

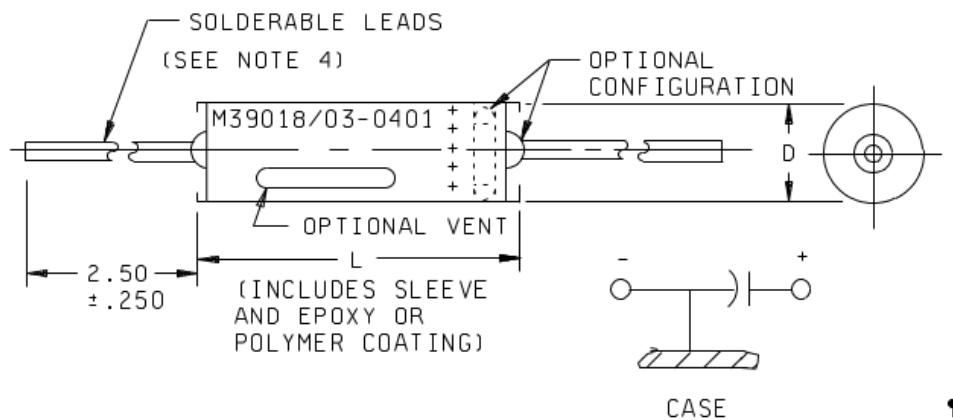
PERFORMANCE SPECIFICATION SHEET

CAPACITOR, FIXED, ELECTROLYTIC (ALUMINUM OXIDE)
(POLARIZED), NON-ESTABLISHED RELIABILITY AND ESTABLISHED RELIABILITY,
STYLES CU16 (UNINSULATED), CU17 (INSULATED), AND CUR17 (INSULATED)

STYLE CU16 INACTIVE FOR
DESIGN AFTER 23 MARCH 1972

This specification sheet 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](#).



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are in millimeters and are given for general information only.
3. These capacitors are not intended to be mounted by their leads.
4. For .625 inch diameter case, the leads shall be .032 +.008, -.002 inch diameter and for all other diameter cases the leads shall be .040 +.008, -.002 inch diameter.
5. The "D" dimensions for styles CU17 and CUR17 shall be not more than .008 inch (0.20 mm) larger than the specified bare case diameter.

FIGURE 1. Styles CU16, CU17, and CUR17 capacitors.



MIL-PRF-39018/3J

Case size	Dimensions		
	L		D ± .015 inch (see note 5)
	Min	Max	
D1	1.125	1.328	.625
D2	1.125	1.328	.750
D3	1.125	1.328	.875
D4	1.625	1.828	.625
D5	1.625	1.828	.750
D6	1.625	1.828	.875
D7	1.625	1.828	1.000
E1	2.125	2.328	.625
E2	2.125	2.328	.750
E3	2.125	2.328	.875
E4	2.125	2.328	1.000
E5	2.625	2.828	.625
E6	2.625	2.828	.750
E7	2.625	2.828	.875
F1	2.625	2.828	1.000
F2	3.125	3.328	.625
F3	3.125	3.328	.875
F4	3.125	3.328	1.000
F5	3.625	3.828	.750
F6	3.625	3.828	.875
F7	3.625	3.828	1.000

Inches	mm	Inches	mm
.002	0.05	1.625	41.28
.008	0.20	1.828	46.43
.015	0.38	2.125	53.98
.032	0.81	2.238	56.85
.040	1.02	2.500	63.50
.250	6.35	2.625	66.68
.625	15.88	2.828	71.83
.750	19.05	3.125	79.38
.875	22.22	3.328	84.53
1.000	25.40	3.625	92.08
1.125	28.58	3.828	97.23
1.328	33.73		

FIGURE 1. Styles CU16, CU17, and CUR17 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 (CUR17 only): M, P, R, and S in accordance with [MIL-PRF-39018](#).

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

Burn-in (CUR17 only): In accordance with [MIL-PRF-39018](#).

