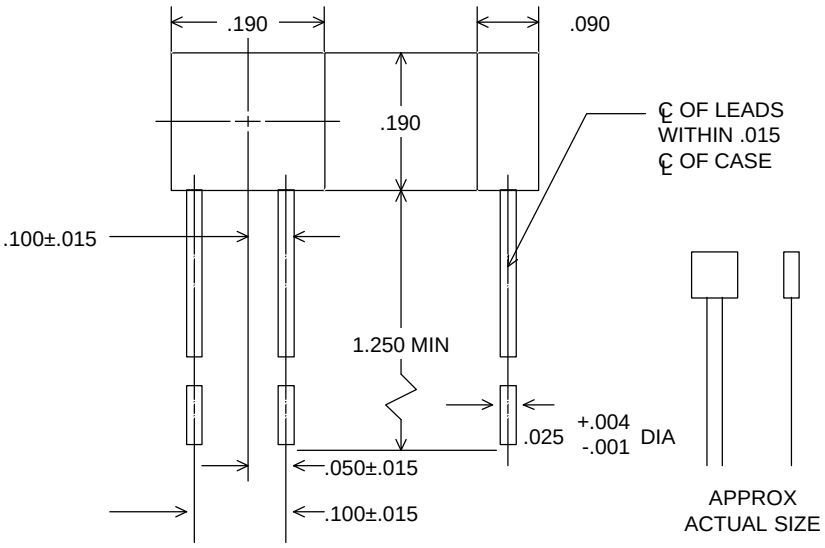
INCH-POUND
MIL-PRF-39014/23A
16 September 1997
SUPERSEDING
MIL-C-39014/23
7 December 1977

PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, CERAMIC DIELECTRIC (GENERAL PURPOSE) ESTABLISHED RELIABILITY, STYLE CKR04

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

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-39014.



Inches	mm	Inches	mm
.001	0.03	.090	2.29
.004	0.10	.100	2.54
.015	0.38	.190	4.83
.025	0.64	1.250	31.75
.050	1.27		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± .010 inch (.25mm).
4. For flush mounting .078 inch (1.98 mm) printed-circuit-hole diameter is required to clear shoulder.
5. Lead length may be a minimum of 1 inch long for use in tape and reel automatic insertion equipment, when specified.

FIGURE 1. Dimensions and configurations.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Case type: Molded and preformed.

Capacitance value: See table I.

Capacitance tolerance: See table I.

Operating temperature range: -55°C to -125°C.

Voltage rating: See table I.

Radiographic inspection (failure rate level “S” only): In accordance with MIL-PRF-39014.

Dissipation factor: Not more than 2.5 percent.

Dielectric withstanding voltage:

Body insulation: Shall be able to withstand 1,300 volts between leads and case.

Insulation resistance (IR):

At 25°C - Not less than 100,000 megohms or 1,000 megohm-microfarads whichever is less
At 125°C - Not less than 10,000 megohms or 100 megohm-microfarads whichever is less.

Voltage-temperature limits: In accordance with MIL-PRF-39014.

Capacitance change with reference to 25°C	
Step A through step D of table V Bias = 0 volts	Step E through step G of table V Bias = rated voltage
±15 percent	+15, -25 percent

Immersion:

IR - Not less than 50 percent of initial 25°C requirement.

Salt spray (corrosion): Not applicable.

Resistance to soldering heat:

ΔC - +15, -5 percent from initial 25°C measurement.

Life:

Rated conditions, 100 percent of dc rated voltage at 125°C.

0 hour through 3,000 hours:

IR - At 25°C, not less than 50 percent of initial 25°C requirement.
- At 125°C, not less than 50 percent of initial 125°C requirement.

ΔC - ±20 percent from initial measured value.

Dissipation factor - Not greater than 2.5 percent.

4,000 hours through 32,000 hours:

IR - At 25°C, not less than 15 percent of initial 25°C requirement.
- At 125°C, not less than 15 percent of initial 125°C requirement.

ΔC - ±20 percent from initial measured value.

Dissipation factor - Not greater than 2.5 percent

Accelerated conditions, 200 percent of dc rated voltage at 125°C.

0 hour and 250 hours:

IR - At 25°C, not less than 50 percent of initial 25°C requirement.
- At 125°C, not less than 50 percent of initial 125°C requirement.

ΔC - ±20 percent from initial measured value.

Dissipation factor - Not greater than 2.5 percent

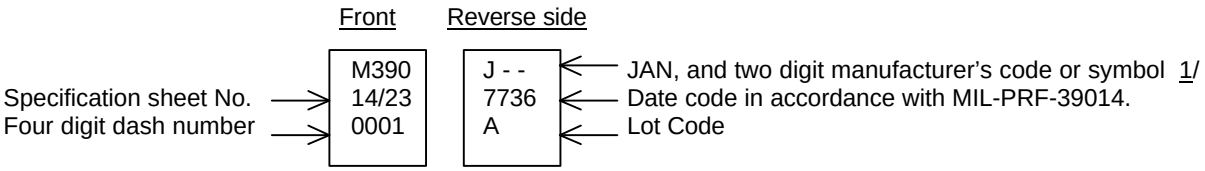
1,000 hours, 2,000 hours, and 4,000 hours:

IR - At 25°C, not less than 15 percent of initial 25°C requirement.
- At 125°C, not less than 15 percent of initial 125°C requirement.

