

INCH-POUND

MIL-C-11015/19E  
 14 May 2001  
 SUPERSEDING  
 MIL-C-11015/19D  
 28 September 1970

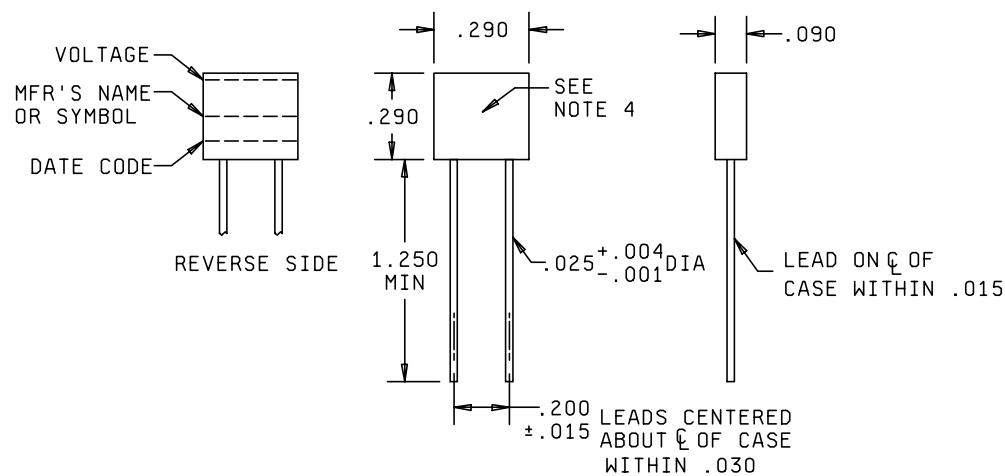
## MILITARY SPECIFICATION SHEET

CAPACITORS, FIXED, CERAMIC DIELECTRIC (GENERAL PURPOSE),  
 STYLE CK06

The requirements for acquiring the capacitors described herein shall consist of this specification and MIL-C-11015.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

INACTIVE FOR NEW DESIGN  
 after 28 September 1970. For new design use MIL-PRF-39014/2.



Inches	Mm
.001	.03
.004	.10
.015	.38
.025	.64
.030	.76
.090	2.29
.200	5.08
.290	7.37
1.250	31.75

## NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is  $\pm .010$  (.25 mm).
3. Metric equivalents are given for general information only.
4. PIN marking to be divided into two or three lines; one line marking shall not be used.
5. Lead length may be a minimum of .625 inch (15.88 mm) for use in tape and reel automatic insertion equipment, when specified.

FIGURE 1. Style CK06 capacitors.

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REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figure 1.

Case type - Flat plate, molded or pre-formed.

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  $+125^{\circ}\text{C}$

(although 1,200 pF through 10,000 pF capacitors are identified as B units, they shall have the capability of  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  operation, see figure 2.)

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

Dielectric:

Test voltage - 250 percent of rated voltage.

Body insulation:

Test potential - 1,300 volts dc.

Barometric pressure (reduced): In accordance with MIL-C-11015 and method 105 of MIL-STD-202, test condition D (100,000 ft) (0.315 inch (8.00 mm) of mercury).

Test potential - 150 percent of rated voltage.

Insulation resistance (IR): In accordance with MIL-C-11015; rated voltage applied.

100,000 megohms, min or 1,000 megohm-microfarads, min, whichever is less.

Dissipation factor (DF): 2.5 percent, max.

Shock (specified pulse): In accordance with MIL-C-11015 and method 213 of MIL-STD-202, condition I (100 G's).

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

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

IR - Not less than 50 percent of initial  $25^{\circ}\text{C}$  requirement.

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TABLE I. Style CK06 characteristics.

