PERFORMANCE SPECIFICATION SHEET
CAPACITORS, FIXED, CERAMIC DIELECTRIC (GENERAL PURPOSE), ESTABLISHED RELIABILITY, STYLE CKR08

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-39014.

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.010 (0.25 mm).
4. Insulating coating shall not extend more than .010 (0.25 mm) along lead wires.

FIGURE 1. Capacitor style CKR08.
REQUIREMENTS:

Dimensions and configuration: See figure 1.
Case: Molded or preformed.
Capacitance value: See table I.
Capacitance tolerance: See table I.
Operating temperature range: -55°C to +125°C.
Voltage rating: See table I.
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:

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.

Insertion loss: Not applicable.
Seal: Not applicable.

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

<table>
<thead>
<tr>
<th>Capacitance change with reference to 25°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps A through D of table V Bias = 0 volts</td>
<td>+15, -25 percent</td>
</tr>
<tr>
<td>±15 percent</td>
<td>Steps E through G of table V Bias = rated voltage</td>
</tr>
</tbody>
</table>

Immersion:

IR: Not less than 50 percent of initial 25°C requirements.

Salt spray (corrosion): In accordance with MIL-PRF-39014.

Resistance to soldering heat:

ΔC: +15, -5 percent of the initial 25°C measurement.
Life:

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

0 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 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 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, 2,000 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.

* Part or identifying number (PIN): M39014/20- (dash number from table I).
TABLE I. Electrical characteristics and dash number.

<table>
<thead>
<tr>
<th>Dash number  1/</th>
<th>Failure rate level (%/1,000 hours)</th>
<th>Capacitance, pF</th>
<th>Capacitance tolerance, ± percent</th>
<th>DC rated voltage, volts</th>
<th>Dimension, inches 2/</th>
</tr>
</thead>
<tbody>
<tr>
<td>M (1.0) P (0.1) R (0.01) S (0.001)</td>
<td>0004 0005 0006 0104 0105 0106</td>
<td>0007 0011 0012 0107 0108 0109</td>
<td>0010 0011 0012 0110 0111 0112</td>
<td>0013 0014 0015 0113 0114 0115</td>
<td>1,200,000 1,500,000 2,000,000 1,200,000 1,500,000 2,000,000</td>
</tr>
</tbody>
</table>

1/ Complete PIN is in the format M39014/20-NNNN, where NNNN is the 4 digit dash number from the table.
2/ Metric equivalents are given in parentheses.

TABLE II. Substitutability data.

<table>
<thead>
<tr>
<th>Dash numbers in MIL-PRF-39014/20E 1/</th>
<th>Substitutable for dash numbers in: MIL-C-39014/20A(EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M P R S</td>
<td>L M P R S</td>
</tr>
<tr>
<td>0004 0005 0006 0104 0105 0106</td>
<td>0001 0002 0003 0101 0102 0103</td>
</tr>
<tr>
<td>0007 0008 0009 0107 0108 0109</td>
<td>0004 0005 0006 0104 0105 0106</td>
</tr>
<tr>
<td>0010 0011 0012 0110 0111 0112</td>
<td>0007 0008 0009 0107 0108 0109</td>
</tr>
<tr>
<td>0013 0014 0015 0113 0114 0115</td>
<td>0010 0012 0013 0110 0112 0113</td>
</tr>
</tbody>
</table>

1/ Dash numbers in lower FR level columns are substitutable for dash numbers in all higher FR level columns.

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: Preparing activity:
* Army - CR  DLA - CC
* Navy - EC  (Project 5910-2006-005)
* Air Force - 11  DLA - CC
* Custodians: Preparing activity:

Review activities:
* Navy - AS, MC, OS, SH, TD

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