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INCH POUND
MIL-PRF-3098/26F
27 August 1997
SUPERSEDING
MIL-C-3098/26E
4 October 1976

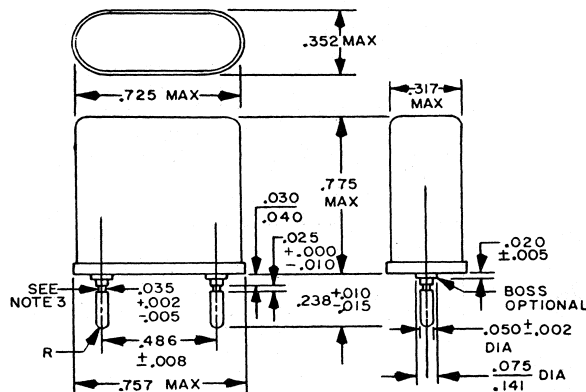
PERFORMANCE SPECIFICATION SHEET

CRYSTAL UNIT, QUARTZ, CR47A/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: 190 kHz to 500 kHz; fundamental; controlled; 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 - CR47A/U.

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REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 190 kHz to 500 kHz, inclusive.

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

Frequency stability: ± 5 ppm.

Equivalent resistance: See table II.

Mode of oscillation: Fundamental.

Antiresonance, load capacitance: 20.0 pF ± 0.5 pF.

Reference temperature: $+75^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

Temperature ranges:

Operable: -40°C to $+70^{\circ}\text{C}$, inclusive.

Operating (controlled): $+70^{\circ}\text{C}$ to $+80^{\circ}\text{C}$, inclusive.

Rated drive level: 1.0 mW, maximum.

Shock: (specified pulse):

Frequency change permitted: ± 5 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: ± 5 ppm.

Equivalent resistance change permitted: ± 15 percent.

Thermal shock:

Frequency change permitted: ± 10 ppm.

Equivalent resistance change permitted: ± 15 percent.

Bond strength: See table I.

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TABLE I. Bond strength.

Frequency range, inclusive (kHz)	Grams, minimum
190 to 250	700
250+ to 320	500
320+ to 370	400
370+ to 435	300
435+ to 500	250

TABLE II. Equivalent resistance.

Frequency range, inclusive <u>kHz</u>	Maximum resistance <u>Ohms</u>
190 to 225	5,300
225+ to 275	6,000
275+ to 325	6,500
325+ to 375	7,000
375+ to 425	7,500
425+ to 475	8,000
475+ to 500	8,500

NOTE: Frequency and resistance at room temperature (for controlled types) requirement is not applicable.

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 - 85

Review activities:

Army - AR, MI

Navy - AS, MC, SH

Air Force - 17, 19

Preparing activity:

Army - CR

Agent:

DLA - CC

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