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December 5, 2003

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-PRF-49137/1C, MIL-PRF-49137/2C, MIL-PRF-49137/5B and  
MIL-PRF-49107/6D  
Project 5910-2241-01, 5910-2241-02, 5910-2241-03 and 5910-2241-04

The initial draft of the above subject document is now available for viewing and downloading from the DSCC-VA web site:

<http://www.dsccl.dla.mil/Programs/MilSpec/DocSearch.asp>

If you wish to review this document, you may download it by using the link above. Once on that page, enter MIL-PRF-49137 in the blank box to the left of the GO box and select GO. Select the appropriate links to download the initial draft. Initial drafts are identified with "(Initial Draft)" after the document number.

This document was revised to include the slash sheets into the basic, to update the document to the proper format, and to make editorial corrections.

Concurrence or comments are required at this Center no later than January 26, 2004 (45 days). Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for considering the department reply.

Please forward your comments or concurrence electronically to the project engineer listed below. This can be done in the form of a return email, with or without an attached text file. If an electronic response is not possible, we will accept comments via letter, facsimile, or phone call; but only after you have contacted the project officer. Any further coordination concerning these documents will be circulated only to firms and organizations that furnish comments or reply that they have an interest.

The point of contact for these documents is Mr. Ken Bernier, DSCC-VAT. The preferred method of contact is via email: [kenneth.bernier@dla.mil](mailto:kenneth.bernier@dla.mil). Mr. Bernier can also be reached by phone at 614-692-0563/DSN 850-0563, or by facsimile 614-693-1644.

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Chief  
Electronic Components Team



NOTE: This draft, dated 5 December 2003, prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 5910-2241-04) P.O.C. Ken Bernier 614-692-0563 [kenneth.bernier@dla.mil](mailto:kenneth.bernier@dla.mil).

INCH-POUND  
MIL-PRF-49137/6D  
DRAFT  
SUPERSEDING  
MIL-C-49137/6C  
9 October 1997

PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, ELECTROLYTIC (SOLID ELECTROLYTE), TANTALUM, POLAR, NONHERMETICALLY SEALED, STYLES CX06 AND CX16

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-49137.

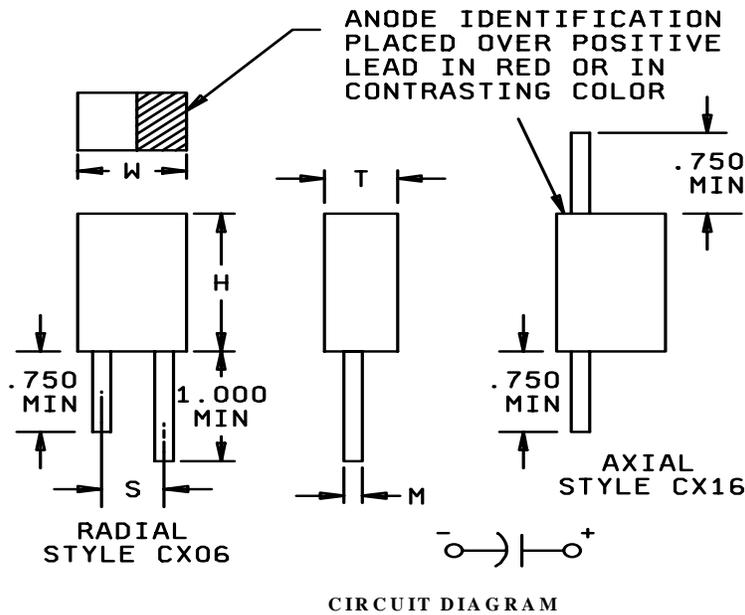


FIGURE 1. Styles CX06 and CX16 capacitors.

MIL-PRF-49137/6C

Case size	Dimensions				
	T	W	H	M	S
	Max	Max	Max	±.002	
A	.040	.050	.100	.007	.030 ±.015
B	.040	.070	.125	.010	.050 ±.015
C	.070	.120	.165	.010	.100 ±.020
D	.075	.185	.225	.010	.150 ±.020
E	.110	.220	.290	.016	.180 ±.025
F	.130	.230	.310	.016	.200 ±.025
G	.150	.375	.475	.016	.300 ±.025

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.040	1.02	.130	3.30	.230	5.84
.007	0.18	.050	1.27	.150	3.81	.290	7.37
.010	0.25	.070	1.78	.165	4.19	.300	7.62
.015	0.38	.075	1.90	.180	4.57	.310	7.87
.016	0.41	.100	2.54	.185	4.70	.375	9.52
.020	0.51	.110	2.79	.200	5.08	.475	12.06
.025	0.64	.120	3.05	.220	5.59	.750	19.05
.030	0.76	.125	3.18	.225	5.72	1.000	25.40

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. The positive lead on CX06 shall be at least .125 inch (3.18 mm) longer than the negative lead.

