

INCH-POUND

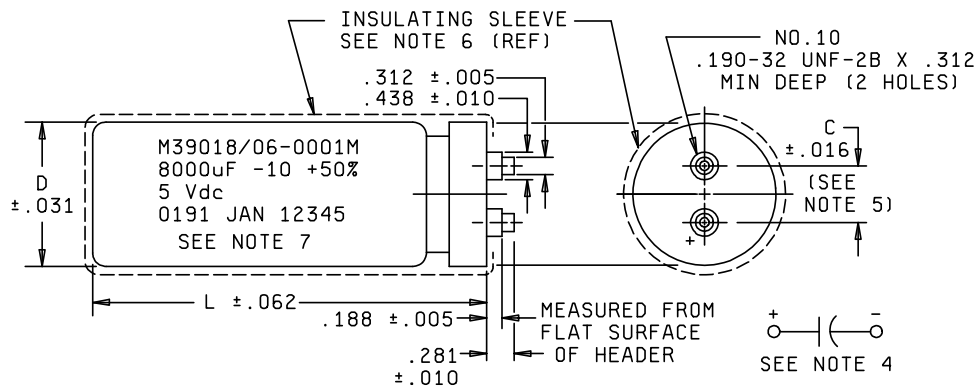
MIL-PRF-39018/6D
 20 February 2009
 SUPERSEDING
 MIL-PRF-39018/6C
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PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, ELECTROLYTIC (ALUMINUM OXIDE)
 (POLARIZED), ESTABLISHED RELIABILITY
 STYLE CUR91 (INSULATED)

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 sheet and [MIL-PRF-39018](#).



Inches	mm	Inches	mm	Inches	mm
.005	0.13	.190	4.83	1.125	28.58
.010	0.25	.281	7.14	1.250	31.75
.016	0.41	.312	7.92	1.375	34.93
.031	0.79	.438	11.13	2.000	50.80
.062	1.57	.500	12.70	2.500	63.50
.188	4.78	.875	22.23	3.000	76.20

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Capacitors are mounted by means of a wraparound, footed-type bracket.
4. There is an indeterminate resistance between the metal case and the negative terminals.
5. "C" dimension is .500 for case diameter of 1.375; .875 for case diameter of 2.000; 1.125 for case diameter of 2.500; and 1.250 for case diameter of 3.000.
6. Insulating sleeve thickness shall not exceed .016 and shall overlap the ends of the capacitor body.
7. Example of marking and its relative location on the capacitor body

FIGURE 1. Style CUR91 capacitors.

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Case size	Bare case dimensions	
	D ±.031	L ±.062
AA	1.375	2.125
AB	1.375	3.125
AC	1.375	4.125
AD	1.375	4.625
AE	1.375	5.125
AF	1.375	5.625
BB	2.000	3.125
BC	2.000	4.125
BD	2.000	4.625
BE	2.000	5.125
BF	2.000	5.625
CB	2.500	3.125
CC	2.500	4.125
CD	2.500	4.625
CE	2.500	5.125
CF	2.500	5.625
DC	3.000	4.125
DD	3.000	4.625
DE	3.000	5.125
DF	3.000	5.625

Inches	mm
1.375	34.93
2.000	50.80
2.125	53.98
2.500	63.50
3.000	76.20
3.125	79.38
4.125	104.78
4.625	117.48
5.125	130.18
5.625	142.88

FIGURE 1. Style CUR91 capacitors - Continued.

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TABLE I. Style CUR91 capacitors.

