CAPACITORS, FIXED, SURFACE MOUNT,

D.C. SELF-HEALING, NON-INDUCTIVE,

POLYPHENYLENE SULPHIDE DIELECTRIC,

BASED ON TYPE KM94S

ESCC Detail Specification No. 3006/023

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ESA/SCC Detail Specification No. 3006/023

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Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.

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FIGURES

APPENDICES (Applicable to specific Manufacturers only)
None.

1. GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Capacitors, Fixed, Surface Mount, D.C. Self-Healing, Non-inductive, Polyphenylene Sulphide Dielectric, based on Type KM94S. It shall be read in conjunction with ESA/SCC Generic Specification No. 3006, the requirements of which are supplemented herein.

1.2 RANGE OF COMPONENTS AND SIZE VARIANTS

The range of capacitors and size variants covered by this specification are scheduled in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the capacitors specified herein, are scheduled in Table 1(b).

1.4 PARAMETER DERATING INFORMATION (FIGURE 1)

Not applicable.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the capacitors specified herein are shown in Figure 2.

1.6 FUNCTIONAL DIAGRAM

The functional diagram for the capacitors specified herein is shown in Figure 3.

2. APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:-

(a) ESA/SCC Generic Specification No. 3006 for Capacitors, Fixed, Film Dielectric.

(b) IEC Publication No. 68-2-58, Environmental Testing.

3. TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESA/SCC Basic Specification No. 21300 shall apply.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
01	4.64	50	0.07	01	0.6
02	4.70	50	0.07	01	0.6
03	4.75	50	0.07	01	0.6
04	4.87	50	0.07	01	0.6
05	4.99	50	0.07	01	0.6
06	5.10	50	0.07	01	0.6
07	5.11	50	0.07	01	0.6
08	5.23	50	0.07	01	0.6
09	5.36	50	0.07	01	0.6
10	5.49	50	0.07	01	0.6
11	5.60	50	0.07	01	0.6
12	5.62	50	0.07	01	0.6
13	5.76	50	0.07	01	0.6
14	5.90	50	0.07	01	0.6
15	6.04	50	0.07	01	0.6
16	6.19	50	0.07	01	0.6
17	6.20	50	0.07	01	0.6
18	6.34	50	0.07	01	0.6
19	6.49	50	0.07	01	0.6
20	6.65	50	0.07	01	0.6
21	6.80	50	0.10	01	0.6
22	6.81	50	0.10	01	0.6
23	6.98	50	0.10	01	0.6
24	7.15	50	0.10	01	0.6
25	7.32	50	0.10	01	0.6
26	7.50	50	0.10	01	0.6
27	7.68	50	0.10	01	0.6
28	7.87	50	0.10	01	0.6
29	8.06	50	0.10	01	0.6
30	8.20	50	0.10	01	0.6
31	8.25	50	0.10	01	0.6
32	8.45	50	0.10	01	0.6
33	8.66	50	0.10	01	0.6
34	8.87	50	0.10	01	0.6
35	9.09	50	0.10	01	0.6
36	9.10	50	0.10	01	0.6
37	9.31	50	0.10	01	0.6
38	9.53	50	0.10	01	0.6
39	9.76	50	0.10	01	0.6
40	10	50	0.10	01	0.6
41	10.2	50	0.10	01	0.6
42	10.5	50	0.10	01	0.6
43	10.7	50	0.10	01	0.6
44	11	50	0.10	01	0.6
45	11.3	50	0.10	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
46	11.5	50	0.10	01	0.6
47	11.8	50	0.10	01	0.6
48	12	50	0.10	01	0.6
49	12.1	50	0.10	01	0.6
50	12.4	50	0.10	01	0.6
51	12.7	50	0.10	01	0.6
52	13	50	0.10	01	0.6
53	13.3	50	0.10	01	0.6
54	13.7	50	0.10	01	0.6
55	14	50	0.10	01	0.6
56	14.3	50	0.10	01	0.6
57	14.7	50	0.10	01	0.6
58	15	50	0.15	01	0.6
59	15.4	50	0.15	01	0.6
60	15.8	50	0.15	01	0.6
61	16	50	0.15	01	0.6
62	16.2	50	0.15	01	0.6
63	16.5	50	0.15	01	0.6
64	16.9	50	0.15	01	0.6
65	17.4	50	0.15	01	0.6
66	17.8	50	0.15	01	0.6
67	18	50	0.15	01	0.6
68	18.2	50	0.15	01	0.6
69	18.7	50	0.15	01	0.6
70	19.1	50	0.15	01	0.6
71	19.6	50	0.15	01	0.6
72	20	50	0.15	01	0.6
73	20.5	50	0.15	01	0.6
74	21	50	0.15	01	0.6
75	21.5	50	0.15	01	0.6
76	22	50	0.16	01	0.6
77	22.1	50	0.16	01	0.6
78	22.6	50	0.16	01	0.6
79	23.2	50	0.16	01	0.6
80	23.7	50	0.16	01	0.6
81	24	50	0.16	01	0.6
82	24.3	50	0.16	01	0.6
83	24.9	50	0.16	01	0.6
84	25.5	50	0.16	01	0.6
85	26.1	50	0.16	01	0.6
86	26.7	50	0.16	01	0.6
87	27	50	0.16	01	0.6
88	27.4	50	0.16	01	0.6
89	28	50	0.16	01	0.6
90	28.7	50	0.16	01	0.6
91	29.4	50	0.16	01	0.6
92	30	50	0.16	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
93	30.1	50	0.16	01	0.6
94	30.9	50	0.16	01	0.6
95	31.6	50	0.16	01	0.6
96	32.4	50	0.16	01	0.6
97	33	50	0.21	01	0.6
98	33.2	50	0.21	01	0.6
99	34	50	0.21	01	0.6
100	34.8	50	0.21	01	0.6
101	35.7	50	0.21	01	0.6
102	36	50	0.21	01	0.6
103	36.5	50	0.21	01	0.6
104	37.4	50	0.21	01	0.6
105	38.3	50	0.21	01	0.6
106	39.2	50	0.21	01	0.6
107	40.2	50	0.21	01	0.6
108	41.2	50	0.21	01	0.6
109	42.2	50	0.21	01	0.6
110	43	50	0.21	01	0.6
111	43.2	50	0.21	01	0.6
112	44.2	50	0.21	01	0.6
113	45.3	50	0.21	01	0.6
114	46.4	50	0.21	01	0.6
115	47	50	0.21	01	0.6
116	47.5	50	0.21	01	0.6
117	48.7	50	0.21	01	0.6
118	49.9	50	0.21	01	0.6
119	51	50	0.21	01	0.6
120	51.1	50	0.21	01	0.6
121	52.3	50	0.21	01	0.6
122	53.6	50	0.21	01	0.6
123	54.9	50	0.21	01	0.6
124	56	50	0.21	01	0.6
125	56.2	50	0.21	01	0.6
126	57.6	50	0.21	01	0.6
127	59	50	0.21	01	0.6
128	60.4	50	0.21	01	0.6
129	61.9	50	0.21	01	0.6
130	62	50	0.21	01	0.6
131	63.4	50	0.21	01	0.6
132	64.9	50	0.21	01	0.6
133	66.5	50	0.21	01	0.6
134	68	50	0.30	01	0.6
135	68.1	50	0.30	01	0.6
136	69.8	50	0.30	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
137	71.5	50	0.30	01	0.6
138	73.2	50	0.30	01	0.6
139	75	50	0.30	01	0.6
140	76.8	50	0.30	01	0.6
141	78.7	50	0.30	01	0.6
142	80.6	50	0.30	01	0.6
143	82	50	0.30	01	0.6
144	82.5	50	0.30	01	0.6
145	84.5	50	0.30	01	0.6
146	86.6	50	0.30	01	0.6
147	88.7	50	0.30	01	0.6
148	90.9	50	0.30	01	0.6
149	91	50	0.30	01	0.6
150	93.1	50	0.30	01	0.6
151	95.3	50	0.30	01	0.6
152	97.6	50	0.30	01	0.6
153	100	50	0.40	01	0.6
154	102	50	0.40	01	0.6
155	105	50	0.40	01	0.6
156	107	50	0.40	01	0.6
157	110	50	0.40	01	0.6
158	113	50	0.40	01	0.6
159	115	50	0.40	01	0.6
160	118	50	0.40	01	0.6
161	120	50	0.40	01	0.6
162	121	50	0.40	01	0.6
163	124	50	0.40	01	0.6
164	127	50	0.40	01	0.6
165	130	50	0.40	01	0.6
166	133	50	0.40	01	0.6
167	137	50	0.40	01	0.6
168	140	50	0.40	01	0.6
169	143	50	0.40	01	0.6
170	147	50	0.40	01	0.6
171	150	50	0.41	01	0.6
172	154	50	0.41	01	0.6
173	158	50	0.41	01	0.6
174	160	50	0.41	01	0.6
175	162	50	0.41	01	0.6
176	165	50	0.41	01	0.6
177	169	50	0.41	01	0.6
178	174	50	0.41	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
179	178	50	0.41	01	0.6
180	180	50	0.41	01	0.6
181	182	50	0.41	01	0.6
182	187	50	0.41	01	0.6
183	191	50	0.41	01	0.6
184	196	50	0.41	01	0.6
185	200	50	0.41	01	0.6
186	205	50	0.41	01	0.6
187	210	50	0.41	01	0.6
188	215	50	0.41	01	0.6
189	220	50	0.60	01	0.6
190	221	50	0.60	01	0.6
191	226	50	0.60	02	0.9
192	232	50	0.60	02	0.9
193	237	50	0.60	02	0.9
194	240	50	0.60	02	0.9
195	243	50	0.60	02	0.9
196	249	50	0.60	02	0.9
197	255	50	0.60	02	0.9
198	261	50	0.60	02	0.9
199	267	50	0.60	02	0.9
200	270	50	0.60	02	0.9
201	274	50	0.60	02	0.9
202	280	50	0.60	02	0.9
203	287	50	0.60	02	0.9
204	294	50	0.60	02	0.9
205	300	50	0.60	02	0.9
206	301	50	0.60	02	0.9
207	309	50	0.60	02	0.9
208	316	50	0.60	02	0.9
209	324	50	0.60	02	0.9
210	330	50	0.60	02	0.9
211	332	50	0.90	02	0.9
212	340	50	0.90	02	0.9
213	348	50	0.90	02	0.9
214	357	50	0.90	02	0.9
215	360	50	0.90	02	0.9
216	365	50	0.90	02	0.9
217	374	50	0.90	02	0.9
218	383	50	0.90	02	0.9
219	390	50	0.90	02	0.9
220	392	50	0.90	02	0.9
221	402	50	0.90	02	0.9
222	412	50	0.90	02	0.9