FIGURE 1. Styles CX06 and CX16 capacitors - Continued.

TABLE I. Styles CX06 and CX16 characteristics.

Type designation <u>1/</u>	DC rated voltage (85°C)	Nominal capacitance	Dissipation factor (max)	DC leakage (max) 25°C	Case size
	<u>Volts</u>	<u>μF</u>	<u>%</u>	<u>μA</u>	
CX-6B155-	2	.47	10	.5	A
CX-6B685	2	2.2	10	.5	B
CX-6B226	2	10.0	10	.5	C
CX-6B155-	3	1.5	10	.5	B
CX-6B685-	3	6.8	10	.5	C
CX-6B226-	3	22.0	10	1.0	D
CX-6B227-	3	220.0	15	9.0	G
CX-6C334-	4	.33	10	.5	A
CX-6C105-	4	1.0	8	.5	B
CX-6C475-	4	4.7	8	.5	C
CX-6C156-	4	15.0	8	1.0	D
CX-6C476-	4	47.0	8	2.0	E
CX-6C686-	4	68.0	8	3.0	F
CX-6D224-	6	.22	10	.5	A
CX-6D684-	6	.68	6	.5	B
CX-6D335-	6	3.3	6	.5	C
CX-6D106-	6	10.0	6	1.0	D
CX-6D336-	6	33.0	6	2.0	E
CX-6D476-	6	47.0	6	3.0	F
CX-6D157-	6	150.0	10	9.0	G
CX-6F154-	10	.15	10	.5	A
CX-6F474-	10	.47	6	.5	B
CX-6F225-	10	2.2	6	.5	C
CX-6F685-	10	6.8	6	1.0	D
CX-6F226-	10	22.0	6	2.0	E
CX-6F336-	10	33.0	6	3.0	F
CX-6F107-	10	100.0	8	9.0	G
CX-6H104-	15	.10	10	.5	A
CX-6H334-	15	.33	6	.5	B
CX-6H155-	15	1.5	6	.5	C
CX-6H156-	15	15.0	6	2.0	E
CX-6H226-	15	22.0	6	3.0	F
CX-6H686-	15	68.0	8	9.0	G
CX-6J104-	20	.10	6	.5	B
CX-6J154-	20	.15	6	.5	B
CX-6J224-	20	.22	6	.5	B
CX-6J105-	20	1.0	6	.5	C
CX-6J335-	20	3.3	6	1.0	D
CX-6J475-	20	4.7	6	1.0	D
CX-6J106-	20	10.0	6	2.0	E
CX-6J156-	20	15.0	6	3.0	F
CX-6J476-	20	47.0	8	9.0	G
CX-6K684-	25	.68	6	.5	C
CX-6K225-	25	2.2	6	1.0	D
CX-6K685-	25	6.8	6	2.0	E
CX-6K106-	25	10.0	6	3.0	F
CX-6K336-	25	33.0	6	9.0	G

TABLE I. Styles CX06 and CX16 characteristics. Continued.

Type Designation <sup>1/</sup>	DC rated voltage (85°C)	Nominal capacitance	Dissipation factor (max)	DC leakage (max) 25°C	Case size
CX-6M104-	35	.10	6	.5	C
CX-6M154-	35	.15	6	.5	C
CX-6M224-	35	.22	6	.5	C
CX-6M334-	35	.33	6	.5	C
CX-6M474-	35	.47	6	.5	C
CX-6M684-	35	.68	6	1.0	D
CX-6M105	35	1.0	6	1.0	D
CX-6M155-	35	1.5	6	1.0	D
CX-6M225-	35	2.2	6	2.0	E
CX-6M335-	35	3.3	6	2.0	E
CX-6M475	35	4.7	6	2.0	E
CX-6M685	35	6.8	6	3.0	F
CX-6M106-	35	10.0	6	9.0	G
CX-6M156	35	15.0	6	9.0	G
CX-6M226-	35	22.0	6	9.0	G

<sup>1/</sup> Complete type designation will include additional symbols to indicate style and capacitance tolerance.

