

INCH-POUND

MIL-PRF-39018/1H
20 February 2009
SUPERSEDING
MIL-PRF-39018/1G
2 March 2007

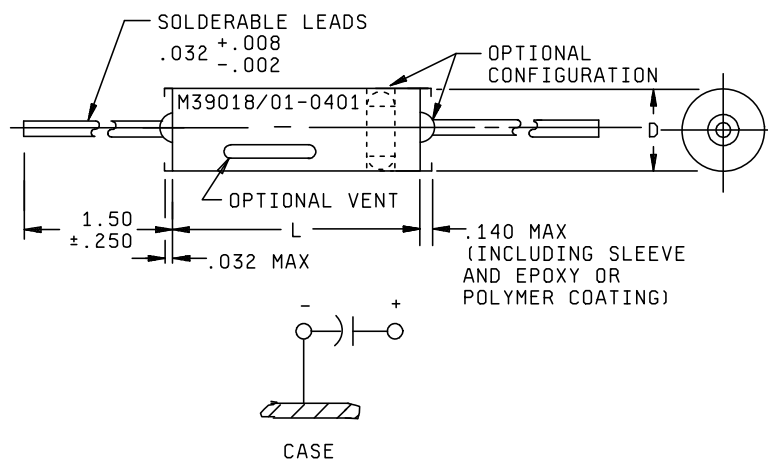
PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, ELECTROLYTIC (ALUMINUM OXIDE)
(POLARIZED), NON-ESTABLISHED RELIABILITY AND ESTABLISHED RELIABILITY
STYLES CU12 (UNINSULATED), CU13 (INSULATED), AND CUR13 (INSULATED)

STYLE CU12 INACTIVE FOR
DESIGN AFTER 23 MARCH 1972

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

The requirements for acquiring the capacitors described herein shall consist of this specification sheet and [MIL-PRF-39018](#).



Case size	Dimensions		Inches	mm	Inches	mm
	L $\pm .031$	D $\pm .015$ See note 4				
A0	.938	.281	.002	0.05	.375	9.53
A1	.938	.375	.008	0.20	.938	23.83
A2	1.125	.375	.015	0.38	1.125	28.57
A3	1.375	.375	.031	0.79	1.375	34.92
A4	1.625	.375	.032	0.81	1.50	38.1
A5	2.188	.375	.140	3.56	1.625	41.27
A6	2.688	.375	.250	6.35	2.188	55.58
			.281	7.14	2.688	68.28

FIGURE 1. Styles CU12, CU13, and CUR13 capacitors.

AMSC N/A

FSC 5910

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. These capacitors are not intended to be mounted by their leads.
4. The "D" dimensions for styles CU13 and CUR13 shall be not more than .008 (0.20 mm) larger than the specified bare case diameter.

FIGURE 1. Styles CU12, CU13, and CUR13 capacitors - Continued.

REQUIREMENTS:

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

Case: Type - Tubular.

Material - Metal.

Leads - See [figure 1](#).

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

Reverse voltage: 3.0 volts maximum.

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

Cap. tolerance: See [table I](#).

Failure rate level (CUR13 only): M, P, R, and S.

Operating temperature range: -55°C to +85°C derated to +125°C (see [table I](#)).

Burn-in (CUR13 only): 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](#).

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

Terminal strength: [Method 211 of MIL-STD-202](#), test condition A (3 pounds) and test condition D (3 rotations).

TABLE I. Styles CU12, CU13, and CUR13 capacitors.

