

ROHID Anti-whisker formation of leadfree plating

1. The Applicable Product

BD70GC0WEFJ-E2

2. Evaluation Package

| No | Item | Information | |
|----|--------------------------|--------------------------------------|--|
| 1 | Subject | LSI product of Leadfree plating | |
| 2 | Type of Terminal Plating | Sn | |
| 3 | Plating Grain Size | 2μm to 10μm | |
| 4 | Bath type | Alkyl sulfonic acid, Electro plating | |
| 5 | Matt or Bright | Matt | |
| 6 | Under Plating | None | |
| 7 | Type of Frame | Cu Alloy frame | |

3. Compliance standerds

Tin Whisker Acceptance Test Requirements (NEMI Tin Whisker Users Group, July 28, 2004)

4. Test Flow

| No | Test Flow | Test Condition | |
|----|----------------------|--------------------------------------|--|
| 1 | Preparation | MP. condition | |
| 2 | Pre Inspection | SEMx250, Top/Side/Forming Section | |
| 3 | Preconditioning-1 | Storage at ambient temp. for 4 weeks | |
| 4 | Preconditioning-2 | 215°C Reflow, 255°C Reflow | |
| 5 | Applying Stress | 1. 30°C, 70% RH, 4,000hr | |
| | | 2. 60°C, 87% RH, 4,000hr | |
| | | 355/+85°C, 2,000cyc | |
| | | 4. 30°C, 70%, Bias, 4,000hr | |
| 6 | Screening Inspection | x 50, Top/Side/Forming Section | |
| 7 | Detailed Inspection | SEMx250, Top/Side/Forming Section | |

5. Test Result

Criteria: Not allow, the whisker is larger than 40µm between lead to lead.

| No | Preconditioning-1 | Preconditioning-2 | Stress Condition | Result:Pn/n |
|----|--|-------------------------|-------------------------|-------------|
| | | | | (pcs) |
| 1 | Storage at ambient temprature. 4 weeks | None | 30°C, 70% RH 4,000hr | 0/96 |
| 2 | | | 60°C, 87% RH 4,000hr | 0/96 |
| 3 | | 215°C Reflow Simulation | 30°C, 70% RH 4,000hr | 0/96 |
| 4 | | | 60°C, 87% RH 4,000hr | 0/96 |
| 5 | | 255°C Reflow Simulation | 30°C, 70% RH 4,000hr | 0/96 |
| 6 | | | 60°C, 87% RH 4,000hr | 0/96 |
| 7 | | 215°C Reflow Simulation | –55/+85°C 2,000cyc | 0/96 |
| 8 | | 255°C Reflow Simulation | –55/+85°C 2,000cyc | 0/96 |
| 9 | | 215°C Reflow Assembly | 30°C, 70%, Bias 4,000hr | 0/96 |

Therefore, wisker is no problem.

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