

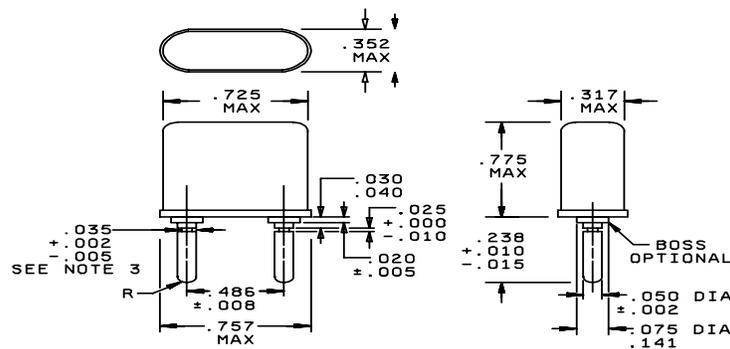
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR18/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	Inches	mm
.002	.05	.050	1.27
.005	.13	.075	1.91
.008	.20	.141	3.58
.010	.25	.238	6.05
.015	.38	.317	8.05
.020	.51	.352	8.94
.025	.64	.486	12.34
.030	.76	.725	18.42
.035	.89	.757	19.23
.040	1.02	.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 - CR18/U.

MIL-PRF-3098/3F

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 0.8 MHz to 20 MHz, inclusive.

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

Equivalent resistance: See table I.

Antiresonance, load capacitance: 32.0 pF  $\pm 0.5$  pF.

Mode of oscillation: Fundamental.

Operating temperature range (noncontrolled):  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ , inclusive.

Rated drive level: 1.0 mW, maximum.

Capacitance, shunt: 7 pF, maximum.

Shock (specified pulse):

Frequency change permitted: 0.8 to 2.0 MHz:  $\pm 10$  ppm  
2.0+ to 20 MHz:  $\pm 5$  ppm

Equivalent resistance change permitted: 0.8 to 2.0 MHz:  $\pm 15$  percent  
2.0+ to 20 MHz:  $\pm 10$  percent

Thermal shock:

Frequency change permitted: 0.8 to 2.0 MHz:  $\pm 10$  ppm  
2.0+ to 20 MHz:  $\pm 5$  ppm

Equivalent resistance change permitted: 0.8 to 2.0 MHz:  $\pm 15$  percent  
2.0+ to 20 MHz:  $\pm 10$  percent

Vibration: Method 201 of MIL-STD-202.

Frequency change permitted: 0.8 to 2.0 MHz:  $\pm 10$  ppm  
2.0+ to 20 MHz:  $\pm 5$  ppm

Equivalent resistance change permitted: 0.8 to 2.0 MHz:  $\pm 15$  percent  
2.0+ to 20 MHz:  $\pm 10$  percent

Low temperature storage:

Resistance: See table I.

Temperature run:

Frequency change permitted: 0.8 to 2.0 MHz:  $\pm 10$  ppm  
2.0+ to 20 MHz:  $\pm 5$  ppm

MIL-PRF-3098/3F

Equivalent resistance change permitted: 0.8 to 2.0 MHz:  $\pm 15$  percent  
 2.0+ to 20 MHz:  $\pm 10$  percent

Aging:

Frequency change permitted:  $\pm 5$  ppm.

TABLE I. Equivalent resistance.

Frequency range, inclusive	Maximum resistance
<u>MHz</u>	<u>Ohms</u>
0.80 to 0.85	630
0.85+ to 0.90	600
0.90+ to 1.00	580
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	380
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	250
2.25+ to 2.60	200
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

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

Preparing activity:  
 Army - CR  
  
 Agent:  
 DLA - CC

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

(Project 5955-0749-01)