



VAMAS

Performance Related Properties for Electroceramics

Technical Work Area 24

CALL FOR PARTICIPATION

Project 4

Quantification of electromechanical coupling of Highly Accelerated Life Test (HALT) for multi-layered ceramic

Objectives

Objectives of proposed project is to establish a testing and analysis method to predict the life time of high-capacitance multi-layered ceramic capacitors (MLCC) from the result of Highly Accelerated Life Test (HALT) at high temperatures and high voltages

Background

MLCCs are one of the most used passive components in consumer electronics. Among the various properties of MLCCs, reliability is one of the crucial parameters in the design of electronic components. The HALT is commonly used as a test for the reliability of MLCCs.

Standardization Needs

At present, the procedure of HALT is not specified. This means each company uses its own way for HALT making it difficult to compare the results obtained from different manufacturers. Therefore, the establishment of precisely determined test conditions and analysis procedure of HALT are required.

Work Programme

It is planned to organize a VAMAS interlaboratory round-robin test (RRT) to verify measurement protocols and analysis methods. The timescale is as follows:

June to July 2019

Test samples and the draft protocol of HALT delivery.

August to December 2019

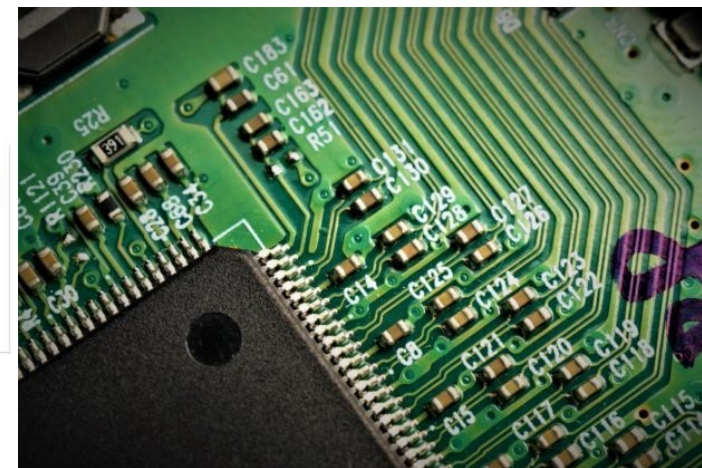
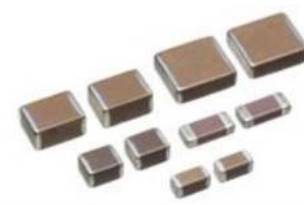
RRTs and measurement data collection.

January to March 2020

Complete the documentation of the procedure of HALT.

Deliverables and Dissemination

The expected end products of the proposed studies are pre-standardised procedures and guidelines for the execution of measurements and analyses. The reports, publications and presentations on the developed subjects will be also publicized. The interlaboratory study will be disseminated in a peer-reviewed scientific journal and used to develop a new standard within IEC/TC40.



Funding

Participants fund their own involvement the project. Materials for the interlaboratory comparison will be supplied by Murata manufacturer.

Status

Samples for the interlaboratory RRT will be despatched until the end of August 2019. Participants will be expected to report the results by March 2020.

References

IEC 60384-22:2019
Fixed capacitors for use in electronic equipment - Part 22: Sectional specification - Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2

For more information on participation, please contact:

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