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
223	422	50	0.90	02	0.9
224	430	50	0.90	02	0.9
225	432	50	0.90	02	0.9
226	442	50	0.90	02	0.9
227	453	50	0.90	02	0.9
228	464	50	0.90	02	0.9
229	470	50	1.28	02	0.9
230	475	50	1.28	03	0.9
231	487	50	1.28	03	1.3
232	499	50	1.28	03	1.3
233	510	50	1.28	03	1.3
234	511	50	1.28	03	1.3
235	523	50	1.28	03	1.3
236	536	50	1.28	03	1.3
237	549	50	1.28	03	1.3
238	560	50	1.28	03	1.3
239	562	50	1.28	03	1.3
240	576	50	1.28	03	1.3
241	590	50	1.28	03	1.3
242	604	50	1.28	03	1.3
243	619	50	1.28	03	1.3
244	620	50	1.28	03	1.3
245	634	50	1.28	03	1.3
246	649	50	1.28	03	1.3
247	665	50	1.28	03	1.3
248	680	50	1.28	03	1.3
249	681	50	1.45	03	1.3
250	698	50	1.45	03	1.3
251	715	50	1.45	03	1.3
252	732	50	1.45	03	1.3
253	750	50	1.45	03	1.3
254	768	50	1.45	03	1.3
255	787	50	1.45	03	1.3
256	806	50	1.45	03	1.3
257	820	50	1.45	03	1.3
258	825	50	1.45	03	1.3
259	845	50	1.45	03	1.3
260	866	50	1.45	03	1.3
261	887	50	1.45	03	1.3
262	909	50	1.45	03	1.3
263	910	50	1.45	03	1.3
264	931	50	1.45	03	1.3
265	953	50	1.45	03	1.3
266	976	50	1.45	03	1.3
267	1000	50	1.75	03	1.3

