

JEDEC STANDARD

Test Method for the Measurement of Moisture Diffusivity and Water Solubility in Organic Materials Used in Electronic Devices

JESD22-A120C

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JEDEC SOLID STATE TECHNOLOGY ASSOCIATION



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STANDARD TEST METHOD FOR THE MEASUREMENT OF MOISTURE DIFFUSIVITY AND WATER SOLUBILITY IN ORGANIC MATERIALS USED IN ELECTRONIC DEVICES

(From JEDEC Board Ballot JCB-21-27, formulated under the cognizance of the JC-14.1 Subcommittee on Reliability test methods for packaged Devices.)

1 Scope

The purpose of this test method is to provide a means for determining the moisture sorption properties of organic materials used in the packaging of electronic devices.

This standard details the procedures for the measurement of characteristic bulk material properties of moisture diffusivity and water solubility in organic materials used in the packaging of electronic devices. These two material properties are important parameters for the effective reliability performance of plastic packaged surface mount devices after exposure to moisture and subjected to high temperature solder reflow.

2 Normative references

J-STD-020, *Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices.*

ASTM Standard D570-10, *Standard Test Method for Water Absorption of Plastics.*

SEMI G66-0811, *Test Method for the Measurement of Water Absorption Characteristics for Semiconductor Plastic Molding Compounds.*

DIN EN ISO 62: 2008, *Plastics Determination of Water Absorption.*

SEMI MS10-0812, *Test Method to Measure Fluid Permeation through MEMS Packaging Materials.*