ΔC - ±20 percent from initial measured value.

Dissipation factor - Not greater than 2.5 percent.

Marking: In accordance with MIL-PRF-39014 except the minimum marking as show in the following example will be permitted. Full marking shall be included in the package.



Part or Identifying Number (PIN): M39014/23-(dash number from table I).

1/ Location of manufacturer's code or symbol is optional.

TABLE I. Dash number and electrical characteristics.

Dash number Failure rate level (%/1,000 hours)				Capacitance	Capacitance tolerance	DC rated voltage
1.0 (M)	0.1 (P)	0.01 (R)	0.001 (S)			
				pF	± percent	Volts
0001	0101	0201	0301	10	10	200
0002	0102	0202	0302	10	20	200
0003	0103	0203	0303	12	10	200
0004	0104	0204	0304	15	10	200
0005	0105	0205	0305	15	20	200
0006	0106	0206	0306	18	10	200
0007	0107	0207	0307	22	10	200
0008	0108	0208	0308	22	20	200
0009	0109	0209	0309	27	10	200
0010	0110	0210	0310	33	10	200
0011	0111	0211	0311	33	20	200
0012	0112	0212	0312	39	10	200
0013	0113	0213	0313	47	10	200
0014	0114	0214	0314	47	20	200
0015	0115	0215	0315	56	10	200
0016	0116	0216	0316	68	10	200
0017	0117	0217	0317	68	20	200
0018	0118	0218	0318	82	10	200
0019	0119	0219	0319	100	10	200
0020	0120	0220	0320	100	20	200
0021	0121	0221	0321	120	10	200
0022	0122	0222	0322	150	10	200
0023	0123	0223	0323	150	20	200
0024	0124	0224	0324	180	10	200
0025	0125	0225	0325	220	10	200
0026	0126	0226	0326	220	20	200
0027	0127	0227	0327	270	10	200
0028	0128	0228	0328	330	10	200
0029	0129	0229	0329	330	20	200
0030	0130	0230	0330	390	10	200
0031	0131	0231	0331	470	10	200
0032	0132	0232	0332	470	20	200
0033	0133	0233	0333	560	10	200
0034	0134	0234	0334	680	10	200
0035	0135	0235	0335	680	20	200
0036	0136	0236	0336	820	10	200
0037	0137	0237	0337	1,000	10	200
0038	0138	0238	0338	1,000	20	200
0039	0139	0239	0339	1,200	10	100
0040	0140	0240	0340	1,500	10	100
0041	0141	0241	0341	1,500	20	100
0042	0142	0242	0342	1,800	10	100
0043	0143	0243	0343	2,200	10	100
0044	0144	0244	0344	2,200	20	100
0045	0145	0245	0345	2,700	10	100

TABLE I. Dash number and electrical characteristics - Continued.

Dash number Failure rate level (%/1,000 hours)				Capacitance	Capacitance tolerance	DC rated voltage
1.0 (M)	0.1 (P)	0.01 (R)	0.001 (S)			
				pF	± percent	Volts
0046	0146	0246	0346	3,300	10	100
0047	0147	0247	0347	3,300	20	100
0048	0148	0248	0348	3,900	10	100
0049	0149	0249	0349	4,700	10	100
0050	0150	0250	0350	4,700	20	100
0051	0151	0251	0351	5,600	10	100
0052	0152	0252	0352	6,800	10	100
0053	0153	0253	0353	6,800	20	100
0054	0154	0254	0354	8,200	10	100
0055	0155	0255	0355	10,000	10	100
0056	0156	0256	0356	10,000	20	100
0057	0157	0257	0357	12,000	10	50
0058	0158	0258	0358	15,000	10	50
0059	0159	0259	0359	15,000	20	50
0060	0160	0260	0360	18,000	10	50
0061	0161	0261	0361	22,000	10	50
0062	0162	0262	0362	22,000	20	50
0063	0163	0263	0363	27,000	10	50
0064	0164	0264	0364	33,000	10	50
0065	0165	0265	0365	33,000	20	50
0066	0166	0266	0366	39,000	10	50
0067	0167	0267	0367	47,000	10	50
0068	0168	0268	0368	47,000	20	50
0069	0169	0269	0369	56,000	10	50
0070	0170	0270	0370	68,000	10	50
0071	0171	0271	0371	68,000	20	50
0072	0172	0272	0372	82,000	10	50
0073	0173	0273	0373	100,000	10	50
0074	0174	0274	0374	100,000	20	50

Custodians:
Army - CR
Navy - EC
Air Force - 85
NASA - NA

Review activities:
Army - AR, AT, AV, CR4, MI
Navy - EC, MC
Air Force - 19, 99
DLA - CC

Preparing activity:
Army - CR

Agent:
DLA - CC

(Project 5910-1934-06)