INCH-POUND
MIL-PRF-3098/95E
19 December 2003
SUPERSEDING
MIL-PRF-3098/95D
27 August 1997

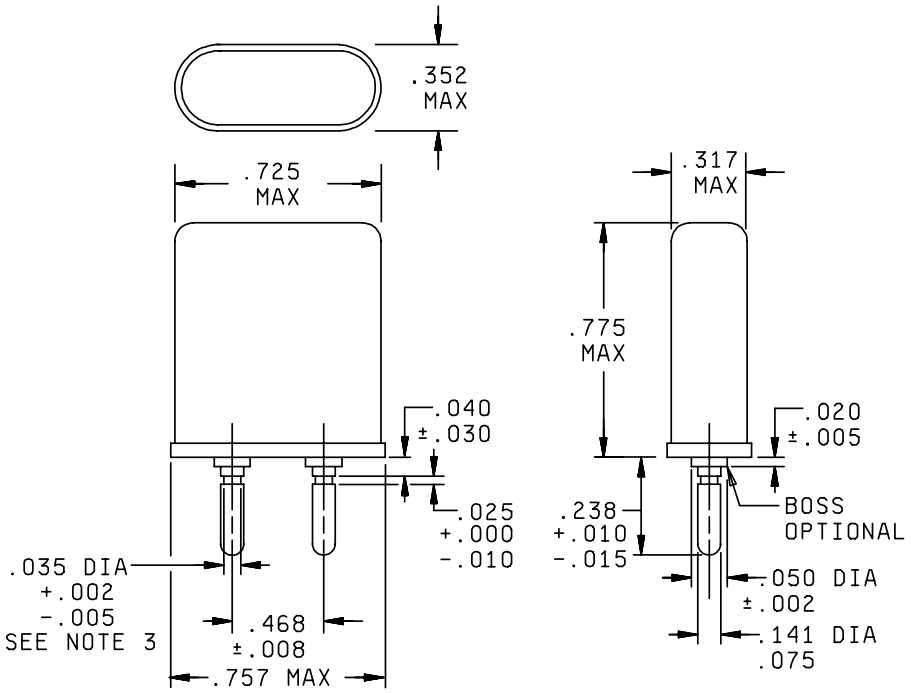
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR119/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 and MIL-PRF-3098.

Pertinent characteristics: 0.8 MHz to 20 MHz; fundamental; noncontrolled; antiresonance.



Inches	mm
.002	.05
.005	.13
.008	.20
.010	.25
.015	.38
.020	.51
.025	.64
.030	.76
.035	.89
.040	1.02
.050	1.27
.075	1.91
.141	3.58
.238	6.05
.317	8.05
.352	8.94
.486	12.34
.725	18.42
.757	19.23
.775	19.69

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 - CR119/U.

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 0.8 MHz to 20 MHz, inclusive.

Frequency tolerance: ±50 ppm.

Equivalent resistance: See table I.

TABLE I. Equivalent resistance.

Frequency range, inclusive	Maximum resistance
MHz	Ohms
0.80 to 0.85	620
0.85+ to 0.90	600
0.90+ to 1.00	570
1.00+ to 1.12	540
1.12+ to 1.25	490
1.25+ to 1.37	450
1.37+ to 1.50	410
1.50+ to 1.62	370
1.62+ to 1.75	330
1.75+ to 1.87	300
1.87+ to 2.00	290
2.00+ to 2.12	270
2.12+ to 2.25	240
2.25+ to 2.60	190
2.60+ to 3.00	150
3.00+ to 3.40	110
3.40+ to 3.75	90
3.75+ to 4.00	75
4.00+ to 5.00	60
5.00+ to 7.00	35
7.00+ to 10.00	24
10.00+ to 15.00	22
15.00+ to 20.00	20

Mode of oscillation: Fundamental.

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

Rated drive level: 1.0 mW, maximum.

Capacitance, shunt: 7.0 pF, maximum.

Antiresonance load capacitance: 30.0 pF ±0.5 pF. 1/

1/ This crystal unit is similar to Crystal Type CR18/U, except for the 30.0 pF ±0.5 pF antiresonance load capacitance.

Shock (specified pulse):	0.8 to 2.0 MHz	2.0+ to 20.0 MHz
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent

Vibration: Method 201, MIL-STD-202.	0.8 to 2.0 MHz	2.0+ to 20.0 MHz
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent

Thermal shock::	0.8 to 2.0 MHz	2.0+ to 20.0 MHz
Frequency change permitted:	±10 ppm	±5 ppm
Equivalent resistance change permitted:	±15 percent	±10 percent

Aging:

Frequency change permitted: ±5 ppm.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
Navy - EC
Air Force -11
DLA - CC

Review activities:
Army - AR, MI, SM
Navy - AS, MC, SH
Air Force - 19, 84

Preparing activity:
Army - CR

Agent:
DLA - CC

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