DC rated voltage		Cap.	DC surge voltage		ESR		Max. Imped. at 120 Hz	DC leakage		Max. ac ripple current at 85°C 1/	Case size	Dash number					
												Style CU12		Style CU13		Style CUR13 2/	
												Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance
+85°C	+125°C		+85°C	+125°C	+25°C	+85°C and +125°C	-55°C and 120 Hz	+25°C	+85°C and +125°C	120 Hz at 85°C		-10 +30	-10 +50	-10 +30	-10 +50	-10 +30	-10 +50
7	5	μF	volts	volts	Ω	Ω	Ω	μA	μA	mA	A1	Percent	Percent	Percent	Percent	Percent	Percent
10	7	220	10	7	1.21	1.51	20	3	18	290 3/	A1	0401	0501	0601	0701	1001-	1101-
15	10	270	10	7	.98	1.23	17	3	18	360 3/	A2	0402	0502	0602	0702	1002-	1102-
15	10	390	10	7	.68	.85	12	4	24	520 3/	A3	0403	0503	0603	0703	1003-	1103-
15	10	560	10	7	.47	.59	8	5	30	750 3/	A4	0404	0504	0604	0704	1004-	1104-
15	10	820	10	7	.32	.40	5.5	7	42	1100 3/	A5	0405	0505	0605	0705	1005-	1105-
15	10	1000	10	7	.27	.33	4.5	10	60	1350 3/	A6	0406	0506	0606	0706	1006-	1106-
10	7	100	15	10	2.65	3.32	38	2	12	285 3/	A0	0407	0507	0607	0707	1007-	1107-
10	7	180	15	10	1.47	1.84	25	3	18	438 3/	A1	0408	0508	0608	0708	1008-	1108-
10	7	220	15	10	1.21	1.51	20	3	18	527 3/	A2	0409	0509	0609	0709	1009-	1109-
10	7	330	15	10	.80	1.00	14	4	24	696 3/	A3	0410	0510	0610	0710	1010-	1110-
10	7	470	15	10	.56	.71	9.6	5	30	892 3/	A4	0411	0511	0611	0711	1011-	1111-
10	7	680	15	10	.39	.49	6.6	7	42	1210	A5	0412	0512	0612	0712	1012-	1112-
10	7	820	15	10	.32	.40	5.5	10	60	1490	A6	0413	0513	0613	0713	1013-	1113-
15	10	68	20	15	3.90	4.86	66	2	12	181 3/	A0	0414	0514	0614	0714	1014-	1114-
15	10	82	20	15	3.23	4.04	55	2	12	219 3/	A0	0415	0515	0615	0715	1015-	1115-
15	10	150	20	15	1.77	2.21	30	3	18	400	A1	0416	0516	0616	0716	1016-	1116-
15	10	180	20	15	1.47	1.84	25	3	18	475	A2	0417	0517	0617	0717	1017-	1117-
15	10	270	20	15	.98	1.23	17	4	24	628	A3	0418	0518	0618	0718	1018-	1118-
15	10	390	20	15	.68	.85	12	5	30	810	A4	0419	0519	0619	0719	1019-	1119-
15	10	560	20	15	.47	.59	8	7	42	1100	A5	0420	0520	0620	0720	1020-	1120-
15	10	680	20	15	.39	.49	6.6	10	60	1320	A6	0421	0521	0621	0721	1021-	1121-
30	20	33	40	30	8.04	10.05	91	2	12	164	A0	0422	0522	0622	0722	1022-	1122-
30	20	47	40	30	5.64	7.05	64	2	12	196	A0	0423	0523	0623	0723	1023-	1123-
30	20	82	40	30	3.23	4.04	36	3	18	297	A1	0424	0524	0624	0724	1024-	1124-
30	20	100	40	30	2.65	3.33	30	3	18	353	A2	0425	0525	0625	0725	1025-	1125-
30	20	120	40	30	2.21	2.76	25	4	24	419	A3	0426	0526	0626	0726	1026-	1126-
30	20	150	40	30	1.77	2.21	20	4	24	470	A3	0427	0527	0627	0727	1027-	1127-
30	20	220	40	30	1.20	1.51	14	5	30	607	A4	0428	0528	0628	0728	1028-	1128-
30	20	330	40	30	.80	1.00	9.1	7	42	848	A5	0429	0529	0629	0729	1029-	1129-
30	20	390	40	30	.68	.85	7.7	10	60	1000	A6	0430	0530	0630	0730	1030-	1130-

See footnotes at end of table.

TABLE I. Styles CU12, CU13, and CUR13 capacitors - Continued.

