



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

Jan 21st, 2021

RE: PCN # ESU270-57 – Alternative Wafer Foundry Approval for SP1005-01ETG & SP1005-01WTG

To our valued customers,

Littelfuse would like to notify you of approved alternative wafer foundry for SP1005-01ETG & SP1005-01WTG SPA™ TVS Diode Arrays products. There are no changes to fit, form, function of the finished product.

Qualification efforts are complete. Please see the attached documentation for change details and affected part numbers.

Affected Part Numbers
SP1005-01ETG
SP1005-01WTG

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

Form, fit, function changes: None
Part number changes: None
Effective date: April 21st, 2021 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
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800 E. Northwest Highway Des Plaines, IL 60016

Product/Process Change Notice (PCN)

PCN# :

ESU270-57 Date: Jan 21st, 2021

Product Identification:

Alternative wafer foundry approved for SP1005-01ETG & SP1005-01WTG

Implementation Date for Change:

April 21st, 2021 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 Process
- Other: _____

Description of Change:

Alternative wafer foundry approved for SP1005-01ETG & SP1005-01WTG SPA™ TVS Diode Arrays products. 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 can 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 : Sophia Hu-SPA Assistant Product Manager, Jordan Hsieh-SPA Product Engineering Manager,
Light Hsieh-SPA Product Engineer,
Date : Jan/18th/2021
Device : SP1005-01ETG, SP1005-01WTG
Revision : A

1.0 Objective:

The purpose of this project is to qualify alternative wafer foundry for SP1005-01ETG and SP1005-01WTG. Succeeding pages summarize the physical, electrical and reliability test performed in qualification lots.

2.0 Applicable Devices:

Affected Part Numbers
SP1005-01ETG
SP1005-01WTG

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
No change of BOM

4.0 Packing Method

No change of packing method.

5.0 Physical Differences/Changes:

No change in mechanical specification or package outline dimension (POD).

6.0 Reliability Test Results Summary:

6.1 Reliability results for SP1005-01ETG

Test Items	Condition	S/S	Results Defects/Sample Size	ETR#
Pre-conditioning(PC)	24hrs 150°C soak, 168hrs 85°C/85%RH, 3 Reflows of peak temperature 260°C	308 each lot	0/308 0/308 0/308	3 lots Test in ETR47289
High Temperature DC Blocking(HTRB)	Bias=VRWM, Ta=150°C, Duration=1008Hours	77 each lot	0/77 0/77 0/77	
Temperature Cycle(TC)	Ta=-55°C to +150°C, 15minutes dwell, Duration=1000 cycle	77 each lot	0/77 0/77 0/77	
Temperature/Humidity(H3TRB)	Ta=85°C, 85%RH, Bias=VRWM, Duration=1008 Hours	77 each lot	0/77 0/77 0/77	
Autoclave(AC)	Ta=121°C, 100%RH, 2 atm, Duration=96 Hours	77 each lot	0/77 0/77 0/77	
Resistance to Solar Heat(RSH)	260°C, 10sec	30 each lot	0/30 0/30 0/30	
Moisture Sensitivity Level(MSL)	Per J-STD-020E Level 1	22 each lot	0/22 0/22 0/22	
Solderability(SD)	Reflow	10 each lot	0/10 0/10 0/10	

6.2 Reliability results for SP1005-01WTG

Test Items	Condition	S/S	Results Defects/Sample Size	ETR#
High Temperature DC Blocking(HTRB)	Bias=VRWM, Ta=150°C, Duration=168Hours	77 per lot	0/77	ETR71303
Temperature Cycle(TC)	Ta=-55°C to +150°C, 15minutes dwell, Duration=250 cycle	77 per lot	0/77	

7.0 Electrical Characteristic Summary:

No change in electrical characteristics. Characterization data is available upon request.

8.0 Changed Part Identification:

Internal control can identify wafer foundry origin.

9.0 Recommendations & Conclusions:

Based on the qual test results, it is determined that alternative wafer foundry was qualified and certified production.

10.0 Approvals:

Sophia Hu
SPA Assistant Product Manager
Littelfuse, Wuxi

Jordan Hsieh
SPA Product Manager
Littelfuse, HsinChu

Light Hsieh
SPA Product Engineer
Littelfuse, HsinChu