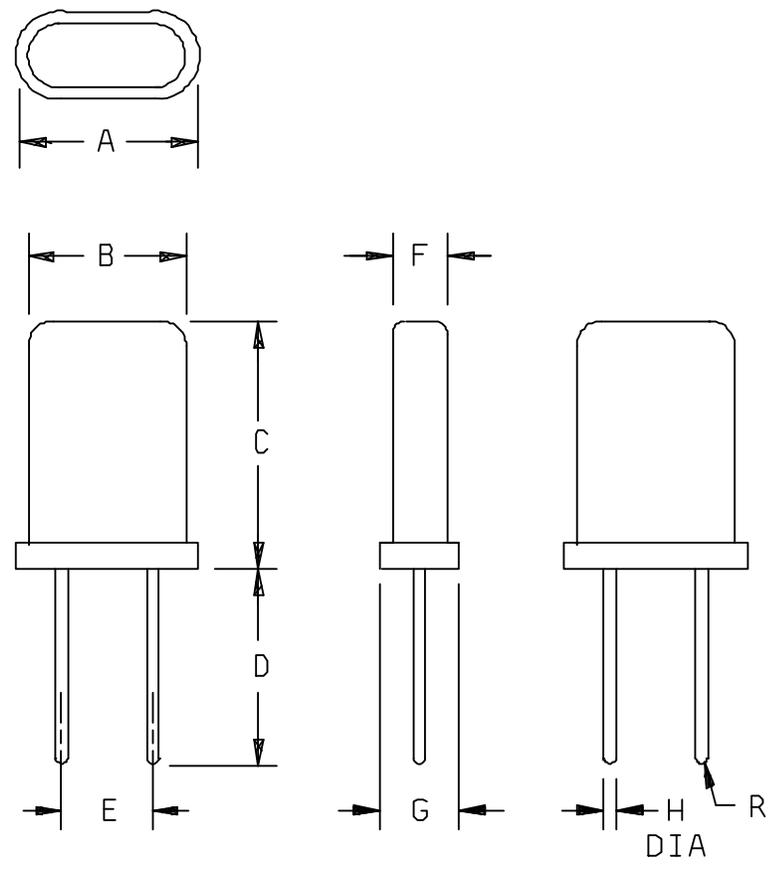


FIGURE 1. Crystal unit - CR114/U.

Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.435	---	11.05
B	---	.402	---	10.21
C	---	.530	---	13.46
D	.120	.130	3.05	3.30
E	.184	.200	4.67	5.08
F	---	.150	---	3.81
G	---	.183	---	4.65
H	.038	.042	0.96	1.07

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. Crystal unit - CR114/U - Continued.

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REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 2.9 MHz to 3.85 MHz, inclusive.

Frequency tolerance:

Operating temperature range: ± 0.005 percent.

Mode of oscillation: Fundamental.

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

Capacitance, load: 32.0 pF ± 0.05 pF.

Resonance: Series.

Rated drive level: 1.0 mW, maximum.

Calibration values:

Resistance: 100 ohms.

Crystal current: 3.2 mA.

Capacitance, shunt: 7 pF, maximum.

Equivalent resistance: 300 ohms, maximum.

Shock: [Method 202, MIL-STD-202](#).

Frequency change permitted: ± 0.0005 percent.

Equivalent-resistance change permitted: ± 15 percent.

Vibration: [Method 204, MIL-STD-202](#), test condition A; .10 inch (2.54 mm) double amplitude or 5 gravity units, whichever is less.

Frequency change permitted: ± 0.0005 percent.

Equivalent-resistance change permitted: ± 15 percent.

Unwanted modes: Minimum unwanted mode effective resistance shall be at least twice that of the main mode, or greater, over the operating temperature range -55°C to $+105^{\circ}\text{C}$.

Aging:

Frequency change permitted: ± 0.0005 percent.

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

[MIL-STD-202](#)

The margins of this specification 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 - 99
DLA - CC

Preparing activity:

DLA - CC

(Project 5955-2009-033)

Review activities:

Air Force - 19, 84

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 <http://assist.daps.dla.mil/>.