DC rated voltage @ 105°C	Capacitance (nom)	DC surge voltage @ 105°C	ESR (max)	Impedance (max) @ -55°C (120 Hz)	DC leakage (max)		Maximum ac ripple current 1/ 120 Hz @ 85°C	Case size	Dash number 2/
					25°C	105°C			
Volts	µF	Volts	Ohms	Ohms	mA		Amps		
5	8,000	7	.045	1.28	0.30	2.70	6.0	AA	0001-
5	17,000	7	.029	0.61	0.44	3.96	8.0	AB	0002-
5	25,000	7	.023	0.41	0.53	4.77	9.2	AC	0003-
5	29,000	7	.018	0.36	0.57	5.13	10.4	AD	0004-
5	34,000	7	.015	0.31	0.62	5.58	11.6	AE	0005-
5	37,000	7	.013	0.28	0.65	5.85	12.2	AF	0006-
5	40,000	7	.019	0.28	0.67	6.03	12.6	BB	0007-
5	60,000	7	.014	0.19	0.82	7.38	15.1	BC	0008-
5	67,000	7	.013	0.17	0.87	7.83	16.3	CB	0009-
5	70,000	7	.012	0.16	0.89	8.01	16.3	BD	0010-
5	80,000	7	.012	0.14	0.95	8.55	16.6	BE	0011-
5	90,000	7	.010	0.13	1.00	9.00	16.9	BF	0012-
5	100,000	7	.010	0.12	1.06	9.54	19.1	CC	0013-
5	110,000	7	.010	0.11	1.11	9.99	21.5	CD	0014-
5	130,000	7	.009	0.10	1.21	10.90	23.0	CE	0015-
5	150,000	7	.008	.091	1.30	11.70	23.8	CF	0016-
5	150,000	7	.010	.091	1.30	11.70	24.1	DC	0017-
5	170,000	7	.010	.091	1.38	12.40	24.7	DD	0018-
5	200,000	7	.009	.084	1.50	13.50	26.6	DE	0019-
5	220,000	7	.008	.084	1.57	14.10	26.8	DF	0020-
10	5,000	15	.045	0.84	0.34	3.06	6.0	AA	0021-
10	10,000	15	.028	0.42	0.47	4.23	8.2	AB	0022-
10	15,000	15	.022	0.28	0.58	5.22	9.4	AC	0023-
10	17,000	15	.018	0.25	0.62	5.58	10.4	AD	0024-
10	20,000	15	.015	0.21	0.67	6.03	11.4	AE	0025-
10	22,000	15	.015	0.19	0.70	6.30	12.2	AF	0026-
10	24,000	15	.020	0.18	0.73	6.57	12.2	BB	0027-
10	37,000	15	.016	0.12	0.91	8.21	14.6	BC	0028-
10	42,000	15	.016	0.11	0.97	8.75	16.0	CB	0029-
10	43,000	15	.013	0.10	0.98	8.85	15.4	BD	0030-
10	48,000	15	.012	.093	1.04	9.35	16.3	BE	0031-
10	55,000	15	.011	.081	1.11	9.99	16.8	BF	0032-
10	64,000	15	.011	.069	1.20	10.8	19.0	CC	0033-
10	75,000	15	.010	.060	1.30	11.7	21.5	CD	0034-
10	86,000	15	.009	.054	1.39	12.5	22.2	CE	0035-
10	94,000	15	.014	.051	1.45	13.1	20.0	DC	0036-
10	96,000	15	.010	.051	1.47	13.2	23.0	CF	0037-
10	110,000	15	.010	.048	1.57	14.1	22.7	DD	0038-
10	120,000	15	.010	.045	1.64	14.8	23.4	DE	0039-
10	140,000	15	.010	.042	1.77	16.0	24.2	DF	0040-
15	4,000	20	.043	1.04	0.37	3.31	6.5	AA	0041-
15	8,000	20	.025	0.52	0.52	4.68	8.7	AB	0042-
15	12,000	20	.024	0.35	0.64	5.73	9.0	AC	0043-
15	14,000	20	.019	0.30	0.69	6.19	10.7	AD	0044-
15	16,000	20	.017	0.26	0.74	6.61	12.0	AE	0045-
15	18,000	20	.016	0.23	0.78	7.01	13.6	AF	0046-

See footnotes at end of table.

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TABLE I. Style CUR91 capacitors - Continued.