#### REQUIREMENTS:

Dimensions and configuration: See figure 1.

Case: Polyester sleeve and epoxy end filled or plastic encapsulated.

Leads: Solder-coated metal.

DC rated voltage: See table I.

Operating temperature: -55° to +85°C.

DC leakage (DCL): See table I.

Capacitance (cap.): See table I.

Capacitance tolerance: ±10 percent (K), or ±20 percent (M).

Dissipation factor (DF): See table I.

Terminal strength: In accordance with method 211 of MIL-STD-202.

Test condition A: ½-pound for case sizes A and B, 1 pound for case sizes C and D, and 2 pounds for case sizes E, F, and G.

Test condition C: ½-pound applied force - 3 bends.

Stability at low and high temperature: In accordance with MIL-PRF-49137.

Step 1 (+25°C):  
DCL - See table I.  
Cap. - Within tolerance specified in table I.  
DF - See table I.

MIL-PRF-49137/6C

- Step 1 (+25°C): DCL - See table I.  
Cap. - Within tolerance specified in table I.  
DF - See table I.
- Step 2 (-55°C): ΔCap. - Within -15 percent of step 1 measured value.  
DF - 200 percent of table I.
- Step 3 (+25°C): DCL - See table I.  
ΔCap. - Within 10 percent of step 1 measured value.  
DF - See table I.
- Step 4 (+85°C): DCL - 10 times 25°C limit (see table I).  
ΔCap. - Within +15 percent of step 1 measured value.  
DF - 150 percent of table I.
- Step 5 (+25°C): DCL - See table I.  
ΔCap. - Within 10 percent of step 1 measured value.  
DF - See table I.

Surge voltage: In accordance with MIL-PRF-49137.

- DCL - See table I.  
ΔCap. - Within 10 percent of initial value.  
DF - See table I.

Life: Method 108 of MIL-STD-202.

1,000 hours:

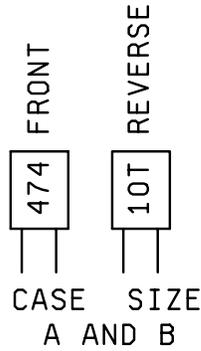
- At 25°C: DCL - 200 percent of table I.  
ΔCap. - Within 10 percent of initial measured value.  
DF - See table I.

Resistance to solvents: Not applicable.

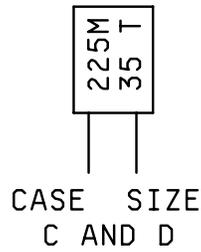
Marking: In accordance with MIL-PRF-49137, except that case sizes A and B, shall be marked as shown in example 1. The front shall be marked with the capacitance value coded in picofarads and the reverse shall be marked with the dc voltage and the manufacturer's trademark. Case sizes C and D shall be marked as shown in example 2. The first line will contain the capacitance in picofarads and the capacitance tolerance. The second line will contain the dc voltage and the manufacturers trademark. Case sizes E, F, and G shall be marked as shown in example 3. The first line will contain the part number and the second shall contain the date code (year and week), lot code, and manufacturer's trademark.

At the option of the manufacturer, color coding may be used to mark the capacitance, dc rated voltage, and the manufacturers trademark on case sizes A and B. The use of two lines, the first line to identify the capacitance, and tolerance, and the second line, the dc voltage and manufacturers trademark for case sizes C and D. The use of three lines to mark the date, lot code, and manufacturers trademark on case sizes E, F, and G, as long as it is the same order as shown in the example.

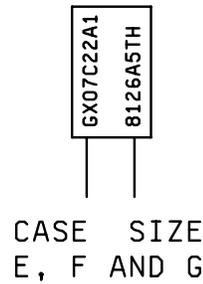
EXAMPLE 1



EXAMPLE 2



EXAMPLE 3



Voltage groups (85°C rated voltage):  
I-----2 to 10 V inclusive  
II-----15 to 35 V inclusive

Changes from previous issues. The margins of this specification are marked with asterisks to indicate where changes from previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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Army - CR

Agent:  
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