

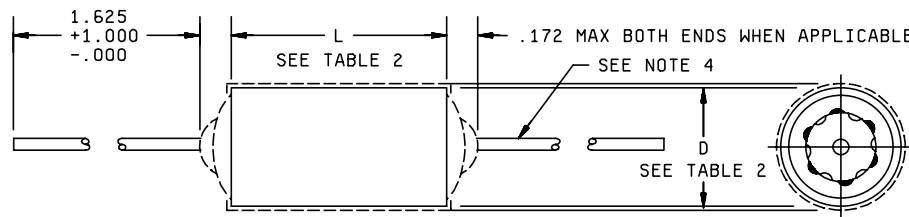
PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, PLASTIC DIELECTRIC, HERMETICALLY
SEALED IN METAL CASES), STYLES CQ06 AND CQ07

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

The complete requirements for procuring the capacitors described herein
shall consist of this specification and MIL-PRF-19978.

STYLE CQ06 INACTIVE FOR NEW EQUIPMENT
DESIGN AFTER 20 October 1972.



Style CQ06 (uninsulated case)
Style CQ07 (insulated case)

Inches	mm	Inches	mm
.001	.03	.235	5.97
.004	.10	.312	7.92
.020	.51	.400	10.16
.025	.64	.562	14.27
.032	.81	1.000	25.40
.172	4.37	1.562	39.67
.175	4.45	1.625	41.28
.195	4.95		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Basic case dimensions for the insulated styles shall be the same as for the uninsulated styles.
4. Leads shall be tinned solid wire, .020 (No. 24 AWG) for cases .175 and .195 in diameter; .025 (No. 22 AWG) for cases .235 thru .312 diameter; and .032 (No. 20 AWG) for cases .400 diameter and above. Tolerance on all lead wire diameters shall be $\pm .004$, $-.001$.
5. Capacitors with dimension L of 1.562 or D of .562 and larger, are not intended to be supported by their leads. Those capacitors shall be supported with a supplementary means of mounting, such as tangential retainer for styles CQ06, and a wrap-around band for style CQ07. The supporting device will not be supplied with the capacitor.
6. Lead length may be a minimum of 1-inch long for use in tape and reel packaging when specified in the ordering data.

FIGURE 1. Styles CQ06 and CQ07 capacitors.

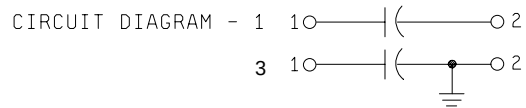
REQUIREMENTS:

Design and construction:

Dimensions and configuration - See figure 1 and table II.

Case material - Nonmagnetic.

Terminals - Axial-wire lead (see figure 1).



Rated voltage - See table II.

Rated temperature - -65° to $+125^{\circ}\text{C}$.

Capacitance (cap.) (nom) - See table II.

Capacitance tolerance - See table II.

Dissipation factor (DF) (max) - 0.15 percent.

Seal: Method 112 of MIL-STD-202, test condition letter A.

Dielectric withstanding voltage (DWV):

Sleeving - In accordance with MIL-PRF-19978.

Barometric pressure: In accordance with MIL-PRF-19978.

Test points:

Circuit diagram 1 - Between terminals and case.

Circuit diagram 3 - Between ungrounded terminal and case.

Insulation resistance (IR):

Sleeving - In accordance with MIL-PRF-19978.

Terminal to terminal - See table I.

TABLE I. Terminal-to-terminal insulation resistance.

Capacitance rating <u>Characteristic Q</u>	Minimum insulation resistance
0 to 0.5 microfarad	<u>At 25°C</u> 100,000 megohms
Greater than 0.5 microfarad	50,000 megohm-microfarads <u>1/</u>
0 to 0.1 microfarad	<u>At 125°C</u> 5,000 megohms
Greater than 0.1 microfarad	500 megohm-microfarads <u>1/</u>

1/ Product obtained by multiplying the capacitance in microfarads by the insulation resistance in megohms.

MIL-PRF-19978/5B

Terminal to case - In accordance with MIL-PRF-19978.

Vibration, high frequency: Method 204 of MIL-STD-202, test condition B, with the following exception:

Direction and duration of motion - 4 hours in each of two mutually perpendicular directions (total of 8 hours), one parallel and the other perpendicular to the cylindrical axis.

Salt spray: In accordance with MIL-PRF-19978.

Immersion:

DWV:

Sleeving - In accordance with MIL-PRF-19978.

IR:

Sleeving - In accordance with MIL-PRF-19978.