DC rated voltage @ 105°C	Capacitance (nom)	DC surge voltage @ 105°C	ESR (max)	Impedance (max) @ -55°C (120 Hz)	DC leakage (max)		Maximum ac ripple current 1/ 120 Hz @ 85°C	Case size	Dash number 2/
					25°C	105°C			
Volts	μF	Volts	Ohms	Ohms	mA		Amps		
15	20,000	20	.018	0.22	0.82	7.39	13.0	BB	0047-
15	30,000	20	.014	0.14	1.00	9.05	15.2	BC	0048-
15	35,000	20	.011	0.12	1.09	9.78	17.1	BD	0049-
15	40,000	20	.010	0.11	1.16	10.5	18.2	BE	0050-
15	42,000	20	.012	0.11	1.19	10.7	18.2	CB	0051-
15	45,000	20	.010	.096	1.23	11.1	19.5	BF	0052-
15	51,000	20	.010	.087	1.31	11.8	20.7	CC	0053-
15	59,000	20	.010	.075	1.41	12.7	21.8	CD	0054-
15	68,000	20	.009	.066	1.51	13.6	23.1	CE	0055-
15	76,000	20	.008	.060	1.60	14.4	24.5	CF	0056-
15	76,000	20	.010	.060	1.60	14.4	23.1	DC	0057-
15	89,000	20	.009	.054	1.73	15.6	25.7	DD	0058-
15	100,000	20	.009	.051	1.84	16.5	26.6	DE	0059-
15	110,000	20	.008	.048	1.93	17.3	27.5	DF	0060-
20	2,800	30	.044	1.47	0.35	3.19	6.1	AA	0061-
20	5,100	30	.026	0.81	0.48	4.31	8.5	AB	0062-
20	8,600	30	.020	0.48	0.62	5.60	9.9	AC	0063-
20	10,000	30	.019	0.41	0.67	6.04	11.0	AD	0064-
20	11,000	30	.017	0.37	0.70	6.33	11.7	AE	0065-
20	13,000	30	.016	0.32	0.76	6.88	12.0	AF	0066-
20	20,000	30	.013	0.21	0.95	8.54	15.4	BC	0067-
20	23,000	30	.013	0.18	1.02	9.16	15.8	BD	0068-
20	24,000	30	.016	0.17	1.04	9.35	16.0	CB	0069-
20	26,000	30	.012	0.16	1.08	9.73	16.5	BE	0070-
20	30,000	30	.012	0.14	1.16	10.5	17.2	BF	0071-
20	37,000	30	.012	0.11	1.29	11.6	18.8	CC	0072-
20	43,000	30	.011	0.10	1.39	12.5	19.9	CD	0073-
20	47,000	30	.010	.090	1.45	13.1	21.2	CE	0074-
20	54,000	30	.012	.081	1.56	14.0	22.0	DC	0075-
20	55,000	30	.009	.078	1.57	14.2	22.6	CF	0076-
20	63,000	30	.009	.069	1.68	15.2	24.5	DD	0077-
20	73,000	30	.009	.063	1.81	16.3	25.9	DE	0078-
20	82,000	30	.008	.057	1.92	17.3	26.5	DF	0079-
25	2,500	40	.050	1.64	0.38	3.38	5.7	AA	0080-
25	5,500	40	.031	0.75	0.56	5.00	7.7	AB	0081-
25	7,500	40	.021	0.55	0.65	5.85	9.6	AC	0082-
25	8,700	40	.020	0.47	0.70	6.30	10.0	AD	0083-
25	10,000	40	.019	0.41	0.75	6.75	11.0	AE	0084-
25	11,000	40	.018	0.37	0.79	7.08	12.0	AF	0085-
25	17,000	40	.015	0.25	0.98	8.80	14.5	BC	0086-
25	20,000	40	.012	0.21	1.06	9.54	16.1	BD	0087-
25	20,000	40	.011	0.21	1.06	9.54	16.8	CB	0088-
25	23,000	40	.011	0.18	1.14	10.2	16.8	BE	0089-

See footnotes at end of table.

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TABLE I. Style CUR91 capacitors – Continued.

