

INCH-POUND

MIL-PRF-3098/103F  
w/AMENDMENT 1  
7 October 2019

SUPERSEDING  
MIL-PRF-3098/103F  
7 January 2010

## PERFORMANCE SPECIFICATION SHEET

### CRYSTAL UNIT, QUARTZ, CR101/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: 7 MHz to 20 MHz; fundamental; noncontrolled; antiresonance.

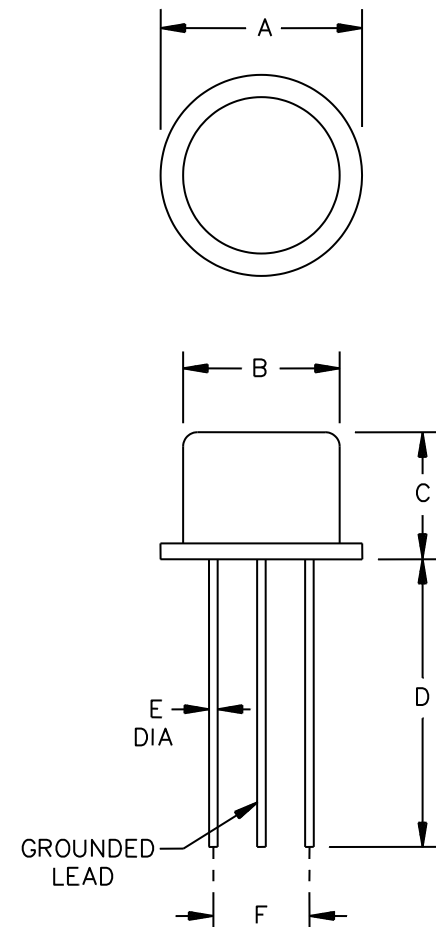


FIGURE 1. Crystal unit – CR101/U.

AMSC N/A

FSC 5955



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Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.420	---	10.67
B	---	.326	---	8.28
C	---	.265	---	6.73
D	.600	---	15.24	---
E	.016	.020	0.41	0.51
F	.192	.208	4.88	5.28

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 – CR101/U.

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 7 MHz to 20.0 MHz, inclusive.

Frequency tolerance:  $\pm 50$  parts per million (ppm).

Equivalent resistance: 7 MHz to 10 MHz: 30 ohms.

10+ MHz to 20 MHz: 25 ohms.

Antiresonance: load capacitance: 30 pF  $\pm 0.5$  pF.

Mode of oscillation: Fundamental.

Operating temperature range (noncontrolled): -55°C to +105°C, inclusive.

Rated drive level: 1.0 mW maximum.

Capacitance, shunt: 7 pF, maximum.

Shock (specified pulse):

Frequency change permitted:  $\pm 5$  ppm.

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

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Thermal shock:

Frequency change permitted:  $\pm 5$  ppm.

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

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

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): CR101/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-202-204](#)

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 5955-2019-026)

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/>.