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
268	1.0	100	0.03	01	0.6
269	1.02	100	0.03	01	0.6
270	1.05	100	0.03	01	0.6
271	1.07	100	0.03	01	0.6
272	1.1	100	0.03	01	0.6
273	1.13	100	0.03	01	0.6
274	1.15	100	0.03	01	0.6
275	1.18	100	0.03	01	0.6
276	1.2	100	0.03	01	0.6
277	1.21	100	0.03	01	0.6
278	1.24	100	0.03	01	0.6
279	1.27	100	0.03	01	0.6
280	1.3	100	0.03	01	0.6
281	1.33	100	0.03	01	0.6
282	1.37	100	0.03	01	0.6
283	1.4	100	0.03	01	0.6
284	1.43	100	0.03	01	0.6
285	1.47	100	0.03	01	0.6
286	1.5	100	0.05	01	0.6
287	1.54	100	0.05	01	0.6
288	1.58	100	0.05	01	0.6
289	1.6	100	0.05	01	0.6
290	1.62	100	0.05	01	0.6
291	1.65	100	0.05	01	0.6
292	1.69	100	0.05	01	0.6
293	1.74	100	0.05	01	0.6
294	1.78	100	0.05	01	0.6
295	1.8	100	0.05	01	0.6
296	1.82	100	0.05	01	0.6
297	1.87	100	0.05	01	0.6
298	1.91	100	0.05	01	0.6
299	1.96	100	0.05	01	0.6
300	2.0	100	0.05	01	0.6
301	2.05	100	0.05	01	0.6
302	2.1	100	0.05	01	0.6
303	2.15	100	0.05	01	0.6
304	2.2	100	0.07	01	0.6
305	2.21	100	0.07	01	0.6
306	2.26	100	0.07	01	0.6
307	2.32	100	0.07	01	0.6
308	2.37	100	0.07	01	0.6
309	2.4	100	0.07	01	0.6
310	2.43	100	0.07	01	0.6
311	2.49	100	0.07	01	0.6
312	2.55	100	0.07	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
313	2.61	100	0.07	01	0.6
314	2.67	100	0.07	01	0.6
315	2.7	100	0.07	01	0.6
316	2.74	100	0.07	01	0.6
317	2.8	100	0.07	01	0.6
318	2.87	100	0.07	01	0.6
319	2.94	100	0.07	01	0.6
320	3.0	100	0.07	01	0.6
321	3.01	100	0.07	01	0.6
322	3.09	100	0.07	01	0.6
323	3.16	100	0.07	01	0.6
324	3.24	100	0.07	01	0.6
325	3.3	100	0.11	01	0.6
326	3.32	100	0.11	01	0.6
327	3.4	100	0.11	01	0.6
328	3.48	100	0.11	01	0.6
329	3.57	100	0.11	01	0.6
330	3.6	100	0.11	01	0.6
331	3.65	100	0.11	01	0.6
332	3.74	100	0.11	01	0.6
333	3.83	100	0.11	01	0.6
334	3.9	100	0.11	01	0.6
335	3.92	100	0.11	01	0.6
336	4.02	100	0.11	01	0.6
337	4.12	100	0.11	01	0.6
338	4.22	100	0.11	01	0.6
339	4.3	100	0.11	01	0.6
340	4.32	100	0.11	01	0.6
341	4.42	100	0.11	01	0.6
342	4.53	100	0.11	01	0.6
343	4.64	100	0.11	01	0.6
344	4.7	100	0.09	01	0.6
345	4.75	100	0.09	01	0.6
346	4.87	100	0.09	01	0.6
347	4.99	100	0.09	01	0.6
348	5.1	100	0.09	01	0.6
349	5.11	100	0.09	01	0.6
350	5.23	100	0.09	01	0.6
351	5.36	100	0.09	01	0.6
352	5.49	100	0.09	01	0.6
353	5.6	100	0.09	01	0.6
354	5.62	100	0.09	01	0.6
355	5.76	100	0.09	01	0.6
356	5.9	100	0.09	01	0.6
357	6.04	100	0.09	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
358	6.19	100	0.09	01	0.6
359	6.2	100	0.09	01	0.6
360	6.34	100	0.09	01	0.6
361	6.49	100	0.09	01	0.6
362	6.65	100	0.09	01	0.6
363	6.8	100	0.13	01	0.6
364	6.81	100	0.13	01	0.6
365	6.98	100	0.13	01	0.6
366	7.15	100	0.13	01	0.6
367	7.32	100	0.13	01	0.6
368	7.5	100	0.13	01	0.6
369	7.68	100	0.13	01	0.6
370	7.87	100	0.13	01	0.6
371	8.06	100	0.13	01	0.6
372	8.2	100	0.13	01	0.6
373	8.25	100	0.13	01	0.6
374	8.45	100	0.13	01	0.6
375	8.66	100	0.13	01	0.6
376	8.87	100	0.13	01	0.6
377	9.09	100	0.13	01	0.6
378	9.1	100	0.13	01	0.6
379	9.31	100	0.13	01	0.6
380	9.53	100	0.13	01	0.6
381	9.76	100	0.13	01	0.6
382	10	100	0.13	01	0.6
383	10.2	100	0.13	01	0.6
384	10.5	100	0.13	01	0.6
385	10.7	100	0.13	01	0.6
386	11	100	0.13	01	0.6
387	11.3	100	0.13	01	0.6
388	11.5	100	0.13	01	0.6
389	11.8	100	0.13	01	0.6
390	12	100	0.13	01	0.6
391	12.1	100	0.13	01	0.6
392	12.4	100	0.13	01	0.6
393	12.7	100	0.13	01	0.6
394	13	100	0.13	01	0.6
395	13.3	100	0.13	01	0.6
396	13.7	100	0.13	01	0.6
397	14	100	0.13	01	0.6
398	14.3	100	0.13	01	0.6
399	14.7	100	0.13	01	0.6
400	15	100	0.19	01	0.6
401	15.4	100	0.19	01	0.6
402	15.8	100	0.19	01	0.6
403	16	100	0.19	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
404	16.2	100	0.19	01	0.6
405	16.5	100	0.19	01	0.6
406	16.9	100	0.19	01	0.6
407	17.4	100	0.19	01	0.6
408	17.8	100	0.19	01	0.6
409	18	100	0.19	01	0.6
410	18.2	100	0.19	01	0.6
411	18.7	100	0.19	01	0.6
412	19.1	100	0.19	01	0.6
413	19.6	100	0.19	01	0.6
414	20	100	0.19	01	0.6
415	20.5	100	0.19	01	0.6
416	21	100	0.19	01	0.6
417	21.5	100	0.19	01	0.6
418	22	100	0.20	01	0.6
419	22.1	100	0.20	01	0.6
420	22.6	100	0.20	01	0.6
421	23.2	100	0.20	01	0.6
422	23.7	100	0.20	01	0.6
423	24	100	0.20	01	0.6
424	24.3	100	0.20	01	0.6
425	24.9	100	0.20	01	0.6
426	25.5	100	0.20	01	0.6
427	26.1	100	0.20	01	0.6
428	26.7	100	0.20	01	0.6
429	27	100	0.20	01	0.6
430	27.4	100	0.20	01	0.6
431	28	100	0.20	01	0.6
432	28.7	100	0.20	01	0.6
433	29.4	100	0.20	01	0.6
434	30	100	0.20	01	0.6
435	30.1	100	0.20	01	0.6
436	30.9	100	0.20	01	0.6
437	31.6	100	0.20	01	0.6
438	32.4	100	0.20	01	0.6
439	33	100	0.26	01	0.6
440	33.2	100	0.26	01	0.6
441	34	100	0.26	01	0.6
442	34.8	100	0.26	01	0.6
443	35.7	100	0.26	01	0.6
444	36	100	0.26	01	0.6
445	36.5	100	0.26	01	0.6
446	37.4	100	0.26	01	0.6
447	38.3	100	0.26	01	0.6
448	39	100	0.26	01	0.6
449	39.2	100	0.26	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
450	40.2	100	0.26	01	0.6
451	41.2	100	0.26	01	0.6
452	42.2	100	0.26	01	0.6
453	43	100	0.26	01	0.6
454	43.2	100	0.26	01	0.6
455	44.2	100	0.26	01	0.6
456	45.3	100	0.26	01	0.6
457	46.4	100	0.26	01	0.6
458	47	100	0.26	01	0.6
459	47.5	100	0.26	01	0.6
460	48.7	100	0.26	01	0.6
461	49.9	100	0.26	01	0.6
462	51	100	0.26	01	0.6
463	51.1	100	0.26	01	0.6
464	52.3	100	0.26	01	0.6
465	53.6	100	0.26	01	0.6
466	54.9	100	0.26	01	0.6
467	56	100	0.26	01	0.6
468	56.2	100	0.26	01	0.6
469	57.6	100	0.26	01	0.6
470	59	100	0.26	01	0.6
471	60.4	100	0.26	01	0.6
472	61.9	100	0.26	01	0.6
473	62	100	0.26	01	0.6
474	63.4	100	0.26	01	0.6
475	64.9	100	0.26	01	0.6
476	66.5	100	0.26	01	0.6
477	68	100	0.38	01	0.6
478	68.1	100	0.38	01	0.6
479	69.8	100	0.38	01	0.6
480	71.5	100	0.38	01	0.6
481	73.2	100	0.38	01	0.6
482	75	100	0.38	01	0.6
483	76.8	100	0.38	01	0.6
484	78.7	100	0.38	01	0.6
485	80.6	100	0.38	01	0.6
486	82	100	0.38	01	0.6
487	82.5	100	0.38	01	0.6
488	84.5	100	0.38	01	0.6
489	86.6	100	0.38	01	0.6
490	88.7	100	0.38	01	0.6
491	90.9	100	0.38	01	0.6
492	91	100	0.38	01	0.6
493	93.1	100	0.38	01	0.6
494	95.3	100	0.38	01	0.6