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

Equivalent series resistance (ESR): See [table I](#).

TABLE I. Styles CU16, CU17, and CUR17 capacitors.

DC rated voltage +85°C and +105°C	Cap.	DC surge voltage +85°C and +105°C	ESR		Impedance (max) at -55°C and 120 Hz	DC leakage		AC ripple current (max) 120 Hz at +85°C 1/	Case size	Dash number											
										Style CU16			Style CU17 2/			Style CUR17 3/ low frequency vibration			Style CUR17 3/ high frequency vibration		
			Cap. tolerance			Cap. tolerance				+25°C			+105°C								
			-10 +30	-10 +50		-10 +75	-10 +30			-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75				
			Percent			volts				μF			volts								
7	680	10	.78	.98	5	30	183	489	D1	0401	---	0501	0601	---	0701	1001-	---	1101-	1201-	---	1301-
7	1,000	10	.53	.66	9.3	35	212	644	D2	0402	---	0502	0602	---	0702	1002-	---	1102-	1202-	---	1302-
7	1,500	10	.35	.44	6.2	43	259	885	D4	0403	---	0503	0603	---	0703	1003-	---	1103-	1203-	---	1303-
7	2,200	10	.24	.30	4.2	50	300	1,220	E1	0404	---	0504	0604	---	0704	1004-	---	1104-	1204-	---	1304-
7	3,300	10	.16	.20	2.9	66	396	1,520	D6	0405	---	0505	0605	---	0705	1005-	---	1105-	1205-	---	1305-
7	4,700	10	.11	.14	2.0	75	450	1,930	D7	0406	---	0506	0606	---	0706	1006-	---	1106-	1206-	---	1306-
7	6,800	10	.08	.10	1.3	90	540	2,930	F5	0407	---	0507	0607	---	0707	1007-	---	1107-	1207-	---	1307-
7	10,000	10	.05	.07	.93	111	670	3,850	F4	0408	---	0508	0608	---	0708	1008-	---	1108-	1208-	---	1308-
7	12,000	10	.04	.06	.77	127	764	4,510	F7	0409	---	0509	0609	---	0709	1009-	---	1109-	1209	---	1309-
10	470	15	.99	1.13	8.5	35	212	454	D1	0410	---	0510	0610	---	0710	1010-	---	1110-	1210-	---	1310-
10	1,000	15	.46	.53	4.0	50	300	807	D4	0411	---	0511	0611	---	0711	1011-	---	1111-	1211-	---	1311-
10	1,500	15	.31	.35	2.7	61	367	1,130	E1	0412	---	0512	0612	---	0712	1012-	---	1112-	1212-	---	1312-
10	2,200	15	.21	.24	1.8	70	424	1,390	D6	0413	---	0513	0613	---	0713	1013-	---	1113-	1213-	---	1313
10	3,300	15	.14	.16	1.2	93	558	1,950	E3	0414	---	0514	0614	---	0714	1014-	---	1114-	1214-	---	1314-
10	4,700	15	.10	.11	.85	110	663	2,750	F5	0415	---	0515	0615	---	0715	1015-	---	1115-	1215-	---	1315-
10	6,800	15	.07	.08	.59	127	764	3,570	F6	0416	---	0516	0616	---	0716	1016-	---	1116-	1216-	---	1316-
