

INCH POUND

MIL-PRF-3098/24D
27 August 1997
SUPERSEDING
MIL-C-3098/24C
23 June 1975

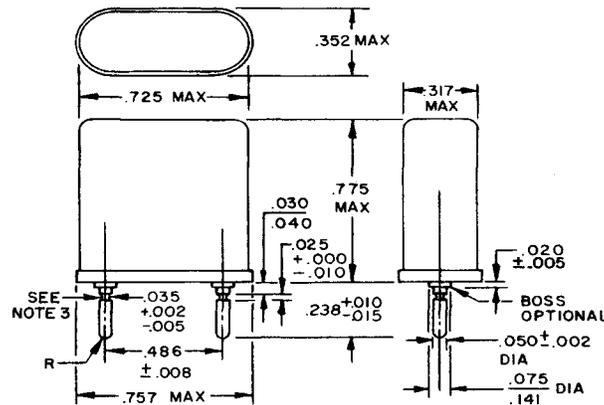
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR45/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: 455 kHz; fundamental; noncontrolled; series resonance.



| Inches | mm | Inches | mm | Inches | mm | Inches | mm |
|--------|-----|--------|------|--------|------|--------|-------|
| .002 | .05 | .020 | .51 | .050 | 1.27 | .352 | 8.94 |
| .005 | .13 | .025 | .64 | .075 | 1.91 | .486 | 12.34 |
| .008 | .20 | .030 | .76 | .141 | 3.58 | .725 | 18.42 |
| .010 | .25 | .035 | .89 | .238 | 6.05 | .757 | 19.23 |
| .015 | .38 | .040 | 1.02 | .317 | 8.05 | .775 | 38.76 |

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 - CR45/U.

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REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 455 kHz.

Capacitance, shunt: 5.0 pF \pm 2.5 pF.

Mode of oscillation: Fundamental.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Calibration values:

Equivalent resistance: 2,300 ohms.

Resistor voltage drop: 2.14 volts.

Operating temperature range (noncontrolled): -40°C to +70°C, inclusive.

Frequency tolerance: \pm 200 parts per million (ppm). There shall be a difference in frequency of 80 ± 12 Hertz between operation at series resonance and operation at antiresonance into load capacitance of 32.0 pF \pm 0.5 pF. Both measurements for this purpose shall be made at room temperature.

Equivalent resistance: 3,300 ohms, maximum.

Shock (specified pulse):

Frequency change permitted: \pm 30 ppm.

Equivalent resistance change permitted: \pm 15 percent.

Vibration: Method 201 of MIL-STD-202, amplitude 0.015 inch (0.030 inch total excursion).

Frequency change permitted: \pm 30 ppm.

Equivalent resistance change permitted: \pm 15 percent.

Temperature run:

Frequency change permitted: \pm 10 ppm.

Equivalent resistance change permitted: \pm 15 percent.

Bond strength: 500 grams, minimum.

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

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Custodians:

Army - CR
Navy - EC
Air force - 85

Review activities:

Army - AR, MI
Navy - AS, MC, SH
Air Force - 17, 19

Preparing activity:

Army - CR

Agent:

DLA - CC

(Project 5955-0697-11)