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
495	97.6	100	0.38	01	0.6
496	100	100	0.41	01	0.6
497	102	100	0.41	02	0.9
498	105	100	0.41	02	0.9
499	107.5	100	0.41	02	0.9
500	120	100	0.41	02	0.9
501	110	100	0.41	02	0.9
502	113	100	0.41	02	0.9
503	115	100	0.41	02	0.9
504	118	100	0.41	02	0.9
505	120	100	0.41	02	0.9
506	121	100	0.41	02	0.9
507	124	100	0.41	02	0.9
508	127	100	0.41	02	0.9
509	130	100	0.41	02	0.9
510	133	100	0.41	02	0.9
511	137	100	0.41	02	0.9
512	140	100	0.41	02	0.9
513	143	100	0.41	02	0.9
514	147	100	0.41	02	0.9
515	150	100	0.84	02	0.9
516	154	100	0.84	02	0.9
517	158	100	0.84	02	0.9
518	160	100	0.84	02	0.9
519	162	100	0.84	02	0.9
520	165	100	0.84	02	0.9
521	169	100	0.84	02	0.9
522	174	100	0.84	02	0.9
523	178	100	0.84	02	0.9
524	180	100	0.84	02	0.9
525	182	100	0.84	02	0.9
526	187	100	0.84	02	0.9
527	191	100	0.84	02	0.9
528	196	100	0.84	02	0.9
529	200	100	0.84	02	0.9
530	205	100	0.84	02	0.9
531	210	100	0.84	02	0.9
532	215	100	0.84	02	0.9
533	220	100	0.91	02	0.9
534	221	100	0.91	03	1.3
535	226	100	0.91	03	1.3
536	232	100	0.91	03	1.3
537	237	100	0.91	03	1.3
538	240	100	0.91	03	1.3
539	243	100	0.91	03	1.3

NOTES: See Page 18.

TABLE 1(a) - RANGE OF COMPONENTS AND SIZE VARIANTS

(1) Item No.	(2) Capacitance Value (C) (nF) (Note 1)	(3) d.c. Rated Voltage (U_R) (V)	(4) a.c. Rated Current (I_{RA}) (A)	(5) Size Variant (Note 2)	(6) Weight (g)
540	249	100	0.91	03	1.3
541	255	100	0.91	03	1.3
542	261	100	0.91	03	1.3
543	267	100	0.91	03	1.3
544	270	100	0.91	03	1.3
545	274	100	0.91	03	1.3
546	280	100	0.91	03	1.3
547	287	100	0.91	03	1.3
548	294	100	0.91	03	1.3
549	300	100	0.91	03	1.3
550	301	100	0.91	03	1.3
551	309	100	0.91	03	1.3
552	316	100	0.91	03	1.3
553	324	100	0.91	03	1.3
554	330	100	1.19	03	1.3
555	332	100	1.19	03	1.3
556	340	100	1.19	03	1.3
557	348	100	1.19	03	1.3
558	357	100	1.19	03	1.3
559	360	100	1.19	03	1.3
560	365	100	1.19	03	1.3
561	374	100	1.19	03	1.3
562	383	100	1.19	03	1.3
563	390	100	1.19	03	1.3
564	392	100	1.19	03	1.3
565	402	100	1.19	03	1.3
566	412	100	1.19	03	1.3
567	422	100	1.19	03	1.3
568	430	100	1.19	03	1.3
569	432	100	1.19	03	1.3
570	442	100	1.19	03	1.3
571	453	100	1.19	03	1.3
572	464	100	1.19	03	1.3
573	470	100	1.3	03	1.3

NOTES

1. Available in E96 Series (Tolerance ±1.0%), E48 Series (Tolerance ±2.0%), E24 Series (Tolerance ±5.0%) and E12 Series (Tolerance ±10%)
2. See Figure 2 for Size Variants.

TABLE 1(b) - MAXIMUM RATINGS

No.	Characteristics	Symbol	Maximum Ratings	Unit	Remarks
1	Rated Voltage d.c.	U_R	See Table 1(a)	V	
2	Rated Voltage a.c. (50/60 Hz)	U_A	35% of U_R	Vrms	
3	Rated Current a.c. (100 kHz)	I_{RA}	See Table 1(a)	Arms	
4	Operating Temperature Range	T_{op}	−55 to +125	°C	T_{amb}
5	Storage Temperature Range	T_{stg}	−55 to +125	°C	
6	Soldering Temperature	T_{sol}	+215	°C	Notes 1 and 2