DC rated voltage	Cap	DC surge voltage	ESR		Max. Imped. at -55°C and 120 Hz	DC leakage		Max. ac ripple current 120 Hz at 85°C $\frac{1}{\mu}$	Case size	Dash number					
										Style CU12		Style CU13		Style CUR13 2/	
			+85°C and +125°C	+25°C	Ω	Ω	+25°C	+85°C and +125°C		Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance
+85°C	+125°C	+85°C	+125°C	+85°C	+125°C	+85°C	+125°C	+85°C	A0	0431	0531	0631	0731	1031	1131
50	40	60	50	9.04	15.07	140	2	12	A0	0431	0531	0631	0731	1031	1131
50	40	60	50	5.03	10.05	91	3	18	A1	0432	0532	0632	0732	1032	1132
50	40	60	50	4.23	7.05	64	3	18	A2	0433	0533	0633	0733	1033	1133
50	40	60	50	3.55	5.92	54	4	24	A3	0434	0534	0634	0734	1034	1134
50	40	60	50	2.92	4.88	44	4	24	A3	0435	0535	0635	0735	1035	1135
50	40	60	50	1.99	3.32	30	5	30	A4	0436	0536	0636	0736	1036	1136
50	40	60	50	1.33	2.21	20	7	42	A5	0437	0537	0637	0737	1037	1137
50	40	60	50	1.11	1.84	17	10	60	A6	0438	0538	0638	0738	1038	1138
75	60	90	75	16.58	27.63	250	2	12	A0	0439	0539	0639	0739	1039	1139
75	60	90	75	9.04	15.07	140	3	18	A1	0440	0540	0640	0740	1040	1140
75	60	90	75	6.03	10.05	91	3	18	A2	0441	0541	0641	0741	1041	1141
75	60	90	75	4.27	7.05	64	4	24	A3	0442	0542	0642	0742	1042	1142
75	60	90	75	2.92	4.88	44	5	30	A4	0443	0543	0643	0743	1043	1143
75	60	90	75	1.99	3.32	30	7	42	A5	0444	0544	0644	0744	1044	1144
75	60	90	75	1.65	2.76	25	10	60	A6	0445	0545	0645	0745	1045	1145
100	75	125	100	24.26	40.44	360	2	12	A0	0446	0546	0646	0746	1046	1146
100	75	125	100	16.54	27.63	250	3	18	A1	0447	0547	0647	0747	1047	1147
100	75	125	100	13.26	22.10	200	3	18	A2	0448	0548	0648	0748	1048	1148
100	75	125	100	9.04	15.07	140	4	24	A3	0449	0549	0649	0749	1049	1149
100	75	125	100	6.03	10.05	91	5	30	A4	0450	0550	0650	0750	1050	1150
100	75	125	100	4.23	7.05	64	7	42	A5	0451	0551	0651	0751	1051	1151
100	75	125	100	2.92	4.88	44	10	60	A6	0452	0552	0652	0752	1052	1152
150	100	175	125	28.22	56.44	640	2	12	A0	0453	0553	0653	0753	1053	1153
150	100	175	125	23.68	47.37	540	2	12	A0	0454	0554	0654	0754	1054	1154
150	100	175	125	10.17	32.35	360	3	18	A1	0455	0555	0655	0755	1055	1155
150	100	175	125	11.05	22.10	250	3	18	A2	0456	0556	0656	0756	1056	1156
150	100	175	125	7.37	14.74	170	4	24	A3	0457	0557	0657	0757	1057	1157
150	100	175	125	6.03	12.06	140	5	30	A4	0458	0558	0658	0758	1058	1158
150	100	175	125	4.02	8.04	91	7	42	A5	0459	0559	0659	0759	1059	1159
150	100	175	125	2.37	4.74	54	10	60	A6	0460	0560	0660	0760	1060	1160

See footnotes at end of table.

TABLE I. Styles CU12, CU13, and CUR13 capacitors - Continued.