PIN 1/	Rated Voltage	Rated temperature and voltage-temperature limits	Capacitance	Capacitance tolerance
	Volts, dc		pF	
CK06BX122K	200	BX	1,200	K
CK06BX152-	200	BX	1,500	K, M
CK06BX182K	200	BX	1,800	K
CK06BX222-	200	BX	2,200	K, M
CK06BX272K	200	BX	2,700	K
CK06BX332-	200	BX	3,300	K, M
CK06BX392K	200	BX	3,900	K
CK06BX472-	200	BX	4,700	K, M
CK06BX562K	200	BX	5,600	K
CK06BX682-	200	BX	6,800	K, M
CK06BX822K	200	BX	8,200	K
CK06BX103-	200	BX	10,000	K, M
CK06BX123K	100	BX	12,000	K
CK06BX153-	100	BX	15,000	K, M
CK06BX183K	100	BX	18,000	K
CK06BX223-	100	BX	22,000	K, M
CK06BX273K	100	BX	27,000	K
CK06BX333-	100	BX	33,000	K, M
CK06BX393K	100	BX	39,000	K
CK06BX473-	100	BX	47,000	K, M
CK06BX563K	100	BX	56,000	K
CK06BX683-	100	BX	68,000	K, M
CK06BX823K	100	BX	82,000	K
CK06BX104-	100	BX	100,000	K, M
CK06BX124K	50	BX	120,000	K
CK06BX154-	50	BX	150,000	K, M
CK06BX184K	50	BX	180,000	K
CK06BX224-	50	BX	220,000	K, M
CK06BX274K	50	BX	270,000	K
CK06BX334-	50	BX	330,000	K, M
CK06BX394K	50	BX	390,000	K
CK06BX474-	50	BX	470,000	K, M
CK06BX564K	50	BX	560,000	K
CK06BX684-	50	BX	680,000	K, M
CK06BX824K	50	BX	820,000	K
CK06BX105-	50	BX	1,000,000	K, M

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

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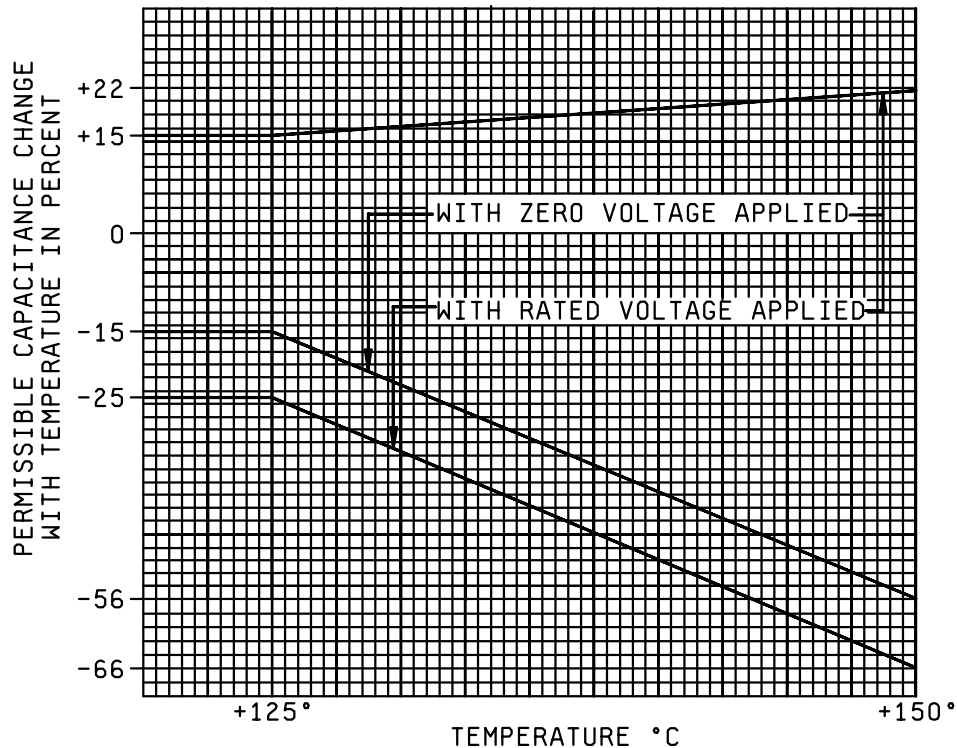


FIGURE 2. Extended voltage-temperature limits  
(1,200 pF through 10,000 pF capacitors).