NOTES

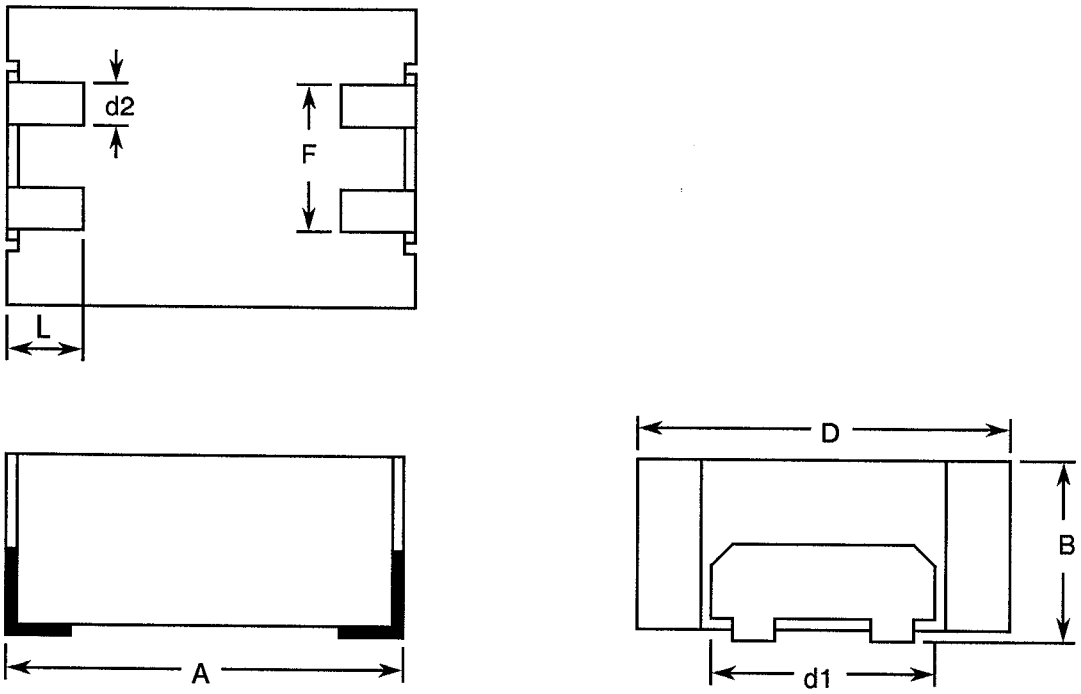
1. For reflow soldering:
   - Temperature : +215°C.
   - Duration : 20 to 40 seconds maximum.

2. For the purposes of Paras. 9.10 and 9.11 of ESA/SCC Generic Specification No. 3006, the minimum and maximum immersion distances shall be 1.0mm and 2.0mm respectively, with a duration of 20 to 40 seconds.

FIGURE 1 - PARAMETER DERATING INFORMATION

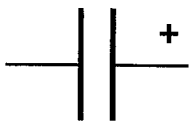
Not applicable.

FIGURE 2 - PHYSICAL DIMENSIONS



Size Variant	A		B		D		d1		d2		F		L	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
01	-	8.0	-	4.5	-	7.5	3.5	4.5	0.8	1.2	3.8	3.2	1.5	2.5
02	-	8.0	-	7.5	-	8.5	3.5	4.5	0.8	1.2	3.8	4.2	1.5	2.5
03	-	10.7	-	7.5	-	10.7	5.5	6.5	1.3	1.8	4.8	5.2	1.5	2.5

FIGURE 3 - FUNCTIONAL DIAGRAM



NOTES

1. These capacitors are not polarised, however, marking includes the voltage polarity symbol indicated above, which should be respected in use.

4. REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the capacitors specified herein are stated in this specification and ESA/SCC Generic Specification No. 3006 for Capacitors, Fixed, Film Dielectric. Deviations from the Generic Specification, applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESA/SCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

For testing in Charts IV and V, the components may be mounted on a suitable substrate in accordance with IEC Publication No. 384-1, Clause 4.33. After mounting, a force as specified in Para. 4.3.3 of this specification shall be applied normal to a line joining the terminals and in a plane parallel to the substrate for a duration of 10 seconds. There shall be no evidence of damage or loosening of the components from the substrate.

4.2.1 Deviations from Special In-process Controls

None.

4.2.2 Deviations from Final Production Tests (Chart II)

(a) Para. 9.2, Seal Test: Not applicable.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

(a) Para. 9.2, Seal Test: Not applicable.

(b) Para. 9.6.3, Electrical Measurement at High and Low Temperature: This test may be performed at the end of Chart III and parts rejected during external visual inspection or radiographic inspection, but electrically acceptable after burn-in, may be used.

(c) Para. 9.19, Sleeving: Not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

(a) Para. 9.2, Seal Test: Not applicable.

(b) Para. 9.9, Robustness of Terminations: Only test U_a is applicable.

(c) Para. 9.10.2, Resistance to Soldering Heat: This test shall be carried out in accordance with IEC Publication No. 68.2.58, with the following conditions:-

Temperature: $+215 \pm 3.0$ °C.

Immersion Time: 40 seconds.

The terminations shall be immersed to the minimum soldering distance defined in Table 1(b).

(d) Para. 9.11, Solderability: Shall be carried out in accordance with IEC Publication No. 68.2.58, with the following conditions:-

Temperature: $+215 \pm 3.0$ °C.

Immersion Time: 3.0 ± 0.3 seconds.

The terminations shall be immersed to the minimum soldering distance defined in Table 1(b).

(e) Para. 9.16, Operating Life: For Para. 9.16(c), the applied voltage shall be $1.25U_R$.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

(a) Para. 9.2, Seal Test : As per Para. 4.2.4(a)

(b) Para. 9.9, Robustness of Terminations : As per Para. 4.2.4(b)

(c) Para. 9.10.2, Resistance to Soldering Time: As per Para. 4.2.4(c)

(d) Para. 9.11, Solderability: As per Para. 4.2.4(d)

(e) Para. 9.15, High and Low Temperature Stability: The parts to be measured shall be selected from the sample tested during the Chart III, see Para. 4.2.3(b).

(f) Para. 9.16, Operating Life : As per Para. 4.2.4(e)

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the capacitors specified herein shall be checked. They shall conform to those shown in Figure 2.

4.3.2 Weight

The maximum weight of the capacitors specified herein shall be as specified in Table 1(a).

4.3.3 Robustness of Terminations

Test Condition: 10 Newtons.

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the capacitors specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Case

Thermo-plastic with epoxy resin filler.