DC rated voltage @ 105°C	Capacitance (nom)	DC surge voltage @ 105°C	ESR (max)	Impedance (max) @ -55°C (120 Hz)	DC leakage (max)		Maximum ac ripple current 1/120 Hz @ 85°C	Case size	Dash number 2/
					25°C	105°C			
Volts	µF	Volts	Ohms	Ohms	mA		Amps		
25	25,000	40	.011	0.17	1.19	10.7	17.4	BF	0090-
25	30,000	40	.011	0.14	1.30	11.7	19.6	CC	0091-
25	35,000	40	.010	0.12	1.40	12.6	20.7	CD	0092-
25	40,000	40	.009	0.11	1.50	13.5	22.1	CE	0093-
25	44,000	40	.015	0.10	1.57	14.2	19.4	DC	0094-
25	45,000	40	.009	.093	1.59	14.3	23.2	CF	0095-
25	52,000	40	.009	.081	1.71	15.4	25.5	DD	0096-
25	60,000	40	.009	.072	1.84	16.5	26.5	DE	0097-
25	67,000	40	.008	.066	1.94	17.5	27.5	DF	0098-
30	2,200	45	.054	1.86	0.39	3.47	5.5	AA	0099-
30	4,400	45	.033	0.93	0.54	4.90	7.5	AB	0100-
30	6,600	45	.025	0.62	0.67	6.00	8.8	AC	0101-
30	7,700	45	.020	0.53	0.72	6.49	9.7	AD	0102-
30	8,800	45	.019	0.47	0.77	6.94	11.5	AE	0103-
30	9,900	45	.017	0.41	0.82	7.36	11.7	AF	0104-
30	10,000	45	.020	0.41	0.82	7.39	12.0	BB	0105-
30	15,000	45	.015	0.28	1.00	9.06	14.3	BC	0106-
30	17,000	45	.014	0.24	1.07	9.64	15.1	BD	0107-
30	18,000	45	.016	0.23	1.10	9.92	15.8	CB	0108-
30	20,000	45	.012	0.21	1.16	10.5	15.9	BE	0109-
30	22,000	45	.012	0.19	1.22	11.0	17.0	BF	0110-
30	26,000	45	.012	0.16	1.32	11.9	18.6	CC	0111-
30	30,000	45	.010	0.14	1.42	12.8	20.3	CD	0112-
30	34,000	45	.010	0.12	1.51	13.6	21.0	CE	0113-
30	38,000	45	.015	0.11	1.60	14.4	19.2	DC	0114-
30	39,000	45	.010	0.11	1.62	14.6	21.8	CF	0115-
30	45,000	45	.010	.093	1.74	15.7	23.3	DD	0116-
30	52,000	45	.009	.081	1.87	16.9	25.3	DE	0117-
30	58,000	45	.008	.075	1.98	17.8	27.0	DF	0118-
40	1,800	55	.065	2.28	0.40	3.62	5.0	AA	0119-
40	3,700	55	.038	1.11	0.58	5.19	8.0	AB	0120-
40	5,500	55	.033	0.75	0.70	6.33	9.2	AC	0121-
40	6,400	55	.023	0.64	0.76	6.83	10.7	AD	0122-
40	7,400	55	.020	0.56	0.82	7.34	11.6	AE	0123-
40	8,200	55	.018	0.50	0.86	7.73	12.4	AF	0124-
40	9,000	55	.019	0.46	0.90	8.10	12.4	BB	0125-
40	13,000	55	.016	0.32	1.08	9.73	14.7	BC	0126-
40	15,000	55	.014	0.28	1.16	10.5	16.0	BD	0127-
40	15,000	55	.014	0.28	1.16	10.5	16.8	CB	0128-
40	18,000	55	.013	0.23	1.27	11.5	17.9	BE	0129-
40	19,000	55	.011	0.22	1.31	11.8	18.1	BF	0130-
40	22,000	55	.011	0.19	1.41	12.7	19.6	CC	0131-
40	25,000	55	.010	0.17	1.50	13.5	21.0	CD	0132-
40	28,000	55	.009	0.15	1.59	14.3	22.3	CE	0133-
40	32,000	55	.009	0.13	1.70	15.3	22.2	DC	0134-

See footnotes at end of table.

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TABLE I. Style CUR91 capacitors – Continued.

