

INCH-POUND

MIL-C-11015/13E  
 14 May 2001  
 SUPERSEDING  
 MIL-C-11015/13D  
 3 May 1984

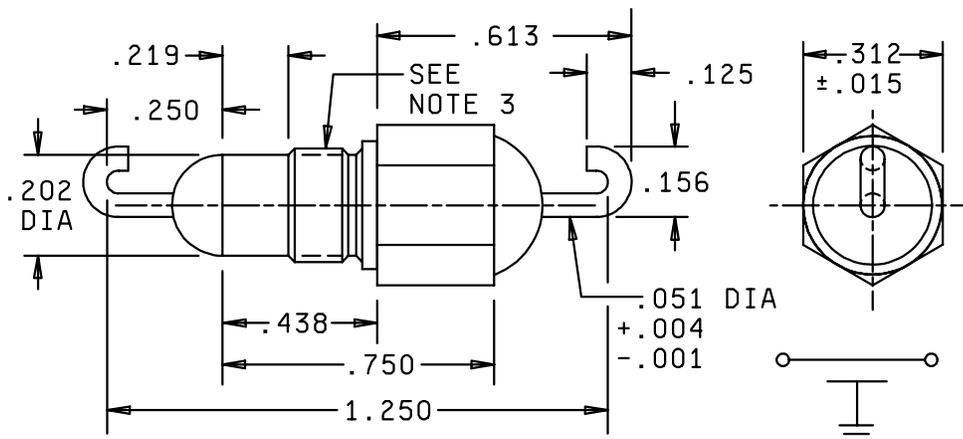
MILITARY SPECIFICATION SHEET

CAPACITORS, FIXED, CERAMIC DIELECTRIC (GENERAL PURPOSE),  
 (FEED-THRU), STYLE CK70

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-C-11015.

INACTIVE FOR NEW DESIGN AFTER 31 MARCH 1999.  
 FOR REPLACEMENT PURPOSES ONLY



CIRCUIT DIAGRAM

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Threaded portion shall be .250-28 UNF-2A and shall extend to within .047 (1.19 mm) of the shoulder.
4. A nut and internal-tooth lockwasher shall be supplied with each capacitor. The nut shall be .312 (7.92 mm) across flats and .125 (3.18 mm) thick. The lockwasher shall be silver plated bronze or brass, .4 (10.2 mm) outside diameter, .26 (6.6 mm) inside diameter.
5. Unless otherwise specified, tolerance is  $\pm .031$  (0.79 mm).

Inches	mm
.001	.03
.004	.10
.015	.38
.051	1.30
.125	3.18
.156	3.96
.202	5.13
.219	5.56
.250	6.35
.312	7.92
.438	11.13
.613	15.57
.750	19.05
1.250	31.75

FIGURE 1. Dimensions and configuration.

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REQUIREMENTS

Design and construction:

Dimensions and configuration - See figure 1.

Case type - Feed thru.

Capacitance value - See table I.

Capacitance tolerance -  $\pm 10$  percent (K) or  $\pm 20$  percent (M) as shown in table I.

Rated temperature -  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , voltage derated linearly to 50 percent at  $+125^{\circ}\text{C}$  (see figure 2).

Dielectric withstanding voltage: In accordance with MIL-C-11015.

Dielectric (DWV):

Test voltage: 2,000 volts dc for 1,000 volt capacitors, or 250 percent of rated voltage for 500-volt capacitors, applied between the case and either terminal.

Body insulation: Not applicable.

TABLE I. Style CK70 characteristics.

PIN <sup>1/</sup>	Rated voltage	Rated temperature and voltage-temperature limits	Capacitance	Capacitance tolerance
	volts, dc		pF	
CK70AX100-	1,000	AX	10	K, M
CK70AX330-	1,000	AX	33	K, M
CK70AX470-	1,000	AX	47	K, M
CK70AX680-	1,000	AX	68	K, M
CK70AX101-	1,000	AX	100	K, M
CK70AX471-	500	AX	470	K, M
CK70AX681-	500	AX	680	K, M
CK70AW102M	500	AW	1,000	M
CK70AW152M	500	AW	1,500	M

<sup>1/</sup> Where applicable, the complete PIN will include an additional symbol to indicate capacitance tolerance.

