

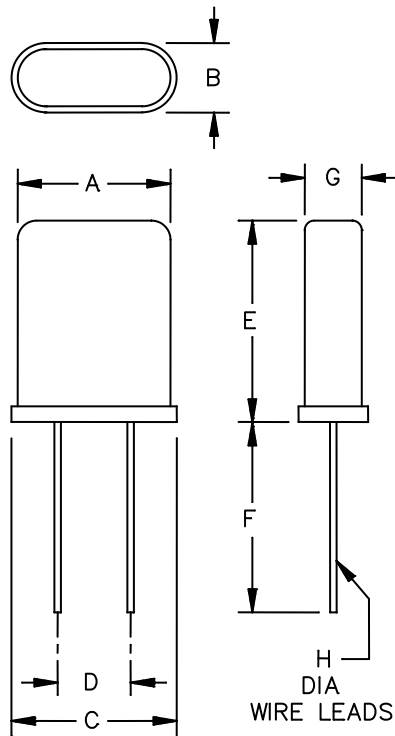
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR149/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: 46 MHz to 100 MHz; fifth mechanical overtone; noncontrolled; series resonance.



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	.016	.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. Crystal unit - CR149/U.

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 46.0 MHz to 100 MHz, inclusive.

Operating temperature range (noncontrolled):

Room temperature: +25°C to +30°C, inclusive.

Primary operating temperature range: +10°C to +25°C and +30°C to +80°C, inclusive.

Secondary operating temperature range: -40°C to +10°C and +80°C to +90°C, inclusive.

Equivalent resistance: 50 ohms.

Mode of oscillation: Fifth mechanical overtone.

Frequency tolerance:

Room temperature:  $\pm 10$  ppm.

Primary:  $\pm 25$  ppm.

Secondary:  $\pm 50$  ppm.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Capacitance, shunt: 6.0 pF +0.5 pF, -1.0 pF.

Shock:

Frequency change permitted:  $\pm 5$  ppm.

Equivalent resistance change permitted:  $\pm 10$  percent.

Vibration: [Method 204](#), [MIL-STD-202](#), test condition A.

Frequency change permitted:  $\pm 5$  ppm.

Equivalent resistance change permitted:  $\pm 10$  percent.

Thermal shock:

Frequency change permitted:  $\pm 5$  ppm.

Equivalent resistance change permitted:  $\pm 10$  percent.

Aging:

Frequency change permitted:  $\pm 5$  ppm.

Part or Identifying Number (PIN): For Product Level B, PIN shall be CR149/U or CR149B/U (followed by specified frequency). For Product Level S, PIN shall be CR149S/U (followed by specified frequency, see 1.2 of [MIL-PRF-3098](#)).

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.

Custodians:

Army - CR  
Navy - EC  
Air Force - 99  
DLA - CC

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Army - AR, MI, SM  
Navy - AS, CG, MC, OS, SH  
Air Force - 19, 84

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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.daps.dla.mil>.