DC rated voltage @ 105°C	Capacitance (nom)	DC surge voltage @ 105°C	ESR (max)	Impedance (max) @ -55°C (120 Hz)	DC leakage (max)		Maximum ac ripple current 1/ 120 Hz @ 85°C	Case size	Dash number 2/
					25°C	105°C			
Volts	μF	Volts	Ohms	Ohms	mA		Amps		
40	33,000	55	.010	0.13	1.72	15.5	23.1	CF	0135-
40	37,000	55	.010	0.11	1.82	16.4	24.2	DD	0136-
40	43,000	55	.009	0.10	1.97	17.7	25.5	DE	0137-
40	48,000	55	.008	.090	2.08	18.7	27.1	DF	0138-
50	1,400	75	.077	1.94	0.40	3.57	4.6	AA	0139-
50	2,900	75	.037	0.94	0.57	5.14	7.7	AB	0140-
50	4,400	75	.027	0.64	0.70	6.33	8.8	AC	0141-
50	5,100	75	.024	0.53	0.76	6.82	9.9	AD	0142-
50	5,800	75	.021	0.47	0.81	7.27	10.9	AE	0143-
50	6,600	75	.020	0.41	0.86	7.76	11.5	AF	0144-
50	9,000	75	.018	0.30	1.00	9.05	13.0	BC	0145-
50	11,000	75	.017	0.25	1.11	10.0	15.2	BD	0146-
50	12,000	75	.016	0.23	1.16	10.5	16.4	CB	0147-
50	13,000	75	.014	0.21	1.21	10.9	16.1	BE	0148-
50	15,000	75	.012	0.18	1.30	11.7	16.8	BF	0149-
50	17,000	75	.012	0.16	1.38	12.4	19.1	CC	0150-
50	20,000	75	.010	0.14	1.50	13.5	20.4	CD	0151-
50	22,000	75	.009	0.12	1.57	14.2	21.6	CE	0152-
50	25,000	75	.009	0.11	1.68	15.1	22.4	CF	0153-
50	25,000	75	.013	0.11	1.68	15.1	20.7	DC	0154-
50	30,000	75	.011	0.10	1.84	16.5	22.5	DD	0155-
50	34,000	75	.010	.082	1.96	17.6	24.0	DE	0156-
50	39,000	75	.009	.072	2.09	18.9	26.4	DF	0157-
75	820	100	.128	3.28	0.30	2.69	4.0	AA	0158-
75	1,600	100	.068	1.68	0.41	3.70	6.6	AB	0159-
75	2,300	100	.048	1.17	0.52	4.68	7.7	AC	0160-
75	2,600	100	.044	1.03	0.55	4.96	8.6	AD	0161-
75	3,000	100	.039	0.90	0.58	5.23	9.3	AE	0162-
75	3,300	100	.035	0.81	0.64	5.73	10.3	AF	0163-
75	3,700	100	.033	0.73	0.66	5.96	10.0	BB	0164-
75	5,400	100	.021	0.50	0.81	7.30	12.9	BC	0165-
75	5,700	100	.021	0.48	0.86	7.76	13.9	CB	0166-
75	6,200	100	.020	0.44	0.87	7.84	13.4	BD	0167-
75	7,100	100	.018	0.38	0.92	8.27	14.2	BE	0168-
75	7,900	100	.017	0.30	0.99	8.90	15.1	BF	0169-
75	8,500	100	.015	0.32	1.06	9.50	16.7	CC	0170-
75	10,000	100	.013	0.27	1.14	10.3	18.6	CD	0171-
75	11,000	100	.011	0.25	1.22	11.0	19.8	CE	0172-
75	13,000	100	.010	0.21	1.29	11.6	20.6	CF	0173-
75	13,000	100	.015	0.21	1.27	11.4	19.4	DC	0174-
75	15,000	100	.013	0.18	1.36	12.3	20.7	DD	0175-
75	17,000	100	.012	0.16	1.48	13.3	22.1	DE	0176-
75	19,000	100	.010	0.14	1.54	13.8	23.7	DF	0177-

See footnotes at end of table.

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TABLE I. Style CUR91 capacitors – Continued.