10	8,200	15	.06	.06	.50	150	900	4,180	F7	0417	---	0517	0617	---	0717	1017-	---	1117-	1217-	---	1317-
15	390	20	.85	1.02	10	38	232	478	D1	0418	---	0518	0618	---	0718	1018-	---	1118-	1218-	---	1318-
15	680	20	.49	.59	5.9	49	296	689	D2	0419	---	0519	0619	---	0719	1019-	---	1119-	1219-	---	1319-
15	1,000	20	.33	.40	4.0	61	367	1,060	E1	0420	---	0520	0620	---	0720	1020-	---	1120-	1220-	---	1320-
15	1,500	20	.22	.27	2.7	75	450	1,420	E2	0421	---	0521	0621	---	0721	1021-	---	1121-	1221-	---	1321-
15	2,200	20	.15	.18	1.8	86	519	1,890	E6	0422	---	0522	0622	---	0722	1022-	---	1122-	1222-	---	1322-
15	3,300	20	.10	.12	1.2	114	687	2,380	E4	0423	---	0523	0623	---	0723	1023-	---	1123-	1223-	---	1323-
15	4,700	20	.07	.07	0.8	136	821	3,420	F6	0424	---	0524	0624	---	0724	1024-	---	1124-	1224-	---	1324-
15	6,800	20	.05	.06	0.6	156	936	4,360	F7	0425	---	0525	0625	---	0725	1025-	---	1125-	1225-	---	1325-
30	150	40	2.21	2.65	27	33	201	296	D1	0426	---	0526	0626	---	0726	1026-	---	1126-	1226-	---	1326-
30	220	40	1.51	1.81	14	47	284	390	D2	0427	---	0527	0627	---	0727	1027-	---	1127-	1227-	---	1327-
30	330	40	1.00	1.21	12	51	307	536	D4	0428	---	0528	0628	---	0728	1028-	---	1128-	1228-	---	1328-
30	470	40	.71	.85	10	54	328	609	D3	0429	---	0529	0629	---	0729	1029-	---	1129-	1229-	---	1329-
30	680	40	.44	.59	6.0	69	418	957	E5	0430	---	0530	0630	---	0730	1030-	---	1130-	1230-	---	1330-
30	1,000	40	.33	.40	4.0	86	519	1,230	E3	0431	---	0531	0631	---	0731	1031-	---	1131-	1231-	---	1331-
30	1,500	40	.22	.27	2.7	110	663	1,680	E7	0432	---	0532	0632	---	0732	1032-	---	1132-	1232-	---	1332-
30	2,200	40	.15	.18	1.8	122	734	2,350	F6	0433	---	0533	0633	---	0733	1033-	---	1133-	1233-	---	1333-
30	2,700	40	.12	.16	1.6	136	821	2,560	F4	0434	---	0534	0634	---	0734	1034-	---	1134-	1234-	---	1334-
50	100	60	1.33	3.98	25	37	222	241	D1	0435	---	0535	0635	---	0735	1035-	---	1135-	1235-	---	1335-
50	150	60	.88	2.65	15	46	276	322	D2	0436	---	0536	0636	---	0736	1036-	---	1136-	1236-	---	1336-
50	220	60	.60	1.81	13	55	335	417	D3	0437	---	0537	0637	---	0737	1037-	---	1137-	1237-	---	1337-
50	330	60	.40	1.21	8.1	66	396	580	D5	0438	---	0538	0638	---	0738	1038-	---	1138-	1238-	---	1338-