Salt spray (corrosion): Not applicable.

Moisture resistance: In accordance with MIL-C-11015.

DWV - 250 percent of rated voltage.

IR - Not less than 10 percent of initial requirement.

Cap. - Within  $\pm 10$  percent of initial measured value.

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

Resistance to soldering heat: In accordance with MIL-C-11015.

IR - 100,000 megohms, min or 1,000 megohm-microfarads, min, whichever is less.

$\Delta$ Cap. - +15, -5 percent of initial measurement.

DF - 2.5 percent, max.

Voltage-temperature limits: In accordance with MIL-C-11015 and figure 2 (for 1,200 pF through 10,000 pF capacitors).

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

Test potential - 200 percent of rated voltage.

IR - 1,000 megohms, min or 10 megohm-microfarads, min, whichever is less (at 125°C), and not less than 10 percent of initial requirement (at 25°C).

$\Delta C$  - Shall not exceed  $\pm 20$  percent from initial measured value.

DF - 2.5 percent, max (at 25°C).

Marking: In accordance with MIL-C-11015, and as shown in figure 1.

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.

Supersession data: Items having a "CW" voltage-temperature limit formerly covered by Rev. A, and earlier issues, of this specification sheet are superseded as indicated in table II.

TABLE II. Cross-reference of substitute items.

Superseded item <u>1/</u>	Recommended substitute item <u>1/</u>	Superseded item <u>1/</u>	Recommended Substitute Item <u>1/</u>
CK06CW122K	CK06BX122K	CK06CW392K	CK06BX392K
CK06CW152-	CK06BX152-	CK06CW472-	CK06BX472-
CK06CW182K	CK06BX182K	CK06CW562K	CK06BX562K
CK06CW222-	CK06BX222-	CK06CW682-	CK06BX682-
CK06CW272K	CK06BX272K	CK06CW822K	CK06BX822K
CK06CW332-	CK06BX332-	CK06CW103-	CK06BX103-

1/ Where required, the PIN will include comparable capacitance tolerance symbol.

Inactivated styles: For new design units of MIL-PRF-39014/2 should be used as listed in table III. Although table III lists only the highest failure rate level, lower failure rate levels may be considered. For substitutability of the inactivated styles, established reliability capacitors in MIL-PRF-39014/2 of the same capacitance value, tolerance, rated voltage and temperature coefficient can be used regardless of the failure rate designation.

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TABLE III. Cross reference of inactivated styles.

From inactivated MIL-C-11015/19	To MIL-PRF-39014/2 M(1.0) M39014/02-	From inactivated MIL-C-11015/19	To MIL-PRF-39014/2 M(1.0) M39014/02-
CK06BX122K	1201	CK06BX333-	1223
CK06BX152K	1202	CK06BX393K	1224
CK06BX152M	1203	CK06BX473-	1225
CK06BX182K	1204	CK06BX563K	1226
CK06BX222K	1206	CK06BX683-	1227
CK06BX222M	1207	CK06BX823K	1229
CK06BX272K	1208	CK06BX104-	1230
CK06BX332K	1209	CK06BX124K	1233
CK06BX332M	1210	CK06BX154-	1234
CK06BX392K	1211	CK06BX184K	1235
CK06BX472K	1212	CK06BX224-	1236
CK06BX472M	1213	CK06BX274K	1237
CK06BX562K	1214	CK06BX334-	1238
CK06BX682K	1215	CK06BX394K	1239
CK06BX682M	1216	CK06BX474-	1240
CK06BX822K	1217	CK06BX564K	1404
CK06BX103K	1218	CK06BX684-	1405
CK06BX103M	1219	CK06BX824K	1406
CK06BX123K	1231	CK06BX105-	1407
CK06BX153-	1220		
CK06BX183K	1221		
CK06BX223-	1222		
CK06BX273K	1232		

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

Preparing activity:  
 DLA - CC

(Project 5910-2026-02)

Review activities:  
 Army – AR, EA, MI  
 Navy - MC  
 Air Force - 19