DC rated voltage @ 105°C	Capacitance (nom)	DC surge voltage @ 105°C	ESR (max)	Impedance (max) @ -55°C (120 Hz)	DC leakage (max)		Maximum ac ripple current ^{1/} 120 Hz @ 85°C	Case size	Dash number ^{2/}
					25°C	105°C			
Volts	µF	Volts	Ohms	Ohms	mA		Amps		
100	410	150	.200	6.58	0.24	2.13	3.5	AA	0178-
100	810	150	.105	3.33	0.34	3.02	4.8	AB	0179-
100	1,200	150	.074	2.25	0.42	3.82	6.3	AC	0180-
100	1,400	150	.065	1.93	0.45	4.05	7.3	AD	0181-
100	1,500	150	.058	1.79	0.47	4.27	7.8	AE	0182-
100	1,700	150	.053	1.59	0.50	4.48	8.2	AF	0183-
100	1,900	150	.048	1.42	0.52	4.68	9.0	BB	0184-
100	2,800	150	.033	0.97	0.64	5.73	10.8	BC	0185-
100	2,900	150	.045	0.74	0.69	6.19	9.8	CB	0186-
100	3,200	150	.029	0.84	0.69	6.19	12.0	BD	0187-
100	3,600	150	.026	0.76	0.73	6.61	13.0	BE	0188-
100	4,100	150	.023	0.66	0.76	6.88	13.8	BF	0189-
100	4,400	150	.025	0.62	0.84	7.52	13.4	CC	0190-
100	5,100	150	.022	0.53	0.90	8.10	14.0	CD	0191-
100	5,900	150	.020	0.46	0.96	8.64	15.5	CE	0192-
100	6,500	150	.018	0.42	1.02	9.16	17.6	DC	0193-
100	6,600	150	.017	0.41	1.00	9.06	16.5	CF	0194-
100	7,600	150	.017	0.36	1.11	10.0	18.2	DD	0195-
100	8,700	150	.016	0.31	1.16	10.5	18.9	DE	0196-
100	9,500	150	.015	0.29	1.23	11.1	19.6	DF	0197-
150	210	200	.510	12.8	0.24	2.16	1.10	AA	0198-
150	380	200	.280	7.08	0.34	3.09	1.90	AB	0199-
150	550	200	.194	4.88	0.41	3.70	2.60	AC	0200-
150	640	200	.168	4.18	0.49	4.37	3.30	AE	0201-
150	720	200	.140	3.72	0.51	4.62	3.60	AF	0202-
150	900	200	.130	2.98	0.52	4.68	3.60	BB	0203-
150	1,300	200	.100	2.08	0.64	5.73	4.60	BC	0204-
150	1,400	200	.090	1.92	0.66	5.96	5.20	CB	0205-
150	1,700	200	.075	1.08	0.71	6.40	6.20	BE	0206-
150	1,900	200	.060	1.42	0.76	6.82	6.70	BF	0207-
150	2,100	200	.054	1.28	0.82	7.39	7.10	CC	0208-
150	2,800	200	.044	0.96	0.95	8.59	9.10	CE	0209-
150	3,100	200	.037	0.86	1.00	9.06	9.60	CF	0210-
150	3,100	200	.038	0.86	1.02	9.21	9.50	DC	0211-
150	4,200	200	.030	0.64	1.16	10.5	11.5	DE	0212-
150	4,700	200	.026	0.58	1.23	11.1	12.2	DF	0213-

^{1/} The ripple current values shown are representative values not supported by test data. See [table II](#) and [table III](#) for frequency and temperature factors.

^{2/} Complete dash number will include an additional letter symbol to indicate FR level (i.e., 0001M, 0026R, etc.).

REQUIREMENTS:

Dimensions and configuration: See [figure 1](#).

Case:

Type: Tubular.

Material: Metal.

Leads: See [figure 1](#).

DC rated voltage: See [table I](#).

Reverse voltage: 1.5 volts maximum.

Capacitance (Cap.) value: See [table I](#).

Cap. tolerance: -10, +50 percent.

FR level: M, P, R, and S.

Operating temperature range: -55°C to +105°C.

Burn-in: In accordance with [MIL-PRF-39018](#).

DC leakage (DCL), See [table I](#).

Equivalent Series Resistance (ESR): See [table I](#).

Low temperature exposure:

DCL - See [table I](#).

Cap. - See [table I](#).

ESR - See [table I](#).

Terminal strength: [Method 211 of MIL-STD-202](#), test conditions E.

Torque: 8 inch-pounds for case diameter of 1.375 inch (34.92 mm) ; 15 inch-pounds for other case diameters.

Stability at reduced and high temperatures:

Step 1 (at +25°C):

DCL - See [table I](#).

Cap. - See [table I](#).

ESR - See [table I](#).

Step 2 (at -55°C):

Impedance - See [table I](#).

Δ Cap. - Within the following percentages of the step 1 value:

5 V dc inclusive: ± 35 percent.

10 to 25 V dc inclusive: ± 25 percent.

30 to 100 V dc inclusive: ± 20 percent.

150 V dc: ± 30 percent.

Step 3 (at +25°C):

DCL - See [table I](#).

Δ Cap. - Within ± 5 percent of step 1 value.

ESR - See [table I](#).

Step 4 (at +105°C):

DCL - See [table I](#).

ΔCap. - Within ±30 percent of step 1 value.

ESR - See [table I](#).

Step 5 (at +25°C):

DCL - See [table I](#).

ΔCap. - Within ±5 percent of step 1 value.

ESR - See [table I](#).