See footnotes at end of table.

TABLE I. Styles CU16, CU17, and CUR17 capacitors - Continued.

DC rated voltage +85°C and +105°C	Cap.	DC surge voltage +85°C and +105°C	ESR		Impedance (max) at -55°C and 120 Hz	DC leakage		AC ripple current (max) 120 Hz at +85°C <u>1/</u>	Case size	Dash number											
										Style CU16			Style CU17 <u>2/</u>			Style CUR17 <u>3/</u> low frequency vibration			Style CUR17 <u>3/</u> high frequency vibration		
			Cap. tolerance			Cap. tolerance				+25°C			+105°C								
			-10 +30	-10 +50		-10 +75	-10 +30			-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75				
volts	μF	volts	Ω		Ω	μA		mA		Percent			volts			μF			volts		
50	470	60	.28	.84	5.6	79	474	619	E2	0439	---	0539	0639	---	0739	1039-	---	1139-	1239-	---	1339-
50	680	60	.20	.59	3.9	90	540	946	D7	0440	---	0540	0640	---	0740	1040-	---	1140-	1240-	---	1340-
50	1,000	60	.13	.40	2.7	111	670	1,300	E4	0441	---	0541	0641	---	0741	1041-	---	1141-	1241-	---	1341-
50	1,500	60	.09	.27	1.8	147	883	1,920	F4	0442	---	0542	0642	---	0742	1042-	---	1142-	1242-	---	1342-
50	1,800	60	.07	.22	1.5	196	1,196	2,260	F7	---	---	---	0699	---	0799	1099	---	1199-	1299-	---	1399
75	47	90	2.82	8.47	57	29	174	166	D1	0443	---	0543	0643	---	0743	1043-	---	1143-	1243-	---	1343-
75	68	90	1.95	5.85	39	37	225	217	D2	0444	---	0544	0644	---	0744	1044-	---	1144-	1244-	---	1344-
75	100	90	1.33	3.98	27	43	259	281	D3	0445	---	0545	0645	---	0745	1045-	---	1145-	1245-	---	1345-
75	150	90	.88	2.65	18	53	318	391	D5	0446	---	0545	0646	---	0746	1046-	---	1146-	1246-	---	1346-
75	220	90	.60	1.81	13	68	410	540	E2	0447	---	0547	0647	---	0747	1047-	---	1147-	1247-	---	1347-
75	330	90	.40	1.21	8.1	80	483	781	E7	0448	---	0548	0648	---	0748	1048-	---	1148-	1248-	---	1348-
75	470	90	.28	.84	6.7	91	551	1,010	F3	0449	---	0549	0649	---	0749	1049-	---	1149-	1249-	---	1349-
75	680	90	.20	.59	3.9	110	662	1,290	F4	0450	---	0550	0650	---	0750	1050-	---	1150-	1250-	---	1350-
75	820	90	.16	.49	3.2	122	734	1,520	F7	0451	---	0551	0651	---	0751	1051-	---	1151-	1251-	---	1351-
100	22	125	6.03	18.09	125	25	150	113	D1	0452	0552	---	0652	0752	---	1052-	1152-	---	1252-	1352-	---
100	47	125	2.82	8.47	57	33	201	180	D2	0453	0553	---	0653	0753	---	1053-	1153-	---	1253-	1353-	---
100	68	125	1.95	5.85	39	40	241	232	D3	0454	0554	---	0654	0754	---	1054-	1154-	---	1254-	1354-	---
100	100	125	1.33	3.98	27	50	300	389	F2	0455	0555	---	0655	0755	---	1055-	1155-	---	1255-	1355-	---
100	150	125	.88	2.65	18	61	367	444	D7	0456	0556	---	0656	0756	---	1056-	1156-	---	1256-	1356-	---
100	220	125	.60	1.81	13	79	474	613	E4	0457	0557	---	0657	0757	---	1057-	1157-	---	1257-	1357-	---
100	330	125	.40	1.21	8.1	93	563	906	F6	0458	0558	---	0658	0758	---	1058-	1158-	---	1258-	1358-	---
100	470	125	.28	.84	5.6	171	670	1,150	F7	0459	0559	---	0659	0759	---	1059-	1159-	---	1259-	1359-	---
150	18	175	7.37	22.10	150	25	155	103	D1	0460	0560	---	0660	0760	---	1060-	1160-	---	1260-	1360-	---
150	33	175	4.02	12.06	81	36	217	170	D4	0461	0561	---	0661	0761	---	1061-	1161-	---	1261-	1361-	---
150	47	175	2.82	8.47	57	41	246	192	D3	0462	0562	---	0662	0762	---	1062-	1162-	---	1262-	1362-	---
150	68	175	1.95	5.85	39	49	296	304	E5	0463	0563	---	0663	0763	---	1063-	1163-	---	1263-	1363-	---
150	100	175	1.33	3.98	27	61	367	362	D7	0464	0564	---	0664	0764	---	1064-	1164-	---	1264-	1364-	---
150	150	175	.88	2.65	18	77	464	528	E7	0465	0565	---	0665	0765	---	1065-	1165-	---	1265-	1365-	---
150	220	175	.60	1.81	12	86	519	627	F1	0466	0566	---	0666	0766	---	1066-	1166-	---	1266-	1366-	---
150	330	175	.40	1.21	8.0	114	687	966	F7	0467	0567	---	0667	0767	---	1067-	1167-	---	1267-	1367-	---
200	15	225	8.84	26.53	180	27	164	94	D1	0468	0568	---	0668	0768	---	1068-	1168-	---	1268-	1368-	
200	33	225	4.02	12.06	81	41	244	162	D3	0469	0569	---	0669	0769	---	1069-	1169-	---	1269-	1369-	
200	47	225	2.82	8.47	57	47	284	230	E1	0470	0570	---	0670	0770	---	1070-	1170-	---	1270-	1370-	---
200	68	225	1.95	5.85	39	59	354	304	E5	0471	0571	---	0671	0771	---	1071-	1171-	---	1271-	1371-	---
200	100	225	1.33	3.98	27	70	519	362	D7	0472	0572	---	0672	0772	---	1072-	1172-	---	1272-	1372-	---
200	150	225	.88	2.65	18	86	424	506	E4	0473	0573	---	0673	0773	---	1073-	1173-	---	1273-	1373-	---
200	220	225	.60	1.81	12	109	657	736	F4	0474	0574	---	0674	0774	---	1074-	1174-	---	1274-	1374-	---
200	270	225	.49	1.47	.9.8	120	722	873	F7	0475	0575	---	0675	0775	---	1075-	1175-	---	1275-	1375-	---