Solderability: In accordance with MIL-PRF-19978.

Terminal strength: Method 211 of MIL-STD-202, test condition letter D.

Moisture resistance:

DWV:

Sleeving - In accordance with MIL-PRF-19978.

IR:

Sleeving - In accordance with MIL-PRF-19978.

Dielectric absorption (not applicable to values of 0.01 μ F or less): 0.04 percent, maximum.

Stability at low and high temperatures:

Low temperature:

Test temperature - -65°C $+0^{\circ}\text{C}$, -5°C .

Capacitance change (max) - ± 2.5 percent.

High temperature:

Test temperature - $+125^{\circ}\text{C}$ $+0^{\circ}\text{C}$, -5°C .

Capacitance change (max) - $+1$ percent, -4 percent.

Life:

Capacitance change (max) - $+2$ percent, -1 percent.

Resistance to soldering heat: In accordance with MIL-PRF-19978.

TABLE II. STYLES CQ06 AND CQ07 capacitors.

Part number <u>1/</u>	DC voltage rating	Capacitance rating	Capacitance tolerance	Case dimensions <u>2/ 3/</u>	
				L $\pm .031$	D $+.015, -.005$
	<u>Volts</u>	μ <u>F</u>		<u>Inches</u>	<u>Inches</u>
CQ0-A-QA472-3	50	.0047	J,K	.688	.175
CQ0-A-QA562-3	50	.0056	J,K	.688	.195
CQ0-A-QA682-3	50	.0068	J,K	.688	.195
CQ0-A-QA393-3	50	.039	J,K	.812	.312
CQ0-A-QA473-3	50	.047	J,K	.812	.312
CQ0-A-QA563-3	50	.056	J,K	.812	.400
CQ0-A-QA683-3	50	.068	J,K	.812	.400
CQ0-A-QA823-3	50	.082	J,K	.812	.400
CQ0-A-QA104-3	50	.1	J,K	.812	.400
CQ0-A-QA124-3	50	.12	J,K	1.312	.400
CQ0-A-QA154-3	50	.15	J,K	1.312	.400
CQ0-A-QA184-3	50	.18	J,K	1.062	.562
CQ0-A-QA224-3	50	.22	J,K	1.062	.562
CQ0-A-QA274-3	50	.27	J,K	1.312	.562
CQ0-A-QA334-3	50	.33	J,K	1.312	.562
CQ0-A-QA394-3	50	.39	J,K	1.812	.562
CQ0-A-QA474-3	50	.47	J,K	1.812	.562
CQ0-A-QA564-3	50	.56	J,K	1.812	.670
CQ0-A-QA684-3	50	.68	J,K	1.812	.670
CQ0-A-QA824-3	50	.82	J,K	1.812	.750
CQ0-A-QA105-3	50	1.0	J,K	1.812	.750
CQ0-A-QB222-3	100	.0022	J,K	.688	.175
CQ0-A-QB272-3	100	.0027	J,K	.688	.175
CQ0-A-QB332-3	100	.0033	J,K	.688	.175
CQ0-A-QB392-3	100	.0039	J,K	.688	.195
CQ0-A-QB472-3	100	.0047	J,K	.688	.195
CQ0-A-QB562-3	100	.0056	J,K	.688	.235
CQ0-A-QB682-3	100	.0068	J,K	.688	.235
CQ0-A-QB822-3	100	.0082	J,K	.688	.235
CQ0-A-QB103-3	100	.01	J,K	.688	.235
CQ0-A-QB183-3	100	.018	J,K	.812	.312
CQ0-A-QB223-3	100	.022	J,K	.812	.312
CQ0-A-QB273-3	100	.027	J,K	.812	.312
CQ0-A-QB333-3	100	.033	J,K	.812	.312
CQ0-A-QB393-3	100	.039	J,K	.812	.400
CQ0-A-QB473-3	100	.047	J,K	.812	.400
CQ0-A-QB563-3	100	.056	J,K	1.062	.400
CQ0-A-QB683-3	100	.068	J,K	1.062	.400
CQ0-A-QB823-3	100	.082	J,K	1.062	.400
CQ0-A-QB104-3	100	.1	J,K	1.062	.400
CQ0-A-QB124-3	100	.12	J,K	1.312	.562
CQ0-A-QB154-3	100	.15	J,K	1.312	.562
CQ0-A-QB184-3	100	.18	J,K	1.562	.562
CQ0-A-QB224-3	100	.22	J,K	1.562	.562
CQ0-A-QB274-3	100	.27	J,K	1.562	.670
CQ0-A-QB334-3	100	.33	J,K	1.562	.670
CQ0-A-QB394-3	100	.39	J,K	1.812	.750
CQ0-A-QB474-3	100	.47	J,K	1.812	.750
CQ0-A-QB564-3	100	.56	J,K	2.312	.750
CQ0-A-QB684-3	100	.68	J,K	2.312	.750
CQ0-A-QB824-3	100	.82	J,K	1.812	1.000

See Footnotes at end of table.