Life: [Method 108 of MIL-STD-202](#).

For qualification: Condition F (2,000 hours) at 85°C.

DCL - See [table I](#).

ΔCap. - Within ±10 percent of initial measured value.

ESR - Not more than 130 percent of initial requirement.

10,000 hour (extended life and group C) at 85°C.

DCL - See [table I](#).

ΔCap. - Within ±15 percent of initial measured value.

ESR - Not more than 250 percent of initial requirement.

Case insulation: In accordance with [MIL-PRF-39018](#).

Shock (specified pulse): [Method 213 of MIL-STD-202](#), condition H.

* Vibration: Low frequency – In accordance with [MIL-PRF-39018](#).

Thermal shock and immersion:

Thermal shock: [Method 107 of MIL-STD-202](#), condition A, except in step 3, units shall be tested at applicable high temperature.

Immersion: [Method 104 of MIL-STD-202](#), condition B (2 cycles, 30 minutes).

DCL - See [table I](#).

ΔCap. - Within ±5 percent of initial measured value.

ESR - See [table I](#).

Case insulation - Shall meet initial requirements.

Surge voltage:

DCL - See [table I](#).

ΔCap. - Within ±6 percent of initial measured value.

ESR - See [table I](#).

Vent: In accordance with [MIL-PRF-39018](#).

Moisture resistance: [Method 106 of MIL-STD-202](#).

DCL - See [table I](#).

ΔCap. - Within ±6 percent of initial measured value.

ESR - See [table I](#).

Case insulation - Shall meet initial requirements.

High temperature exposure (500 hours at 105°C):

DCL - Not more than 200 percent of initial requirement.

ΔCap. - Within ±10 percent of initial measured value.

ESR - Not more than 115 percent of initial requirement.

AC verification:

DCL - See [table I](#).

Δ Cap. - Within ± 15 percent of initial measured value.

ESR - 200 percent of initial requirement.

Reverse voltage aging: In accordance with [MIL-PRF-39018](#).

Marking: In accordance with [MIL-PRF-39018](#).

Part or Identifying Number: M39018/06-(dash number from [table I](#)).

APPLICATION NOTES:

1. Ripple current. Capacitors shall withstand the rms ripple currents at 120 Hz as given in [table I](#).

The maximum ripple current shall apply with the following qualifications:

The sum of the dc voltage plus the peak value of ac voltage must not exceed the working voltage rating of the unit, or the ac shall never exceed the maximum dc.

The values of dc voltage and ac peak voltage must be such that not more than a 1.5 volt voltage reversal is experienced.

If capacitors are used to filter circuits at a frequency other than 120 Hz, the rated 120 Hz rms ripple current should be multiplied by the factor given in the following table.

TABLE II. Factors for determining ripple currents at various frequencies.

Rated voltage	Frequency (in hertz)					
	50	60	100	120	400	1,000 to 20 kHz
5 - 50	0.85	0.90	0.99	1.0	1.05	1.10
75 - 150	0.80	0.83	0.95	1.0	1.15	1.20

TABLE III. Factors for determining ripple currents at various temperatures.

Temperature (in degrees Celsius)				
25°	45°	65°	85°	105°
2.0	1.7	1.4	1.0	0.3

2. Insulation and grounding. These capacitors have an inherently low indeterminate insulation resistance between the cathode terminal and the container. The container should be considered at the same potential as the cathode terminal with respect to ground. Where a potential difference exists between the cathode terminal and the chassis or other metallic mounting surfaces which are usually ground, the capacitors should be mounted in such a manner as to insulate the container from such mounting surfaces.
3. Shelf life. Shelf life and reforming procedures shall be in accordance with [MIL-HDBK-1131](#).

4. Torque. The minimum and maximum torque applied to the steel screw/aluminum insert shall be as follows:

	<u>Min</u>	<u>Max</u>
With a minimum of 3 engaged threads: -	12 inch-pounds	18 inch-pounds
With a minimum of 6 engaged threads: -	20 inch-pounds	25 inch-pounds

NOTES:

Reference document. [MIL-PRF-39018](#).
[MIL-STD-202](#).
[MIL-HDBK-1131](#)

Changes from previous issue. The margins of this specification are marked with asterisks to indicate where changes from the 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.

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5910-2009-024)

Review activities:
Navy - AS, MC, OS, SH
Air Force - 19

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil/>.