

ATTACHMENT 7
AEC - Q200 - 007 - REV A
VOLTAGE SURGE TEST

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**METHOD - 007
PASSIVE COMPONENT
VOLTAGE SURGE TEST**

1.0 SCOPE:

Aluminum Electrolytic Capacitors.

1.1 DESCRIPTION:

The purpose of this specification is to assure a device will withstand voltage surges at the surge voltage rating of the device's specification.

1.2 Reference Documents:

Not Applicable

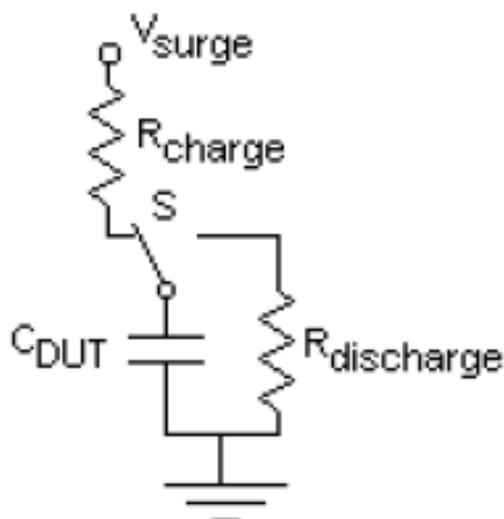
2.0 EQUIPMENT

2.1 Test Apparatus:

The following items are required when performing this test:

- a) A circuit board with test circuit shown in Figure 1.
- b) A regulated, variable voltage power supply capable of maintaining DC voltage at the surge voltage, V_{surge} , a current level greater than limit created by the charging resistor, R_{charge} (current limit $> V_{\text{surge}}/R_{\text{charge}}$).

Figure 1 - Test Circuit.



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3.0 TEST PROCEDURE:

3.1 Sample Size:

The total number of components and lots to be tested is listed in Table 1 of AEC-Q200 specification.

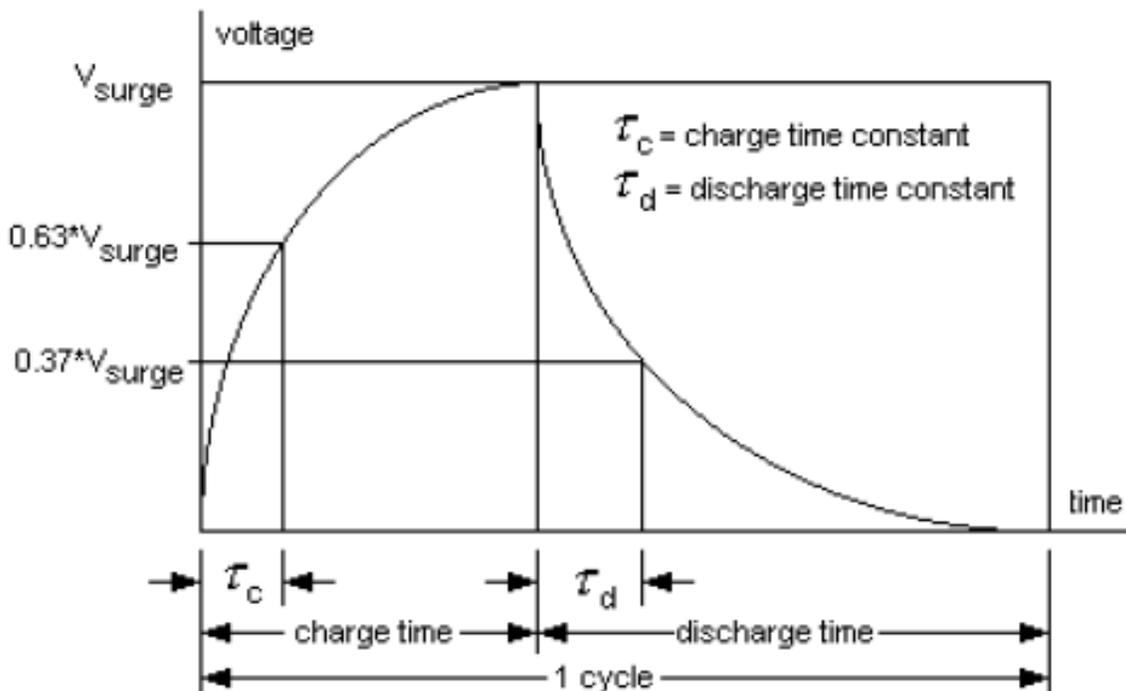
3.2 Pre and Post-Measurement:

Electrical characterization of devices at room temperature per device specification.

3.3 Surge Test:

Subject capacitor under test, C_{DUT} , to the voltage waveform in Figure 2. The charge and discharge time constants, ratio of surge voltage to rated voltage, number of test cycles, duration of charging and discharge periods, time between cycles, and temperature (if different than $25 \pm 5^\circ\text{C}$) shall be specified in the device specification.

Figure 2. Voltage waveform across capacitor under test, C_{DUT} .



4.0 FAILURE CRITERIA

Failure criteria is governed by the device specification.

Revision History

<u>Rev #</u>	<u>Date of change</u>	<u>Brief summary listing affected paragraphs</u>
-	February 8, 2005	Initial Release.
A	June 1, 2010	Notice Statement (Page 2) Added. Format Updated.