See footnotes at end of table.

TABLE I. Styles CU16, CU17, and CUR17 capacitors - Continued.

DC rated voltage +85°C and +105°C	Cap.	DC surge voltage +85°C and +105°C	ESR		Imped- ance (max) at -55°C and 120 Hz	DC leakage		AC ripple current (max) 120 Hz at +85°C <u>1/</u>	Case size	Dash number											
										Style CU16			Style CU17 <u>2/</u>			Style CUR17 <u>3/</u> low frequency vibration			Style CUR17 <u>3/</u> high frequency vibration		
			+25°C	+105°C		Cap. tolerance				Cap. tolerance			+25°C			+105°C					
						-10 +30	-10 +50			-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75	-10 +30	-10 +50	-10 +75		
volts	μF	volts	Ω		Ω	μA		mA		Percent			volts			μF			volts		
250	10	275	13.26	39.79	250	25	150	96	D1	0476	0576	---	0676	0776	---	1076-	1176-	---	1276-	1376-	---
250	20	275	6.63	19.89	125	35	210	131	D4	0477	0577	---	0677	0777	---	1077-	1177-	---	1277-	1377-	---
250	33	275	4.02	12.06	80	45	270	212	E5	0478	0578	---	0678	0778	---	1078-	1178-	---	1278-	1378-	---
250	39	275	3.40	10.20	65	50	300	240	F2	0479	0579	---	0679	0779	---	1079-	1179-	---	1279-	1379-	---
250	68	275	1.95	5.85	40	67	402	299	D7	0480	0580	---	0680	0780	---	1080-	1180-	---	1280-	1380-	---
250	82	275	1.62	4.85	35	80	480	374	E4	0481	0581	---	0681	0781	---	1081-	1181-	---	1281-	1381-	---
250	120	275	1.11	3.32	25	94	564	548	F6	0482	0582	---	0682	0782	---	1082-	1182-	---	1282-	1382-	---
250	180	275	.74	2.21	15	111	666	712	F7	0483	0583	---	0683	0783	---	1083-	1183-	---	1283-	1383-	---
300	8.2	325	24.26	48.52	320	25	150	69	D1	0484	0584	---	0684	0784	---	1084-	1184-	---	1284-	1384-	---
300	15	325	13.26	26.53	170	35	210	114	D4	0485	0585	---	0685	0785	---	1085-	1185-	---	1285-	1385-	---
300	27	325	7.37	14.74	93	48	288	166	D5	0486	0586	---	0686	0786	---	1086-	1186-	---	1286-	1386-	---
300	47	325	4.23	8.47	54	63	378	275	E6	0487	0587	---	0687	0787	---	1087-	1187-	---	1287-	1387-	---
300	68	325	2.93	5.85	37	77	462	355	E7	0488	0588	---	0688	0788	---	1088-	1188-	---	1288-	1388-	---
300	82	325	2.43	4.85	31	87	522	423	F3	0489	0589	---	0689	0789	---	1089-	1189-	---	1289-	1389-	---
300	120	325	1.66	3.32	21	96	576	547	F6	0490	0590	---	0690	0790	---	1090-	1190-	---	1290-	1390-	---
300	150	325	1.33	2.65	17	112	672	650	F7	0491	0591	---	0691	0791	---	1091-	1191-	---	1291-	1391-	---
350	5.8	375	35.53	71.05	450	25	150	57	D1	0492	0592	---	0692	0792	---	1092-	1192-	---	1292-	1392-	---
350	20	375	9.95	19.89	125	42	252	150	E1	0493	0593	---	0693	0793	---	1093-	1193-	---	1293-	1393-	---
350	27	375	7.37	14.74	93	53	318	208	F2	0494	0594	---	0694	0794	---	1094-	1194-	---	1294-	1394-	---
350	47	375	4.23	8.47	54	66	396	248	D7	0495	0595	---	0695	0795	---	1095-	1195-	---	1295-	1395-	---
350	56	375	3.55	7.11	45	75	450	332	E7	0496	0596	---	0696	0796	---	1096-	1196-	---	1296-	1396-	---
350	82	375	2.43	4.25	31	86	516	422	F3	0497	0597	---	0697	0797	---	1097-	1197-	---	1297-	1397-	---
350	120	375	1.66	3.32	21	112	672	581	F7	0498	0598	---	0698	0798	---	1098-	1198-	---	1298-	1398-	---

