

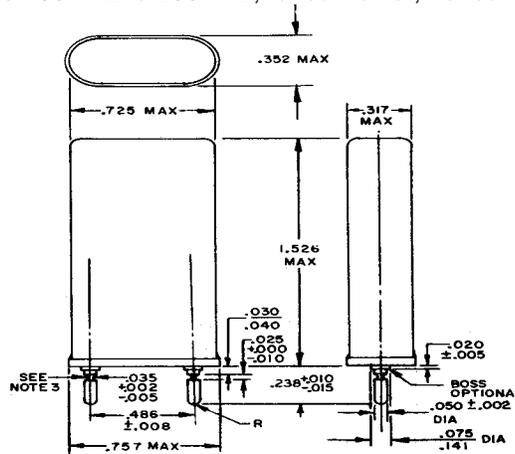
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR37/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: 90 kHz to 250 kHz; 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	1.526	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 - CR37/U.

MIL-PRF-3098/17F

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 90 kHz to 250 kHz, inclusive.

Capacitance, shunt: See table I.

Frequency tolerance:

Operating temperature range: ± 200 parts per million (ppm).

Equivalent resistance: 90 kHz to 170 kHz: 5,000 ohms, maximum.
170+ kHz to 250 kHz: 5,500 ohms, maximum.

Mode of oscillation: Fundamental.

Antiresonance, load capacitance: 20.0 pF ± 0.5 pF.

Operating temperature range (noncontrolled): -40°C to $+70^{\circ}\text{C}$, inclusive.

Rated drive level: 1.0 mW, maximum.

Shock (specified pulse):

Frequency change permitted: ± 10 ppm.

Equivalent resistance change permitted: ± 15 percent.

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

Frequency change permitted: ± 10 ppm.

Equivalent resistance change permitted: ± 15 percent.

Temperature run:

Frequency change permitted: ± 10 ppm.

Equivalent resistance change permitted: ± 15 percent.

Bond strength: 90 kHz to 170 kHz: 800 grams, minimum
170+ kHz to 250 kHz: 700 grams, minimum

TABLE I. Capacitance, shunt.

Frequency range, kHz	Capacitance <u>1/</u> pF
90 to 170	$\frac{450}{f} + 1.2$
170+ to 250	$\frac{322}{f} + 1.2$

1/ The letter "f" represents specified frequency in kHz. A capacitance tolerance of $\pm 15\%$ is permitted.

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
Navy - AS, MC, SH
Air Force - 19

Preparing activity:

Army - CR

Agent:

DLA - CC

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