

# ROHID Anti-whisker formation of leadfree plating

#### 1. The Applicable Product

BR93G76FVM-3BGTTR

#### 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		200 C Reliow Simulation	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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Yoshitaka Ichise

General Manager Quality Control Division LSI Production Headquarters ROHM Co., Ltd.

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