1/ The ripple current values shown are representative values not supported by test data.2/ Dash number will include the letter "H" to indicate high frequency vibration (when applicable) or "-" will be deleted.3/ The last letter in the dash number will indicate the applicable FR level symbol ("M", "P", "R", or "S"). For style CUR17 parts with random vibration, the letter R shall be used in place of the dash between the specification sheet number and the dash number (i.e., M39018/03R1052M or M39018/03R1252M).

Low temperature exposure:

DCL: See [table I](#).

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

ESR: See [table I](#).

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

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

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:

7 V dc: ± 35 percent.

10 to 30 V dc inclusive: ± 25 percent

50 to 100 V dc inclusive: ± 20 percent.

150 to 350 V dc inclusive: ± 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](#).

Δ Cap.: Within ± 30 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: [MIL-STD-202-108](#).

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

DCL: See [table I](#).

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

ESR: Not more than 130 percent of initial requirement.

For 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 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 (CU17 and CUR17 only): In accordance with [MIL-PRF-39018](#).

Vibration:

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

High frequency (when specified, see ordering data): In accordance with [MIL-PRF-39018](#), except:

Test condition letter: A.

Duration and direction of motion: In accordance with [MIL-STD-202-204](#).

Random (style CUR17 only): In accordance with [MIL-PRF-39018](#).

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Thermal shock and immersion:

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

Immersion: [MIL-STD-202-104](#), 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 (CU17 and CUR17 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: [MIL-STD-202-106](#).

DCL: See [table I](#).

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

ESR: See [table I](#).

Case Insulation (CU17 and CUR17 only): Shall meet initial requirement.

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

DCL: Not more than 200 percent of initial requirement.

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

ESR: Not more than 115 percent of initial requirement.

Reverse voltage:

After 125 hours at +105°C with 1 +0, -.1, reverse volt applied to units rated at 7 V dc and 3 +0, -.3 reverse volts applied to all others.