DC rated voltage	Cap	DC surge voltage	ESR		Max. Imped. at -55°C and 120 Hz	DC leakage		Max. ac ripple current 120 Hz at 85°C 1/	Case size	Dash number			
										Style CU12	Style CU13	Style CUR13 2/	
										Capacitance tolerance	Capacitance tolerance	Capacitance tolerance	Capacitance tolerance
+85°C	+125°C	+85°C	+25°C	+85°C and +125°C	Ω	Ω	Ω	μA	mA	Percent	Percent	Percent	Percent
200	150	225	40.30	80.38	770	4	24	63	A0	0490	0590	1061-	1161-
200	150	225	34.01	68.02	500	4	24	68	A0	0461	0561	1089-	1189-
200	150	225	23.68	47.37	333	6	36	86	A1	0462	0562	1062-	1162-
200	150	225	16.17	32.35	250	6	36	113	A2	0463	0563	1063-	1163-
200	150	225	11.05	22.10	154	8	48	148	A3	0464	0564	1064-	1164-
200	150	225	8.84	17.68	118	10	60	177	A4	0465	0565	1065-	1165-
200	150	225	4.91	9.82	77	14	84	271	A5	0466	0566	1066-	1166-
200	150	225	3.40	6.80	51	20	120	353	A6	0467	0567	1067-	1167-
250	200	275	60.45	120.57	910	4	24	58	A0	0491	0591	1068-	1168-
250	200	275	40.19	80.38	910	4	24	70	A0	0468	0568	1090-	1190-
250	200	275	23.68	47.37	540	6	36	86	A1	0469	0569	1069-	1169-
250	200	275	19.50	39.01	440	6	36	103	A2	0470	0570	1070-	1170-
250	200	275	13.26	26.53	300	8	48	125	A3	0471	0571	1071-	1171-
250	200	275	11.05	22.10	250	10	60	159	A4	0472	0572	1072-	1172-
250	200	275	6.03	12.06	140	14	84	245	A5	0473	0573	1073-	1173-
250	200	275	4.91	9.82	110	20	120	294	A6	0474	0574	1074-	1174-
300	225	325	132.66	221.05	1300	16	96	42	A0	0492	0592	1075-	1175-
300	225	325	90.43	150.71	1300	16	96	51	A0	0475	0575	1091-	1191-
300	225	325	51.01	85.02	640	20	120	71	A1	0493	0593	1076-	1176-
300	225	325	42.33	70.55	640	20	120	78	A1	0476	0576	1092-	1192-
300	225	325	35.53	59.21	440	22	132	84	A2	0489	0589	1077-	1177-
300	225	325	24.26	40.44	370	24	144	110	A3	0478	0578	1078-	1178-
300	225	325	19.89	33.16	300	26	156	130	A4	0479	0579	1079-	1179-
300	225	325	12.43	20.72	200	30	180	185	A5	0480	0580	1080-	1180-
300	225	325	11.05	18.42	170	36	216	217	A6	0481	0581	1081-	1181-
350	275	375	199.00	331.57	2000	20	120	35	A0	0494	0594	1082-	1182-
350	275	375	60.29	100.42	910	26	156	59	A1	0483	0583	1083-	1183-
350	275	375	51.01	85.02	770	28	168	70	A2	0484	0584	1084-	1184-
350	275	375	35.53	59.21	540	32	192	90	A3	0485	0585	1085-	1185-
350	275	375	29.26	48.76	440	34	204	107	A4	0486	0586	1086-	1186-
350	275	375	19.89	33.16	300	38	228	148	A5	0487	0587	1087-	1187-
350	275	375	16.58	27.63	250	42	252	174	A6	0488	0588	1088-	1188-

1/ The ripple current values shown are representative values not supported by test data.

2/ The last letter in dash number will indicate FR level symbol ("M", "P", "R", or "S"). For style CUR13 with random vibration, the letter "R" will be used in place of the dash between the spec sheet number and the dash number (i.e., M39018/01R1046M).

3/ Maximum current due to voltage limitations.

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 ± 30 percent of step 1 value.

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 +125°C):

DCL: See [table I](#).

Δ Cap.: Within ± 25 percent of step 1 value.

ESR: See [table I](#).

Step 5 (at +25°C):

DCL: See [table I](#).

Δ Cap.: 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](#).

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

ESR: Not more than 130 percent of initial requirement.

For quality conformance: Performance check, condition B (250 hours) at +85°C (non-ER).

DCL: See [table I](#).

Δ Cap.: Within ± 10 percent of initial measured value.

ESR: See [table I](#).

For quality conformance: Continuation test (1,750 hours) at +85°C (non-ER).

DCL: See [table I](#).

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

ESR: Not more than 130 percent of initial requirement.

For quality conformance: 10,000 hours (ER) at +85°C.

DCL: At +25°C initial limit, at +85°C, 125 percent of initial limit.

Δ Cap.: Within ± 25 percent of initial measured value.

ESR: Not more than 200 percent of initial requirement.

Case insulation (CU13 and CUR13 only): In accordance with [MIL-PRF-39018](#).

Vibration:

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

Random (style CUR13 only) (when applicable): 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](#).

Δ Cap.: Within ± 5 percent of initial measured value.

ESR: See [table I](#).

Case insulation (CU13 and CUR13 only): Shall meet initial requirement.

Surge voltage:

DCL: See [table I](#).

Δ Cap.: Within ± 6 percent of initial measured value.

ESR: See [table I](#).

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

DCL: See [table I](#).

Δ Cap: Within ± 6 percent of initial measured value.

ESR: See [table I](#).

Case Insulation (CU13 and CUR13 only): Shall meet initial requirement.

High temperature exposure (500 hours at +125°C):

DCL: Not more than 200 percent of initial requirement for units less than 150 volts and 300 percent for units 150 volts and greater.

