JEDEC STANDARD

Lead Integrity

JESD22-B105E

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JEDEC SOLID STATE TECHNOLOGY ASSOCIATION

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TEST METHOD B105E

LEAD INTEGRITY

(From JEDEC Board Ballot JCB-17-13, formulated under the cognizance of JC-14.1 Committee on Reliability Test Methods for Packaged Devices.)

1 Scope

This test method provides various test conditions for determining the integrity of the lead/package interface and the lead itself when the lead(s) are bent due to faulty board assembly processing followed by rework of the part for reassembly. For hermetic packages hermeticity testing per JESD22A109 (Test Method A109) is required to identify any adverse effects from the stresses applied to the seals as well as to the leads. All of the test conditions within this test method are considered destructive and are only recommended for qualification testing. This test method is applicable to all through-hole devices and surface-mount devices that require lead forming by the user. The following is a summary of the test conditions in this standard;

a) Test Condition A - Tension

This test condition provides for the application of straight tensile loading. See clause 6.

b) Test Condition B - Bending Stress

This test condition provides for the application of bending stresses to determine the integrity of leads, seals and lead plating. See clause 7.

c) Test Condition C - Lead Fatigue

This test condition provides for the application of bending stresses primarily to determine the resistance of the leads to metal fatigue under repeated bending. See clause 8.

d) Test Condition D - Lead Torque

This test condition provides for the application of stresses to the leads to determine the resistance of seals and leads to twisting motions. See clause 9.

e) Test Condition E - Stud Torque

This test condition provides for the application of stresses on a threaded mounting stud caused by tightening the device during mounting. See clause 10.

2 Normative reference

JESD22-A109, *Hermeticity*.