After additional 125 hours at +105°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](#).

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

High temperature verification: In accordance with [MIL-PRF-39018](#) at +105°C with rated voltage applied:

DCL: See [table I](#).

ΔCap: 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): M39018/03- (Dash number from [table I](#)). For CU17 and CUR17, the complete dash number will include additional letter symbol(s) as shown on [table I](#). For style CUR17 parts with random vibration, the letter R shall be used in place of the dash (i.e., M39018/03R1052M or M39018/03R1252M).

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

Ordering data: In addition to the data specified in [MIL-PRF-39018](#), acquisition documents should specify those capacitors which are to be tested to high frequency vibration.

TABLE II. Substitutability data.

Dash number in MIL-PRF-39018/3A through /3J						Dash number MIL-PRF-39018/3					
Style CU16			Style CU17 1/			Style CU16			Style CU17		
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	0001	---	0002	0003	---	0004
0402	---	0502	0602	---	0702	0005	---	0006	0007	---	0008
0403	---	0503	0603	---	0703	0009	---	0010	0011	---	0012
0404	---	0504	0604	---	0704	0013	---	0014	0015	---	0016
0405	---	0505	0605	---	0705	0017	---	0018	0019	---	0020
0406	---	0506	0606	---	0706	0021	---	0022	0023	---	0024
0407	---	0507	0607	---	0707	0025	---	0026	0027	---	0028
0408	---	0508	0608	---	0708	0029	---	0030	0031	---	0032
0409	---	0509	0609	---	0709	0033	---	0034	0035	---	0036
0410	---	0510	0610	---	0710	0037	---	0038	0039	---	0040
0411	---	0511	0611	---	0711	0041	---	0042	0043	---	0044
0412	---	0512	0612	---	0712	0045	---	0046	0047	---	0048
0413	---	0513	0613	---	0713	0049	---	0050	0051	---	0052
0414	---	0514	0614	---	0714	0053	---	0054	0055	---	0056
0415	---	0515	0615	---	0715	0057	---	0058	0059	---	0060
0416	---	0516	0616	---	0716	0061	---	0062	0063	---	0064
0417	---	0517	0617	---	0717	0065	---	0066	0067	---	0068
0418	---	0518	0618	---	0718	0069	---	0070	0071	---	0072
0419	---	0519	0619	---	0719	0073	---	0074	0075	---	0076
0420	---	0520	0620	---	0720	0077	---	0078	0079	---	0080
0421	---	0521	0621	---	0721	0081	---	0082	0083	---	0084
0422	---	0522	0622	---	0722	0085	---	0086	0087	---	0088
0423	---	0523	0623	---	0723	0089	---	0090	0091	---	0092
0424	---	0524	0624	---	0724	0093	---	0094	0095	---	0096
0425	---	0525	0625	---	0725	0097	---	0098	0099	---	0100
0426	---	0526	0626	---	0726	0101	---	0102	0103	---	0104
0427	---	0527	0627	---	0727	0105	---	0106	0107	---	0108
0428	---	0528	0628	---	0728	0109	---	0110	0111	---	0112

See footnote at end of table.

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TABLE II. Substitutability data - Continued.