Δ Cap.: Within ± 10 percent of initial measured value.

ESR: Not more than 115 percent of initial requirement.

Reverse voltage:

After 125 hours at 125°C with 1 +0 -0.1 reverse volt applied to units rated at 7 V dc, and 3 +0 -0.3 reverse volts applied to all others.

After additional 125 hours at 125°C with rated forward voltage applied:

DCL: Within 125 percent of initial requirement.

Δ Cap.: Within the following percentages of the initial measured value:

7 to 30 V dc inclusive: +10, -25 percent.

50 to 350 V dc inclusive: ± 10 percent.

ESR: See [table I](#).

Penetration of solvents: In accordance with [MIL-PRF-39018](#).

High temperature verification: In accordance with [MIL-PRF-39018](#) at +125°C with derated voltage applied:

DCL: See [table I](#).

Δ Cap: Within 10 percent of initial measured value.

ESR: Not more than 130 percent of initial requirement.

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

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

Part or Identifying Number (PIN): M39018/01- (Dash number from table I). For style CUR13, parts with random vibration, the letter R shall be used in place of the dash (i.e., M39018/01R1046M).

Substitutability data: [See table II](#).

MIL-PRF-39018/1H

TABLE II. Substitutability data.

Dash number in MIL-PRF-39018/1A, /1B, /1C, /1D, /1E 1/						Dash number MIL-PRF-39018/1					
Style CU12			Style CU13			Style CU12			Style CU13		
Capacitance tolerance			Capacitance tolerance			Capacitance tolerance			Capacitance tolerance		
-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75
0401	---	0501	0601	---	0701	0005	---	0006	0007	---	0008
0402	---	0502	0602	---	0702	0009	---	0010	0011	---	0012
0403	---	0503	0603	---	0703	0013	---	0014	0015	---	0016
0404	---	0504	0604	---	0704	0017	---	0018	0019	---	0020
0405	---	0505	0605	---	0705	0021	---	0022	0023	---	0024
0406	---	0506	0606	---	0706	0025	---	0026	0027	---	0028
---	---	---	---	---	---	0001	---	0002	0003	---	0004
0407	---	0507	0607	---	0707	0029	---	0030	0031	---	0032
0408	---	0508	0608	---	0708	0033	---	0034	0035	---	0036
0409	---	0509	0609	---	0709	0037	---	0038	0039	---	0040
0410	---	0510	0610	---	0710	0041	---	0042	0043	---	0044
0411	---	0511	0611	---	0711	0045	---	0046	0047	---	0048
0412	---	0512	0612	---	0712	0049	---	0050	0051	---	0052
0413	---	0513	0613	---	0713	0053	---	0054	0055	---	0056
0414	---	0514	0614	---	0714	0057	---	0058	0059	---	0060
0415	---	0515	0615	---	0715	0061	---	0062	0063	---	0064
0416	---	0516	0616	---	0716	0065	---	0066	0067	---	0068
0417	---	0517	0617	---	0717	0069	---	0070	0071	---	0072
0418	---	0518	0618	---	0718	0073	---	0074	0075	---	0076
0419	---	0519	0619	---	0719	0077	---	0078	0079	---	0080
0420	---	0520	0620	---	0720	0081	---	0082	0083	---	0084
0421	---	0521	0621	---	0721	0085	---	0086	0087	---	0088
0422	---	0522	0622	---	0722	0089	---	0090	0091	---	0092
0423	---	0523	0623	---	0723	0093	---	0094	0095	---	0096
0424	---	0524	0624	---	0724	0097	---	0098	0099	---	0100
0425	---	0525	0625	---	0725	0101	---	0102	0103	---	0104
0426	---	0526	0626	---	0726	0105	---	0106	0107	---	0108
0427	---	0527	0627	---	0727	0109	---	0110	0111	---	0112
0428	---	0528	0628	---	0728	0113	---	0114	0115	---	0116
0429	---	0529	0629	---	0729	0117	---	0118	0119	---	0120
0430	---	0530	0630	---	0730	0121	---	0122	0123	---	0124
0431	---	0531	0631	---	0731	0125	---	0126	0127	---	0128
0432	---	0532	0632	---	0732	0129	---	0130	0131	---	0132
0433	---	0533	0633	---	0733	0133	---	0134	0135	---	0136
0434	---	0534	0634	---	0734	0137	---	0138	0139	---	0140
0435	---	0535	0635	---	0735	0141	---	0142	0143	---	0144
0436	---	0536	0636	---	0736	0145	---	0146	0147	---	0148
0437	---	0537	0637	---	0737	0149	---	0150	0151	---	0152
0438	---	0538	0638	---	0738	0153	---	0154	0155	---	0156
0439	---	0539	0639	---	0739	0157	---	0158	0159	---	0160
0440	---	0540	0640	---	0740	0161	---	0162	0163	---	0164
0441	---	0541	0641	---	0741	0165	---	0166	0167	---	0168
0442	---	0542	0642	---	0742	0169	---	0170	0171	---	0172
0443	---	0543	0643	---	0743	0173	---	0174	0175	---	0176
0444	---	0544	0644	---	0744	0177	---	0178	0179	---	0180
0445	---	0545	0645	---	0745	0181	---	0182	0183	---	0184
0446	0546	---	0646	0746	---	0185	0186	---	0187	0188	---
0447	0547	---	0647	0747	---	0189	0190	---	0191	0192	---
0448	0548	---	0648	0748	---	0193	0194	---	0195	0196	---
0449	0549	---	0649	0749	---	0197	0198	---	0199	0200	---
0450	0550	---	0650	0750	---	0201	0202	---	0203	0204	---
0451	0551	---	0651	0751	---	0205	0206	---	0207	0208	---

