

JESD22-A103-A

JEDEC STANDARD

Test Method A103-A High Temperature Storage Life

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(Revision of Test Method A103 previously published in JESD22-B)

JULY 1989

ELECTRONIC INDUSTRIES ASSOCIATION

ENGINEERING DEPARTMENT



TEST METHOD A103-A

HIGH TEMPERATURE STORAGE LIFE

(From JEDEC Council Ballot JCB-88-1A, formulated under the cognizance of JC-14.1 Committee on Reliability Test Methods for Packaged Devices.)

1. PURPOSE

The purpose of this test is to determine the effect on solid state electronic devices of storage at elevated temperature without electrical stress applied. This test is considered destructive and, therefore, is applicable for device qualification.

2. APPARATUS

The apparatus required for this test shall consist of a controlled temperature chamber capable of maintaining the specified temperature with $\pm 2^{\circ}\text{C}$.

3. PROCEDURE

The device under test shall be subjected to continuous storage at $+150 (-0, +4)^{\circ}\text{C}$ for 1000 $(-0, +72)$ hours, except they may be returned to room ambient conditions for interim electrical measurements.

3.1 Measurements

Unless otherwise specified, interim and final electrical measurements shall be completed within 96 hours after removal of the devices from the specified test conditions. Intermediate measurements are optional unless otherwise specified.

The electrical measurements shall consist of parametric and functional tests specified in the applicable procurement document.

3.2 Failure Criteria

A device will be considered a High Temperature Storage failure if parametric limits are exceeded, or if functionality cannot be demonstrated under nominal and worst-case conditions, specified in the applicable procurement document. Mechanical damage, such as cracking of the package, will be considered a failure. Cosmetic package defects and degradation of lead finish, or solderability are not considered failure criteria.

4. SUMMARY

The following details shall be specified in the applicable procurement document.

- (a) Electrical measurements.
- (b) Sample size and quality level.
- (c) Time and temperature, if other than specified.
- (d) Intermediate measurements, if required.