4.4.2 Lead Material and Finish

The terminal material shall be brass, with a barrier layer of 2.0µm minimum of copper and Type '3 or 4' finish in accordance with the requirements of ESA/SCC Basic Specification No. 23500.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESA/SCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accommodate all of the marking specified, as much as space permits shall be marked and the marking information, in full, shall accompany the component in its primary package.

The information to be marked and the order of precedence, shall be as follows:-

(a) Polarity.

(b) The SCC Component Number.

(c) Electrical Characteristics and Ratings.

(d) Traceability Information.

4.5.2 Polarity

Polarity shall be marked in accordance with Figure 3 of this specification.

4.5.3 The SCC Component Number

The SCC Component Number shall be constituted and marked as follows:-

300602301B

Detail Specification Number

Type Variant (see Table 1(a) and Figure 2)

Testing Level (B or C, as applicable)

4.5.4 Electrical Characteristics and Ratings

The electrical characteristics and ratings to be marked in the following order of precedence are:-

(a) Capacitance Value.

(b) Tolerance.

(c) Rated Voltage.

The information shall be constituted and marked as follows:-

2433KE

Capacitance Value (243nF)

Tolerance (±10%)

Rated Voltage (100V)

4.5.4.1 Capacitance Values

Capacitance values shall be coded as follows. The unit quantity for marking shall be picofarads.

Capacitance Value	Code
XXX10^1	XXX1
XXX10^2	XXX2
XXX10^3	XXX3

4.5.4.2 Tolerances

The tolerances on capacitance values shall be indicated by the letter code specified hereafter.

Tolerance (±%)	Code Letter
1.0	F
2.0	G
5.0	J
10	K

4.5.4.3 Rated Voltage

The rated voltage shall be indicated by the code letters specified hereafter.

Rated Voltage (V)	Code Letter
50	C
100	E

4.5.4 Traceability Information

Traceability information shall be marked in accordance with the requirements of ESA/SCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured at room temperature are scheduled in Table 2. Unless otherwise specified, the measurements shall be performed at $T_{amb} = +22 \pm 3$ °C.

4.6.2 Electrical Measurements at High and Low Temperatures

The parameters to be measured at high and low temperatures are scheduled in Table 3.

4.6.3 Circuits for Electrical Measurements (Figure 4)

Not applicable.

4.7 BURN-IN TESTS

4.7.1 Parameter Drift Values

The parameter drift values applicable to burn-in are specified in Table 4 of this specification. Unless otherwise stated, measurements shall be performed at $T_{amb} = +22 \pm 3$ °C. The parameter drift values (Δ) applicable to the parameters scheduled shall not be exceeded. In addition to these drift value requirements for a given parameter, the appropriate limit value specified in Table 2 shall not be exceeded.

4.7.2 Conditions for Burn-in

The requirements for burn-in are specified in Section 7 of ESA/SCC Generic Specification No. 3006. The conditions for burn-in shall be as specified in Table 5 of this specification. On completion of burn-in, a recovery period of 24 ± 2 hours is necessary before the end-measurements.

TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE

No.	Characteristics	Symbol	ESA/SCC 3006 Test Method	Test Condition	Limits		Unit
					Min.	Max.	
1	Capacitance	C	Para. 9.6.1.2	Test frequency: 1.0kHz	See Table 1(a)		-
2	Tangent of Loss Angle	Tgd	Para. 9.6.1.3	Test frequency: 1.0kHz	-	20	10^{-4}
3	Insulation Resistance Terminal to Terminal	Ri	Para. 9.6.1.4	Para. 9.6.1.4 $C \leq 0.33\mu F$ $C > 0.33\mu F$	 30 000 10 000	 - -	 MΩ sec
4	Insulation Resistance Terminal to Case	Ri_B	Para. 9.6.1.4	-	50	-	GΩ
5	Voltage Proof Terminal to Terminal	VP	Para. 9.6.1.1	Para. 9.6.1.1	1.6 U_R	-	V
6	Voltage Proof Terminal to Case	VP_B	Para. 9.6.1.1	-	1.6 U_R	-	V

TABLE 3 - ELECTRICAL MEASUREMENTS AT HIGH AND LOW TEMPERATURES

No.	Characteristics	Symbol	ESA/SCC 3006 Test Method	Test Condition (Note 1)	Limits		Unit
					Min.	Max.	
1(a)	Capacitance Change	$\frac{\Delta C}{C}$	Para. 9.6.1.2	$T_{amb} = -55°C$ Test frequency: 1.0kHz	-3.0 (2)	+3.0 (2)	%
1(b)	Capacitance Change	$\frac{\Delta C}{C}$	Para. 9.6.1.2	$T_{amb} = +125°C$ Test frequency: 1.0kHz	-3.0 (2)	+3.0 (2)	%

NOTES

1. These measurements shall be performed on 6 samples. If 1 failure occurs out of 6 parts, then test 100%. 1% reject maximum allowed in the case of 100% testing.
2. Related to value recorded at $T_{amb} = +22°C$.

FIGURE 4 - CIRCUITS FOR ELECTRICAL MEASUREMENTS

Not applicable.

TABLE 4 - PARAMETER DRIFT VALUES

No.	Characteristics	Symbol	Spec. and/or Test Method	Test Conditions	Change Limits (Δ)	Unit
1	Capacitance Change	$\frac{\Delta C}{C}$	As per Table 2	As per Table 2	±1.0	%

TABLE 5 - CONDITIONS FOR BURN-IN AND OPERATING LIFE TESTS

No.	Characteristic	Symbol	Condition	Unit
1	Ambient Temperature	T_{amb}	+125(+0−5)	°C
2	Test Voltage	V_T	1.25 U_R	V

FIGURE 5 - ELECTRICAL CIRCUIT FOR BURN-IN AND OPERATING LIFE TESTS

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESA/SCC BASIC SPECIFICATION No. 3006)

4.8.1 Measurements and Inspections on Completion of Environmental Tests

The parameters to be measured and inspections to be performed on completion of environmental tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at T_{amb} = +22 ± 3 °C.

