

Crack prevention of IC package etc.

Storage in the "DRY-CABI" ultra low humidity series prevents cracks in the IC package.

Micro crack prevention of IC package

Compliant with new IPC / JEDEC J-STD-033C

MSD micro crack prevention

In the air, if it is not mounted within the product's open life (allowable time when placed in the atmosphere) after opening the IC package or LED with moisture-proof packaging, etc.

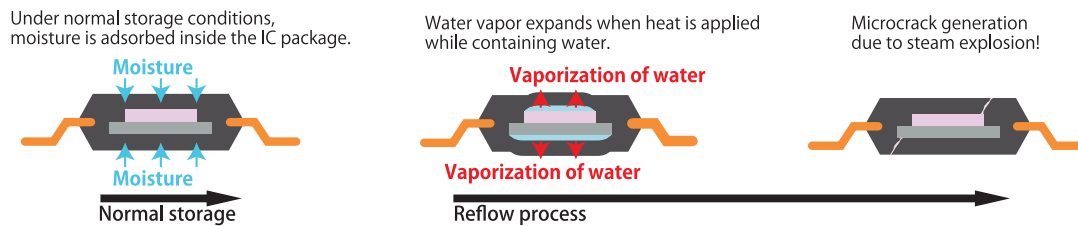
When moisture is absorbed and the moisture absorption exceeds the allowable value, the surface mounting of the IC package or LED with moisture absorbed causes moisture to be instantaneous due to heat during reflow. Inflated, cracks occur near 100%.

In order to prevent this, please store the IC package and LED taken out from the package in the dry cabinet ultra-low humidity storage promptly.

In the IC package mounting of SMD, the moisture absorbed by the IC package at the time of heating becomes the contained moisture and becomes the water vapor, and it may cause a crack.

In particular, with IC packages such as PQFP and TSOP, when the water content is about 0.15% by weight, nearly 100% of cracks occur. Also, if the IC product is left in high humidity, silver plating may corrode and cause a short circuit between terminals.

Example of occurrence of micro crack

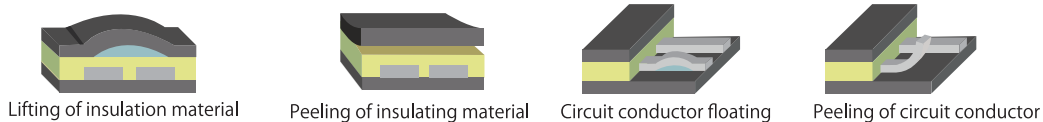


Measures against defects and Hygroscopic of FPC and F / R

Flexible printed circuit (FPC) / flex rigid wiring board (F / R) has the property of absorbing moisture, and it has about 10 times the hygroscopicity compared with wiring board (PWB) that is mainly made of epoxy resin.

If soldering is performed in a state where it has absorbed moisture, heat will cause defects such as floating or peeling of the insulating material, floating or peeling of the circuit body, or disconnection.

In order to prevent these, we recommend storage in a dry cabinet ultra-low humidity storage.



Low humidity storage of multilayer printed circuit boards

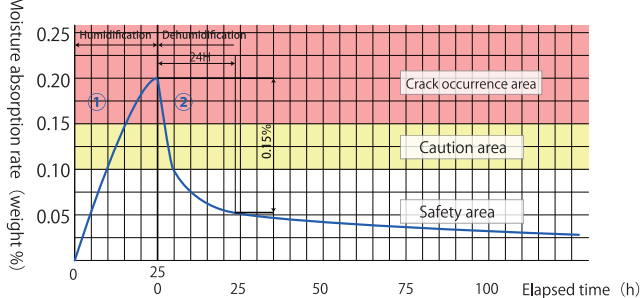
The moisture absorption rate increases as the board thickness decreases in multilayer printed circuit boards.

If the water content is 0.2% by weight or more, the heat of soldering in the mounting process will cause abnormalities such as delamination, measling * 1 and delamination * 2.

For the above reasons, it is prescribed to store in the environment of humidity 10% RH or less. (IPC-1601)

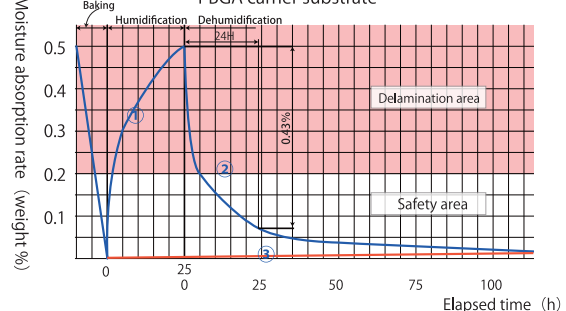
※ 1 measling ... Phenomenon that glass fiber exfoliates mainly by heat stress
 ※ 2 Delamination caused by expansion of moisture contained in the substrate by heat

IC package moisture absorption / dehumidification data



- ① Ambient temperature + 30 °C, 85% RH for 25 hours
- ② Store in "DRY-CABI" with a humidity of 5% RH or less

Moisture protection and dehumidification of multilayer printed circuit boards PBGA carrier substrate



- ① Ambient temperature + 30°C, 85%RH for 25 hours
- ② Store in "DRY-CABI" with a humidity of 5%RH or less
- ③ Store in a dry cabinet with a humidity of 5%RH or less after baking