

PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR85/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: 0.8 MHz to 20 MHz; fundamental; noncontrolled; series resonance.

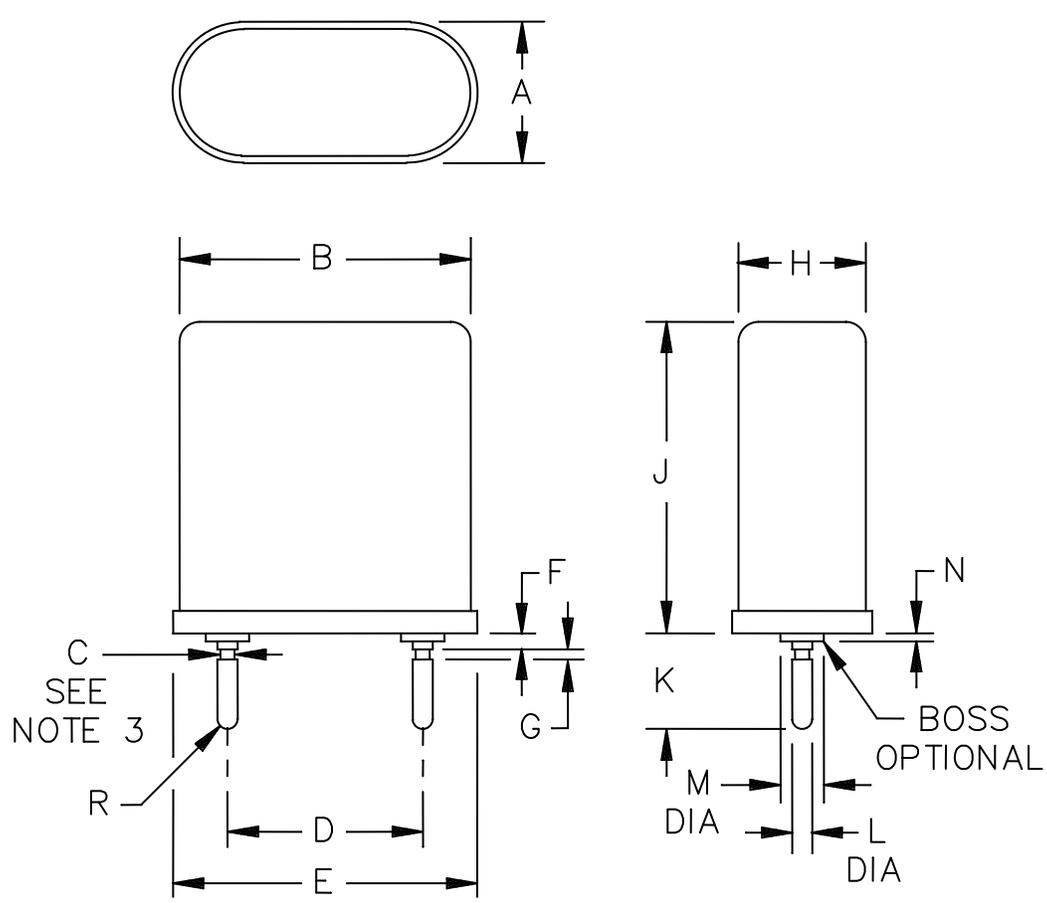


FIGURE 1. Crystal unit - CR85/U.

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Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.352	---	8.94
B	---	.725	---	18.41
C	.030	.037	0.76	0.94
D	.478	.494	12.14	12.55
E	---	.757	---	19.23
F	.030	.040	0.76	1.02
G	.015	.025	0.38	0.64
H	---	.317	---	8.05
J	---	.775	---	19.69
K	.223	.248	5.66	6.30
L	.048	.052	1.22	1.32
M	.075	.141	1.91	3.58
N	.015	.025	0.38	0.63

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. The pin undercut may be omitted.
4. Marking to be in accordance with [MIL-PRF-3098](#).

FIGURE 1. Crystal unit - CR85/U - Continued.

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 0.8 MHz to 20 MHz, inclusive.

Capacitance, shunt: 7.0 pF, maximum.

Frequency tolerances:

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

Secondary operating temperature range: ± 30 ppm.

Equivalent resistance: See table I.

TABLE I. Equivalent resistance.

Frequency range, inclusive	Maximum resistance
MHz	Ohms
0.80 to 0.85	520
0.85+ to 0.90	480
0.90+ to 1.00	440
1.00+ to 1.12	400
1.12+ to 1.25	380
1.25+ to 1.37	340
1.37+ to 1.50	300
1.50+ to 1.62	280
1.62+ to 1.75	250
1.75+ to 1.87	220
1.87+ to 2.00	190
2.00+ to 2.12	170
2.12+ to 2.25	150
2.25+ to 2.60	130
2.60+ to 3.00	90
3.00+ to 3.40	70
3.40+ to 3.75	52
3.75+ to 4.00	45
4.00+ to 5.00	37
5.00+ to 7.00	25
7.00+ to 10.00	20
10.00+ to 15.00	18
15.00+ to 20.00	15

Mode of oscillation: Fundamental.

Operating temperature range:

Primary operating temperature range: -40°C to +90°C, inclusive.

Secondary operating temperature range: -55°C to -40°C, and +90°C to +105°C, inclusive.

Drive level, rated: 1.0 mW maximum.

Resonance: Series.

Capacitance, shunt: 7.0 pF maximum.

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Shock (specified pulse):	<u>0.8 MHz to 2.0 MHz</u>	<u>2.0+ MHz to 20.0 MHz</u>
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent
Vibration: Method 201 of MIL-STD-202 ,	<u>0.8 MHz to 2.0 MHz</u>	<u>2.0+ MHz to 20.0 MHz</u>
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent
Thermal shock:	<u>0.8 MHz to 2.0 MHz</u>	<u>2.0+ MHz to 20.0 MHz</u>
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent
Aging:		
Frequency change permitted:	±5 ppm.	

Part or Identifying Number (PIN): CR85/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 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
Navy - AS, MC, 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>.