



8755 W. Higgins Road  
Suite 500  
Chicago, Illinois USA 60631

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September 8<sup>th</sup>, 2023

RE: PCN # ESU270-87 – Additional Wafer Foundry (Littelfuse Wuxi in-house) Approval for 5V SOD323 and SOT23-3L Devices

To our valued customers,

Littelfuse would like to notify you of approved additional wafer foundry (Littelfuse Wuxi in-house) for 5V SOD323 and SOT23-3L SPA™ TVS Diode Arrays products. The primary reason we add an additional wafer source is to expand our wafer supply chain footprint, and to mitigate disruptions which may present themselves in the future. There are no changes to fit, form, function of the finished products.

Affected Part Numbers		
AQ05-01FTG	AQ05C-01FTG	AQ05-02HTG
SD05-01FTG	SD05C-01FTG	SM05-02HTG

All affected products have been qualified in accordance with established performance and reliability criteria. The attached pages summarize the initial qualification results. Full qualification data and/or samples will be available upon request.

**Form, fit, function changes: None**  
**Part number changes: None**  
**Effective date: Dec 8<sup>th</sup>, 2023 or sooner**  
**Replacement products: N/A**  
**Last time buy: N/A**

This notification is for your information and acknowledgement. If you have any other questions or concerns, please contact Sophia Hu, Assistant Product Manager.

We value your business and look forward to assisting you whenever possible.

Best Regards,

Sophia Hu

TVS Diode Array Assistant Product Manager  
Semiconductor Business Unit, Wuxi, China  
+86 510 85277701 – 7653  
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800 E. Northwest Highway Des Plaines, IL 60016

## Product/Process Change Notice (PCN)

**PCN# :**

ESU270-87 Date: September 8<sup>th</sup>

**Product Identification:**

Additional Wafer Foundry (Littelfuse Wuxi in-house)  
Approval for 5V SOD323 and SOT23-3L Devices

**Implementation Date for Change:**

Dec 8<sup>th</sup>, 2023 or sooner

**Contact Information**

Name : Sophia Hu

Title : Assistant Product Marketing Manager

Phone # : +86 13771377277

Fax# : N/A

E-mail : shu@littelfuse.com

**Category of Change:**

- Assembly Process
- Data Sheet
- Technology
- Discontinuance/Obsolescence
- Equipment
- Manufacturing Site
- Raw Material
- Testing
- Fabrication
- Other: \_\_\_\_\_

**Description of Change:**

Additional Wafer Foundry (Littelfuse Wuxi in-house) Approval for 5V SOD323 and SOT23-3L Devices. There are no changes to fit, form, function of the finished product.

**Important Dates:**

Qualification Samples Available: Upon request

Last Time Buy:

Final Qualification Data Available: Upon request

Date of Final Product Shipment:

**Method of Distinguishing Changed Product**

- Product Mark,
- Date Code,
- Other, Littelfuse internal work order documentation

**Demonstrated or Anticipated Impact on Form, Fit, Function or Reliability:**

N/A

**LF Qualification Plan/Results:**

Yes

**Customer Acknowledgement of Receipt:** Littelfuse requests you acknowledge receipt of this PCN. In your acknowledgement, you grant approval or request additional information. Littelfuse will assume the change is acceptable if no acknowledgement is received within 30 days of this notice. Lack of any additional response within 90 days of PCN issuance further constitutes acceptance of the change.



# PCN Report

## ETR # Various

**Prepared By** : Light Hsieh-Product Engineering Manager,  
Raider Chen-Product Engineer, Sophia Hu- Assistant Product Manager  
**Date** : 2023/8/22  
**Device** : Please refer to 2.1.  
**Revision** : A

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### 1.0 Objective:

The purpose of this project is to qualify alternative wafer foundry Littelfuse Wuxi in-house for TVS Diode Array products. Following pages summarize the physical, electrical and reliability test performance in qualification lots.

### 2.0 Applicable Devices:

#### 2.1 Product name:

Affected Part Numbers		
AQ05-01FTG	AQ05C-01FTG	AQ05-02HTG
SD05-01FTG	SD05C-01FTG	SM05-02HTG

### 3.0 Assembly, Process & Material Differences/Changes:

#### 3.1 Assembly Changes:

No change of assemble process.

#### 3.2 Process Changes:

No change of process method.

#### 3.3 Material Change:

Wafer change

### 4.0 Packing Method

No change of packing method.

### 5.0 Physical Differences/Changes:

No change of packing method.

## 6.0 Reliability Test Results Summary:

### 6.1 Reliability summary report:

Test Items	Condition	S/S	Results	ETR #
Pre-conditioning (PC)	JESD22-A113	308 each lot	0/1848	TR23-07-002518 TR23-07-002521 TR23-07-002523 TR23-08-003124 TR23-08-003127 TR23-08-003129
DC Blocking (HTRB)	Bias = VRWM, Ta = 150°C, Duration = 1008 Hours	77 each lot	0/462	
Temperature Cycle (TC)	Ta = -55°C to 150°C, Duration = 1000 Cycles	77 each lot	0/462	
Temperature/Humidity (H3TRB)	Ta = 85°C, 85% RH, Bias = VRWM, Duration = 1008 Hours	77 each lot	0/462	
Unbiased HAST (UHAST)	Ta = 130°C, 85%RH, Duration = 96 Hours	77 each lot	0/462	
Resistance to Solder Heat (RSH)	260°C, 10 sec, M-2031	10 each lot	0/60	
Moisture Sensitivity Level (MSL)	Per Jedec J-STD-020D Level 1	308 each lot	0/1848	
Solderability (SD)	ANSI-J-STD-002	10 each lot	0/60	

## 7.0 Electrical Characteristic Summary:

Electrical performances were comparable and characterization data is available upon request.

## 8.0 Changed Part Identification:

Will control by purchase order and provide to customer once customer requested.

## 9.0 Approvals:

Sophia Hu  
SPA Assistant Product Manager  
Littelfuse, Wuxi

Light Hsieh  
SPA Product Engineering Manager  
Littelfuse, HsinChu

Raider Chen  
SPA Product Engineer  
Littelfuse, HsinChu