4.8.2 Measurements and Inspections at Intermediate Points during Endurance Tests

The parameters to be measured and inspections to be performed at intermediate points during endurance tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at T_{amb} = +22 ± 3 °C.

4.8.3 Measurements and Inspections on Completion of Endurance Tests

The parameters to be measured and inspections to be performed on completion of endurance tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at T_{amb} = +22 ± 3 °C.

4.8.4 Conditions for Operating Life Tests (Part of Endurance Testing)

The requirements for operating life testing are specified in Section 9 of ESA/SCC Generic Specification No. 3006. The conditions for operating life testing shall be as specified in Table 5 for the burn-in test.

4.8.5 Electrical Circuits for Operating Life Tests (Figure 5)

Not applicable.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING

NO.	ESA/SCC GENERIC SPEC. NO. 3006		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		MIN.	MAX.	
01	Seal Test (Hermetically Sealed)	Para. 9.2	Not applicable					
02	Rapid Change of Temperature	Para. 9.3	**Initial Measurements** Capacitance **Final Measurements** Visual Examination Capacitance Change Tangent of Loss Angle	 Table 2 Item 1 After recovery of 24 ± 2 hours No damage Table 2 Item 1 Table 2 Item 2	 C ΔC/C Tgδ	 Record values −1.0 -	 +1.0 Table 2	 %
03	Corrosion (Hermetically Sealed)	Para. 9.8, Half without sleeving (2)	Not applicable					
04	Robustness of Terminations	Para. 9.9 and Paras. 4.2.4, 4.2.5 and 4.3.3 of this spec.	**Final Measurements** Visual Examination	 No damage	 -	 -	 -	
05	Resistance to Soldering Heat	Para. 9.10	**Initial Measurements** Capacitance **Final Measurements** Insulation Resistance Capacitance Change Tangent of Loss Angle	 Table 2 Item 1 After recovery of 1 to 2 hrs Table 2 Item 3 Table 2 Item 1 Table 2 Item 2	 C Ri ΔC/C Tgδ	 Record values Table 2 −2.0 -	 - +2.0 Table 2	 %
06	Solderability	Para. 9.11 Method 1	**Final Measurements** Visual Examination	 Solder Bath Method IEC No. 68-2-20 Para. 4.6.4, 4.7.4 or 4.9.3	 -	 -	 -	
07	Vibration	Para. 9.12	**Final Measurements** Visual Examination	 No evidence of damage	 -	 -	 -	
08	Shock or Bump	Para. 9.13	**Final Measurements** Capacitance Change Visual Examination	 Para. 9.6.1.2 No evidence of damage, breakdown, arcing or fractures	 ΔC/C -	 −1.0 -	 +1.0 -	 %
09	Climatic Sequence	Para. 9.14	**Initial Measurements** Capacitance **Final Measurements** Visual Examination Voltage Proof (2) Insulation Resistance (2) Voltage Proof Voltage Proof Insulation Resistance Insulation Resistance Capacitance Change Tangent of Loss Angle	 Table 2 Item 1 After recovery of 24 hrs max. No evidence of corrosion or unwrapping or mechanical damage to the sleeve (2) ESA/SCC No. 3006 Para. 9.6.1.1 ESA/SCC No. 3006 Para. 9.6.1.4 After removal of sleeve (2) Table 2 Item 5 Table 2 Item 6 Table 2 Item 3 Table 2 Item 4 Table 2 Item 1 Table 2 Item 2	 C - VP_S Ri_S VP VP_B Ri Ri_B ΔC/C Tgδ	 Record values - Not applicable Not applicable Table 2 (3) Table 2 (3) (4) (4) −1.0 -	 - - - - +1.0 50	 % 10^{-4}

NOTES: See Page 19.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING (CONT'D)

NO.	ESA/SCC GENERIC SPEC. NO. 3006		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		MIN.	MAX.	
10	Temperature Coefficient	Para. 9.15		ESA/SCC No. 3006 Para. 9.15				
			Final Measurements					
			Capacitance Change	Table 3 Item 1(a)	ΔC/C	−3.0	+3.0	%
				Table 3 Item 1(b)	ΔC/C	−3.0	+3.0	%
11	Operating Life	Para. 9.16 and Paras. 4.2.4 and 4.2.5 of this spec.	**Initial Measurements**					
			Capacitance	Table 2 Item 1	C	Record values		
			During Tests	125% U_R (3)				
			Intermediate Measurements	After recovery of 24 ± 2 hours				
			Capacitance Change	Table 2 Item 1	ΔC/C	−2.0	+2.0	%
			Final Measurements	After removal of sleeves (2) and after 24 hrs recovery				
			Capacitance Change	Table 2 Item 1	ΔC/C	−2.0	+2.0	%
			Tangent of Loss Angle	Table 2 Item 2	Tgδ	-	(5)	10^{-4}
			Insulation Resistance	Table 2 Item 3	Ri	(4)	-	MΩ or sec
			Insulation Resistance	Table 2 Item 4	Ri_B	25	-	GΩ
			Visual Examination	No evidence of damage or corrosion	-	-	-	
12	Permanence of Marking	Para. 9.17	Not applicable					

NOTES

1. The tests in this Table refer to either Chart IV or V and shall be used as applicable.
2. If applicable.
3. For U_R, see Column 3 of Table 1(a). For VP_B, minimum 200V.
4. Greater than 50% of the value given in Table 2.
5. Less than 2x the value given in Table 2.