TABLE II. STYLES CQ06 AND CQ07 capacitors - Continued.

Part number <u>1/</u>	DC voltage rating	Capacitance rating	Capacitance tolerance	Case dimensions <u>2/ 3/</u>	
				L $\pm$.031	D $\pm$.015, $\pm$.005
	<u>Volts</u>	<u>μF</u>		<u>Inches</u>	<u>Inches</u>
CQ0-A-QB105-3	100	1.0	J,K	1.812	1.000
CQ0-A-QC102-3	200	.001	J,K	.688	.175
CQ0-A-QC122-3	200	.0012	J,K	.688	.195
CQ0-A-CQ152-3	200	.0015	J,K	.688	.195
CQ0-A-QC182-3	200	.0018	J,K	.688	.195
CQ0-A-QC222-3	200	.0022	J,K	.688	.195
CQ0-A-QC272-3	200	.0027	J,K	.688	.235
CQ0-A-QC332-3	200	.0033	J,K	.688	.235
CQ0-A-QC822-3	200	.0082	J,K	.812	.312
CQ0-A-QC103-3	200	.01	J,K	.812	.312
CQ0-A-QC123-3	200	.012	J,K	.812	.312
CQ0-A-QC153-3	200	.015	J,K	.812	.312
CQ0-A-QC183-3	200	.018	J,K	.812	.400
CQ0-A-QC223-3	200	.022	J,K	.812	.400
CQ0-A-QC273-3	200	.027	J,K	1.062	.400
CQ0-A-QC333-3	200	.033	J,K	1.062	.400
CQ0-A-QC393-3	200	.039	J,K	1.062	.400
CQ0-A-QC473-3	200	.047	J,K	1.062	.400
CQ0-A-QC563-3	200	.056	J,K	1.062	.500
CQ0-A-QC683-3	200	.068	J,K	1.062	.500
CQ0-A-QC823-3	200	.082	J,K	1.062	.562
CQ0-A-QC104-3	200	.1	J,K	1.062	.562
CQ0-A-QC124-3	200	.12	J,K	1.812	.562
CQ0-A-QC154-3	200	.15	J,K	1.812	.562
CQ0-A-QC184-3	200	.18	J,K	1.812	.670
CQ0-A-QC224-3	200	.22	J,K	1.812	.670
CQ0-A-QC274-3	200	.27	J,K	2.062	.750
CQ0-A-QC334-3	200	.33	J,K	2.062	.750
CQ0-A-QC394-3	200	.39	J,K	1.812	1.000
CQ0-A-QC474-3	200	.47	J,K	1.812	1.000
CQ0-A-QC564-3	200	.56	J,K	2.062	1.000
CQ0-A-QC684-3	200	.68	J,K	2.062	1.000
CQ0-A-QE122-3	400	.0012	J,K	.688	.235
CQ0-A-QE152-3	400	.0015	J,K	.688	.235
CQ0-A-QE392-3	400	.0039	J,K	.812	.312
CQ0-A-QE472-3	400	.0047	J,K	.812	.312
CQ0-A-QE562-3	400	.0056	J,K	.812	.312
CQ0-A-QE682-3	400	.0068	J,K	.812	.312
CQ0-A-QE822-3	400	.0082	J,K	.812	.400
CQ0-A-QE103-3	400	.01	J,K	.812	.400
CQ0-A-QE123-3	400	.012	J,K	1.062	.400
CQ0-A-QE153-3	400	.015	J,K	1.062	.400
CQ0-A-QE183-3	400	.018	J,K	1.312	.400
CQ0-A-QE223-3	400	.022	J,K	1.312	.400
CQ0-A-QE273-3	400	.027	J,K	1.062	.500
CQ0-A-QE333-3	400	.033	J,K	1.062	.500
CQ0-A-QE393-3	400	.039	J,K	1.062	.562
CQ0-A-QE473-3	400	.047	J,K	1.062	.562
CQ0-A-QE563-3	400	.056	J,K	1.312	.562
CQ0-A-QE683-3	400	.068	J,K	1.312	.562
CQ0-A-QE823-3	400	.082	J,K	1.562	.670

See Footnotes at end of table.

