

INCH-POUND

MIL-PRF-3098/37K
w/AMENDMENT 1
7 January 2020

SUPERSEDING
MIL-PRF-3098/37K
13 April 2010

PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR59/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: 50 MHz to 125 MHz; fifth mechanical overtone; controlled; series resonance.

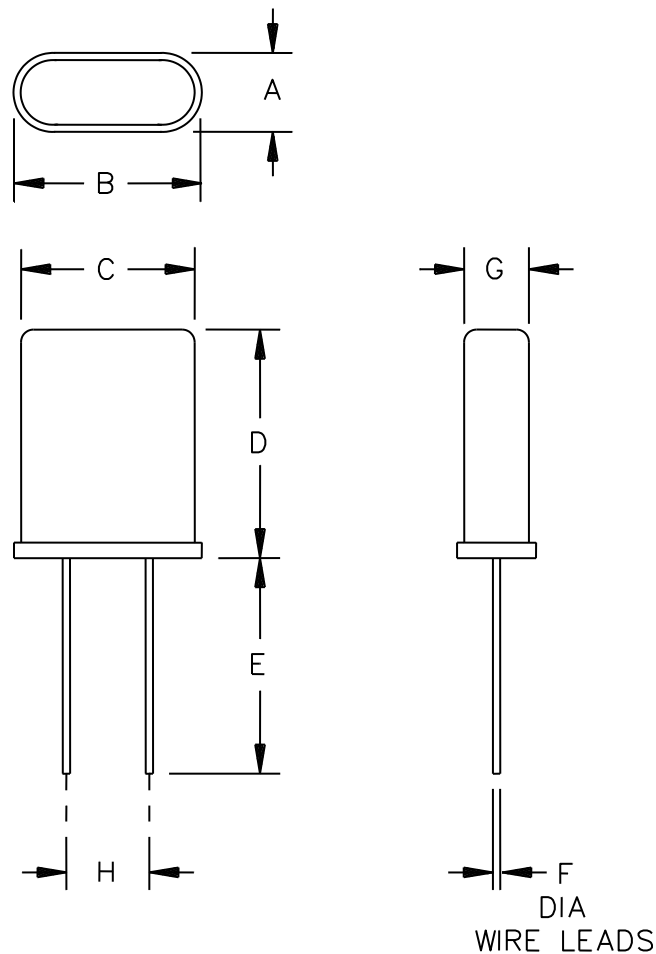


FIGURE 1. Crystal unit - CR59/U.



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Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.183	---	4.65
B	---	.435	---	11.05
C	---	.402	---	10.21
D	---	.530	---	13.46
E	.500	---	12.70	---
F	.016	.019	0.41	0.48
G	---	.150	---	3.81
H	.184	.200	4.67	5.08

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 - CR59/U.

REQUIREMENTS:

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

Frequency range: 50 MHz to 125 MHz, inclusive.

Capacitance, shunt: 7 pF, maximum.

Frequency tolerance:

Operating temperature range: ± 20 parts per million (ppm).

Room temperature: ± 80 ppm.

Frequency stability: ± 5 ppm.

Equivalent resistance: 50 MHz to 100 MHz: 50 ohms, maximum.
100+ MHz to 125 MHz: 60 ohms, maximum.

Mode of oscillation: Fifth mechanical overtone.

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 $+80^{\circ}\text{C}$, inclusive.

Calibration values:

Resistance: 60 ohms.

Resistor voltage drop: 0.24 volt.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Shock:

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 10 percent.

Vibration: [MIL-STD-202-201](#).

Frequency change permitted: ± 5 ppm

Equivalent resistance change permitted: ± 10 percent

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Thermal shock:

Frequency change permitted: ± 5 ppm.

Equivalent resistance change permitted: ± 10 percent.

Aging:

Frequency change permitted: ± 5 ppm.

Part or Identifying Number (PIN): CR59/U (followed by specified frequency), see 1.2 of [MIL-PRF-3098](#).

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

[MIL-STD-202-201](#).

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

Custodians:

Army - CR

Navy - EC

Air force - 85

DLA - CC

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Army - AR, MI, SM

Navy - AS, CG, MC, OS, SH

Air Force - 19

(Project 5955-2020-003)

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/>.