See footnotes at end of table.

MIL-PRF-39018/1H

TABLE II. Substitutability data - Continued.

Dash number in MIL-PRF-39018/1A, /1B, /1C, /1D, /1E 1/						Dash number MIL-PRF-39018/1					
Style CU12			Style CU13			Style CU12			Style CU13		
Capacitance tolerance			Capacitance tolerance			Capacitance tolerance			Capacitance tolerance		
-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75
0452	0552	---	0652	0752	---	0209	0210	---	0211	0212	---
0453	0553	---	0653	0753	---	0213	0214	---	0215	0216	---
0454	0554	---	0654	0754	---	0217	0218	---	0219	0220	---
0455	0555	---	0655	0755	---	0221	0222	---	0223	0224	---
0456	0556	---	0656	0756	---	0225	0226	---	0227	0228	---
0457	0557	---	0657	0757	---	0229	0230	---	0231	0232	---
0458	0558	---	0658	0758	---	0233	0234	---	0235	0236	---
0459	0559	---	0659	0759	---	0237	0238	---	0239	0240	---
0460	0560	---	0660	0760	---	0241	0242	---	0243	0244	---
0461	0561	---	0661	0761	---	---	---	---	---	---	---
0462	0562	---	0662	0762	---	---	---	---	---	---	---
0463	0563	---	0663	0763	---	---	---	---	---	---	---
0464	0564	---	0664	0764	---	---	---	---	---	---	---
0465	0565	---	0665	0765	---	---	---	---	---	---	---
0466	0566	---	0666	0766	---	---	---	---	---	---	---
0467	0567	---	0667	0767	---	0245	0246	---	0247	0248	---
0468	0568	---	0668	0768	---	0249	0250	---	0251	0252	---
0469	0569	---	0669	0769	---	0253	0254	---	0255	0256	---
0470	0570	---	0670	0770	---	0257	0258	---	0259	0260	---
0471	0571	---	0671	0771	---	0261	0262	---	0263	0264	---
0472	0572	---	0672	0772	---	0265	0266	---	0267	0268	---
0473	0573	---	0673	0773	---	0269	0270	---	0271	0272	---
0474	0574	---	0674	0774	---	0273	0274	---	0275	0276	---

1/ The following dash numbers have been canceled with no replacement items recommended:

0477	0577	0677	0777
0482	0582	0682	0782

APPLICATION NOTE:

Ripple current: The maximum permissible ripple current for these capacitors can be determined from [table III](#). The appropriate multiplier from this table should be used where operation at other frequencies or temperatures is desired. Operation of these capacitors outside the limits of 60 to 100,000 Hz is not recommended.

TABLE III. Ripple current multipliers.

With temperature	+25°C	+45°C	+65°C	+85°C	+125°C
	1.4	1.4	1.2	1.0	0.3
With frequency		60 Hz	120 Hz	400 Hz	1 K through
	0- 60 volts	.85	1.0	1.1	1.15
	61-200	.83	1.0	1.15	1.2
	201-350	.80	1.0	1.3	1.4

NOTES:

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

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 5910-2009-020)

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/>.