TABLE II. STYLES CQ06 AND CQ07 capacitors - Continued.

Part number <u>1/</u>	DC voltage rating	Capacitance rating	Capacitance tolerance	Case dimensions <u>2/ 3/</u>	
				L $\pm$.031	D $+.015, -.005$
	<u>Volts</u>	<u>μF</u>		<u>Inches</u>	<u>Inches</u>
CQ0-A-QE104-3	400	.1	J,K	1.562	.670
CQ0-A-QE124-3	400	.12	J,K	2.062	.750
CQ0-A-QE154-3	400	.15	J,K	2.062	.750
CQ0-A-QE184-3	400	.18	J,K	2.562	.750
CQ0-A-QE224-3	400	.22	J,K	2.562	.750
CQ0-A-QE274-3	400	.27	J,K	2.062	1.000
CQ0-A-QE334-3	400	.33	J,K	2.062	1.000
CQ0-A-QE394-3	400	.39	J,K	2.562	1.000
CQ0-A-QE474-3	400	.47	J,K	2.562	1.000
CQ0-A-QF102-3	600	.001	J,K	.688	.235
CQ0-A-QF122-3	600	.0012	J,K	.812	.312
CQ0-A-QF152-3	600	.0015	J,K	.812	.312
CQ0-A-QF182-3	600	.0018	J,K	.812	.312
CQ0-A-QF222-3	600	.0022	J,K	.812	.312
CQ0-A-QF272-3	600	.0027	J,K	.812	.312
CQ0-A-QF332-3	600	.0033	J,K	.812	.312
CQ0-A-QF392-3	600	.0039	J,K	.812	.400
CQ0-A-QF472-3	600	.0047	J,K	.812	.400
CQ0-A-QF562-3	600	.0056	J,K	1.062	.400
CQ0-A-QF682-3	600	.0068	J,K	1.062	.400
CQ0-A-QF822-3	600	.0082	J,K	1.062	.400
CQ0-A-QF103-3	600	.01	J,K	1.062	.400
CQ0-A-QF123-3	600	.012	J,K	1.062	.500
CQ0-A-QF153-3	600	.015	J,K	1.062	.500
CQ0-A-QF183-3	600	.018	J,K	1.062	.562
CQ0-A-QF223-3	600	.022	J,K	1.062	.562
CQ0-A-QF273-3	600	.027	J,K	1.312	.562
CQ0-A-QF333-3	600	.033	J,K	1.312	.562
CQ0-A-QF393-3	600	.039	J,K	1.562	.562
CQ0-A-QF473-3	600	.047	J,K	1.562	.562
CQ0-A-QF563-3	600	.056	J,K	1.562	.670
CQ0-A-QF683-3	600	.068	J,K	1.562	.670
CQ0-A-QF823-3	600	.082	J,K	1.812	.750
CQ0-A-QF104-3	600	.1	J,K	1.812	.750
CQ0-A-QF124-3	600	.12	J,K	1.812	1.000
CQ0-A-QF154-3	600	.15	J,K	1.812	1.000
CQ0-A-QF184-3	600	.18	J,K	2.562	1.000
CQ0-A-QF224-3	600	.22	J,K	2.562	1.000

- 1/ Complete part number shall include additional symbols to complete style designation, indicate circuit symbol, and show capacitance tolerance.
- 2/ Dimensions shown are for style CQ06 circuit 3 configuration; for circuit 1 dimensions add 0.062 inch to the "L" dimension.
- 3/ For insulated style CQ07; add .062 inch $+.062$ inch, $-.093$ inch and .032 inch $+.015$ inch, $-.037$ inch to the nominal L and D dimensions, respectively. In no case shall the bare case dimensions of the insulated style be less than the uninsulated minimum.

TABLE III. Multimeter equivalent of decimal inches.

Inches	mm	Inches	mm
.005	.13	.688	17.48
.015	.38	.750	19.05
.031	.79	.812	20.62
.062	1.57	1.000	25.40
.175	4.45	1.062	26.97
.195	4.95	1.312	33.32
.235	5.97	1.562	39.67
.312	7.92	1.812	46.02
.400	10.16	2.062	52.37
.500	12.70	2.312	58.72
.562	14.27	2.562	65.07
.670	17.02		

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

Review activities:
 Navy - MC
 Air Force - 19, 99

Preparing activity:
 DLA - CC
 (Project 5910-2016-04)