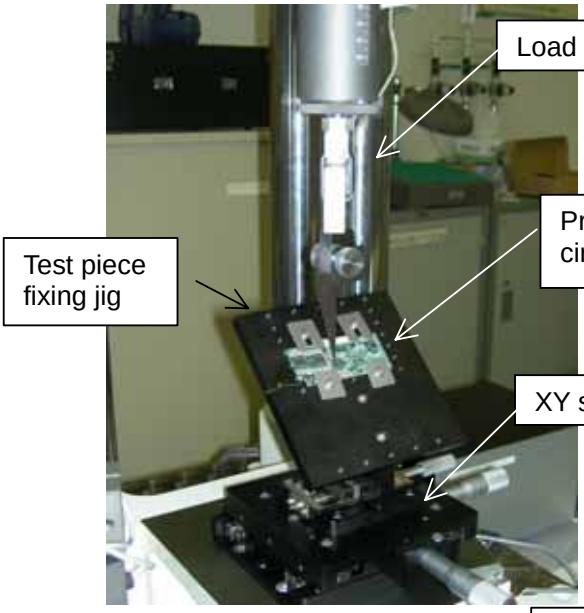
SHIMADZU

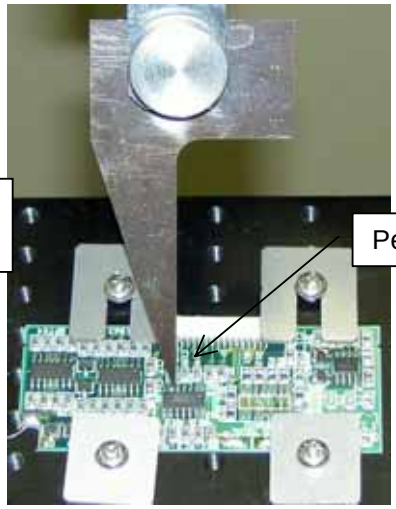
MST-I Application Information

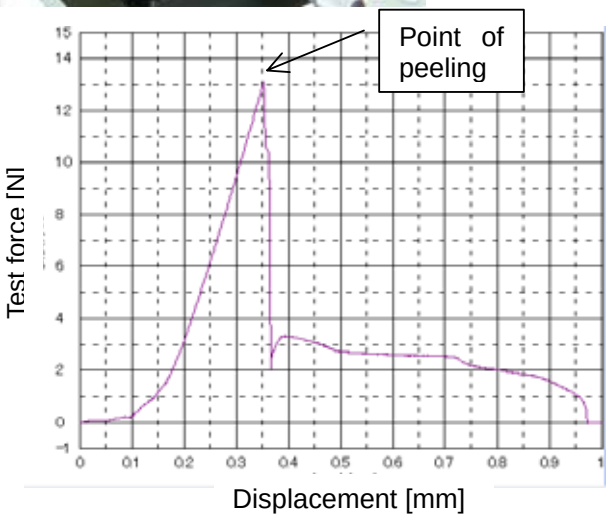
45° Peeling Tests on Leads of Surface Mounted Devices

45° peeling tests can be carried out on QFP and other gullwing leads. This test is applicable to not only conventional soldered joints, but also to the evaluation of lead-free solder, which is increasingly being used recently.

Applicable standards: JIS Z3198-6
IEC (The International Electrotechnical Commission) and JEITA (Japan Electronics and Information Technology Industries Association) are also intending to issue standards







Test speed: 1mm/min
Peeling strength: 13.1 N

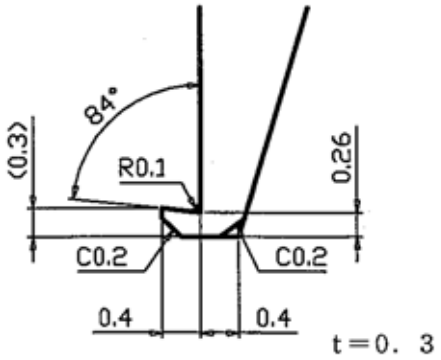
Optional jigs
1. 45° peeling test jig
2. XY stage
3. Stereomicroscope (useful when the test piece is difficult to see visually)

Test Standard Summary
JIS Z3198-6 Test methods for lead-free solders -- Part 6: Method for 45 pull test of solder joints on QFP lead

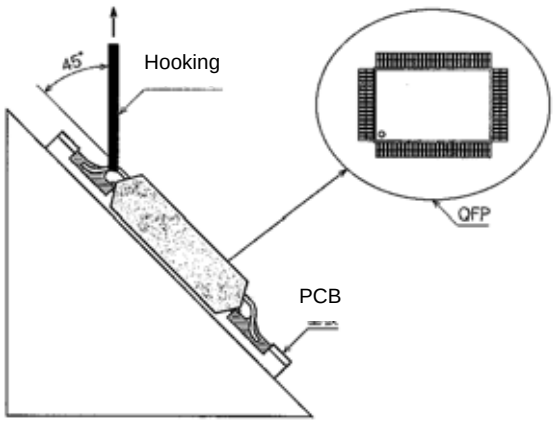
Test for evaluating the strength of soldered connections of leads.

Measurement conditions
- Measurement accuracy of test force not specified
- Test speed 10 mm/min or less

Measurement item
- Maximum test force

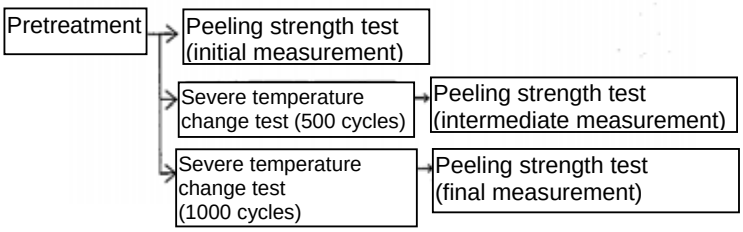


Example of Jig Shape

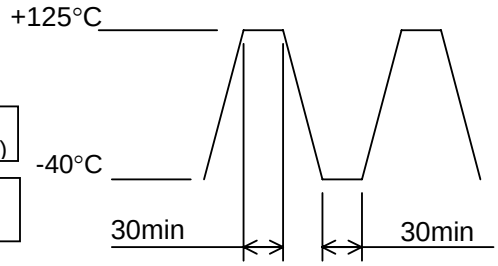


Testing

IEC/JEITA Standard
(Provisional title) Method for testing the peeling strength of soldered connections of gullwing surface mounted devices using lead-free solder
Peeling strengths before and after the severe temperature change test (cyclic) are compared to evaluate the durability of the connection.



Test Flow



Temperature Cycle

The Peeling strength test jigs and test status are the same as those of the JIS standard.

Test conditions
- Test force measurement accuracy ≤ +/-1% of indicated value
- Test speed 0.5 mm/min or less

Measurement item
- Maximum test force