Dash number in MIL-PRF-39018/3A through /3J						Dash number MIL-PRF-39018/3					
Style CU16			Style CU17 ^{1/}			Style CU16			Style CU17		
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
0429	---	0529	0629	---	0729	0113	---	0114	0115	---	0116
0430	---	0530	0630	---	0730	0117	---	0118	0119	---	0120
0431	---	0531	0631	---	0731	0121	---	0122	0123	---	0124
0432	---	0532	0632	---	0732	0125	---	0126	0127	---	0128
0433	---	0533	0633	---	0733	0129	---	0130	0131	---	0132
0434	---	0534	0634	---	0734	0133	---	0134	0135	---	0136
0435	---	0535	0635	---	0735	0137	---	0138	0139	---	0140
0436	---	0536	0636	---	0736	0141	---	0142	0143	---	0144
0437	---	0537	0637	---	0737	0145	---	0146	0147	---	0148
0438	---	0538	0638	---	0738	0149	---	0150	0151	---	0152
0439	---	0539	0639	---	0739	0153	---	0154	0155	---	0156
0440	---	0540	0640	---	0740	0157	---	0158	0159	---	0160
0441	---	0541	0641	---	0741	0161	---	0162	0163	---	0164
0442	---	0542	0642	---	0742	0165	---	0166	0167	---	0168
0443	---	0543	0643	---	0743	0169	---	0170	0171	---	0172
0444	---	0544	0644	---	0744	0173	---	0174	0175	---	0176
0445	---	0545	0645	---	0745	0177	---	0178	0179	---	0180
0446	---	0546	0646	---	0746	0181	---	0182	0183	---	0184
0447	---	0547	0647	---	0747	0185	---	0186	0187	---	0188
0448	---	0548	0648	---	0748	0189	---	0190	0191	---	0192
0449	---	0549	0649	---	0749	0193	---	0194	0195	---	0196
0450	---	0550	0650	---	0750	0197	---	0198	0199	---	0200
0451	---	0551	0651	---	0751	0201	---	0202	0203	---	0204
0452	0552	---	0652	0752	---	0205	0206	---	0207	0208	---
0453	0553	---	0653	0753	---	0209	0210	---	0211	0212	---
0454	0554	---	0654	0754	---	0213	0214	---	0215	0216	---
0455	0555	---	0655	0755	---	0217	0218	---	0219	0220	---
0456	0556	---	0656	0756	---	0221	0222	---	0223	0224	---
0457	0557	---	0657	0757	---	0225	0226	---	0227	0228	---
0458	0558	---	0658	0758	---	0229	0230	---	0231	0232	---
0459	0559	---	0659	0759	---	0233	0234	---	0235	0236	---
0460	0560	---	0660	0760	---	0237	0238	---	0239	0240	---
0461	0561	---	0661	0761	---	0241	0242	---	0243	0244	---
0462	0562	---	0662	0762	---	0245	0246	---	0247	0248	---
0463	0563	---	0663	0763	---	0249	0250	---	0251	0252	---
0464	0564	---	0664	0764	---	0253	0254	---	0255	0256	---
0465	0565	---	0665	0765	---	0257	0258	---	0259	0260	---
0466	0566	---	0666	0766	---	0261	0262	---	0263	0264	---
0467	0567	---	0667	0767	---	0265	0266	---	0267	0268	---
0468	0568	---	0668	0768	---	0269	0270	---	0271	0272	---
0469	0569	---	0669	0769	---	0273	0274	---	0275	0276	---
0470	0570	---	0670	0770	---	0277	0278	---	0279	0280	---
0471	0571	---	0671	0771	---	0281	0282	---	0283	0284	---
0472	0572	---	0672	0772	---	0285	0286	---	0287	0288	---
0473	0573	---	0673	0773	---	0289	0290	---	0291	0292	---
0474	0574	---	0674	0774	---	0293	0294	---	0295	0296	---
0475	0575	---	0675	0775	---	0297	0298	---	0299	0300	---

^{1/} Style CUR17 may be substituted for style CU17.

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	---
	1.4	1.4	1.2	1.0	---
With frequency		60 Hz	120 Hz	400 Hz	1 k through 100 kHz
	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

Referenced documents: In addition to [MIL-PRF-39018](#), this document references the following:

[MIL-STD-202-104](#)
[MIL-STD-202-106](#)
[MIL-STD-202-107](#)
[MIL-STD-202-108](#)
[MIL-STD-202-204](#)
[MIL-STD-202-211](#)

Changes from previous issue. The margins of this specification are marked with vertical lines 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 5910-2022-023)

Review activities:
 Army - MI
 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 <https://assist.dla.mil/>.