Barometric pressure (reduced): In accordance with MIL-C-11015 and method 105 of MIL-STD-202, condition B (50,000 ft).

Test potential: 100 percent of rated voltage for 1,000-volt capacitors, or 150 percent of rated voltage for 500-volt capacitors, applied between the case and either terminal.

Insulation resistance (IR): In accordance with Mil-C-11015 and method 302 of MIL-STD-202, condition B. 20,000 megohms, minimum, measured between either insulated point and the capacitor case.

Dissipation factor (DF): 1.5 percent, maximum (voltage-temperature limit X) or 2.0 percent, maximum (voltage-temperature limit W).

Vibration, high frequency: In accordance with MIL-C-11015 and method 204 of MIL-STD-202, condition D (20 g's).

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Thermal shock and immersion: In accordance with MIL-C-11015.

IR: 3,000 megohms, minimum.

Terminal strength: Not applicable.

Moisture resistance: In accordance with MIL-C-11015 and method 106 of MIL-STD-202.

DWV: 2,000 volts dc for 1,000-volt capacitors, or 250 percent of rated voltage for 500-volt capacitors.

IR: 3,000 megohms, minimum.

Cap.: Within tolerance of table I value.

Solderability: In accordance with MIL-C-11015; 2 terminals.

Life (at elevated ambient temperature): In accordance with MIL-C-11015.

Test potential: 200 percent of rated voltage for 500-volt capacitors, or 150 percent of rated voltage for 1,000-volt capacitors.

IR: 500 megohms, minimum (at 85°C) and 10,000 megohms, minimum (at 25°C).

DF: 3.0 percent, maximum (voltage-temperature limit X) or 4.0 percent, maximum (voltage-temperature limit W) (at 25°C).

Marking in accordance with MIL-C-11015.

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

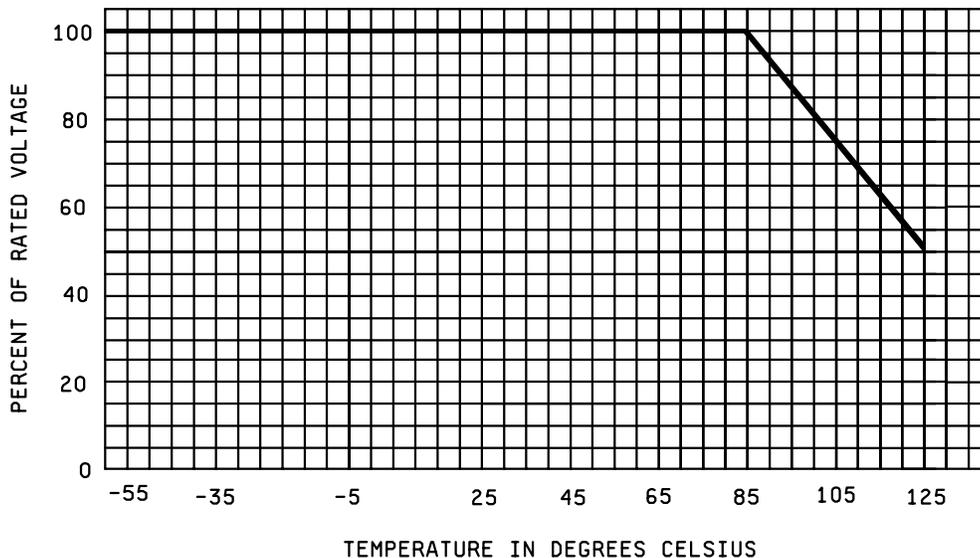


FIGURE 2. Voltage derating with temperature.

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

Preparing activity:  
DLA - CC

Review activities:  
Army - MI  
Navy - MC  
Air Force - 19

(Project 5910-2069-07)