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

May 5th, 2019

RE: PCN # ESU270-45 – SP1255-01UTG current backend location discontinuity & new backend location approval

To our valued customers,

Littelfuse would like to notify you of an upcoming transfer affecting SP1255-01UTG TVS Diode Array (SPA® Diodes) product. The current backend location is going to discontinue SP1255-01UTG soon, so the production will switch to a new backend factory in China and it is fully approved for all assembly, test, and packing operations. There are no changes to fit, form, and function of the finished product.

Qualification efforts are completed, and the new factory is online for immediate shipments. Please see the documentation in the following pages for change details.

SP1255-01UTG has 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: Nov 1st, 2019 or sooner**
**Replacement products: N/A**
**Last time buy: Order placed before Sep 1st for original TH build part**

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

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

Best Regards,

Jia Zhu
TVS Diode Array Product Manager
Semiconductor Business Unit, Wuxi, China
+86 510 85277701 - 7966
jzhu3@littelfuse.com

800 E. Northwest Highway Des Plaines, IL 60016

# Product/Process Change Notice (PCN)

**PCN# :**

ESU270-45 Date: May 5, 2019

Product Identification :

SP1255-01UTG TVS Diode Array Product current backend location discontinuity & new backend location approval

Implementation Date for Change:

Nov 1st, 2019 or sooner

**Contact Information**

Name : Jia Zhu

Title : Product Marketing Manager

Phone # : +86 13913131571

Fax# : N/A

E-mail : Jzhu3@littelfuse.com

**Category of Change:**

- ☐ Assembly Process
- ☐ Data Sheet
- ☐ Technology
- ☐ Discontinuance/Obsolescence
- ☐ Equipment
- ☒ Manufacturing Site
- ☒ Raw Material
- ☐ Testing
- ☐ Fabrication Process
- ☐ Other: _____

**Description of Change:**

Due to our current backend is going to discontinue SP1255-01UTG, Therefore, we have to switch it to a new approved backend.

**Important Dates:**

- ☒ Qualification Samples Available: Up to request
- ☒ Final Qualification Data Available : Up to request
- ☐ Date of Final Product Shipment:
- ☒ Last Time Buy: Order placed before Sep 1st

**Method of Distinguishing Changed Product**

- ☒ Product Mark, See (5.0) in the succeeding PCN report for details
- ☐ Date Code,
- ☒ Other, labeling See (8.0) in the succeeding PCN report for details

**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.

**Prepared By** : Jia Zhu-SPA Product Manager, Jordan Hsieh-SPA Product Engineering Manager, Raider Chen-SPA Product Engineer,
**Date** : 04/15/2019
**Device** : SP1255-01UTG
**Revision** : A

## 1.0 Objective:

The purpose of this document is to qualify an alternative assembly supplier for SP1255-01UTG. Summarize the physical, electrical and reliability test performed in qualification lots.

## 2.0 Applicable Devices:

SP1255-01UTG

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

3.1 Assembly Changes
New assembly site G was added.

3.2 Process Changes
No change of process method.

3.3 Material Change

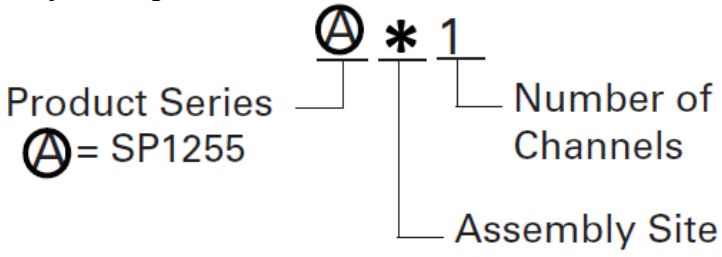
| Item | Original (H site) | New (G site) | Change or not |
|---|---|---|---|
| Lead frame | C194uPPF | Eftect64T-NiPdAu | Yes |
| Die Attach Material | 8008 | 8008HT | Yes |
| Wire | Gold | Copper | Yes |
| Mold Compound | CEL9220HF13H | G770HCD | Yes |
| Plating | PPF | PPF | No |

## 4.0 Packing Method

No change of packing method.

## 5.0 Physical Differences/Changes:

Body marking




| Original Assembly Site | New added Assembly Site |
|---|---|
| H | G |

## 6.0 Electrical Characteristic Summary:

No change in electrical characteristics and met the datasheet. Characterization data is available upon request.

## 7.0 Reliability Test Results Summary:

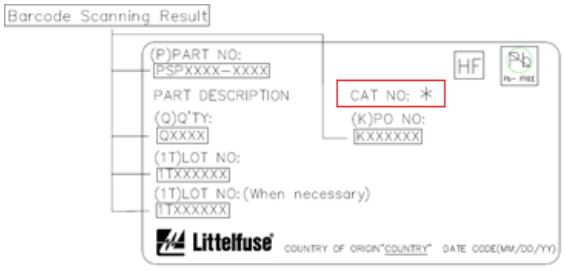
| Test Items | Condition | S/S | Results | ETR # |
|---|---|---|---|---|
| Pre-conditioning | JESD22-A113 | 308 each lot | 0/924 | ETR113296<br>ETR111008<br>ETR107322 |
| High Temperature DC Blocking | Bias = VRWM, Ta = 150°C<br>Duration = 1008 Hours | 77 each lot | 0/231 | |
| Temperature Cycle | Ta = -55°C to +150°C<br>Duration = 1000 Cycles | 77 each lot | 0/231 | |
| High Humidity High Temperature with DC Bias | Ta = 85°C, 85% RH<br>Duration = 1008 Hours | 77 each lot | 0/231 | |
| Autoclave | Ta = 121°C, 100%RH, 2ATM<br>Duration = 96 Hours | 77 each lot | 0/231 | |
| Resistance to Solder Heat | 260°C,10 sec M-2031 | 30 each lot | 0/90 | |
| Moisture Sensitivity Level (MSL) | Per Jedec J-STD-020D Level 1 | 308 each lot | 0/924 | |
| Solderability | ANSI-J-STD-002 | 10 each lot | 0/30 | |

## 8.0 Changed Part Identification:

There are qualified suppliers, detail please refer to below table

| Package Type | Part Number | Original CAT NO. | New added CAT NO. |
|---|---|---|---|
| µDFN-6L | SP1255-01UTG | H | G |

And it can be identified by code of CAT NO on the label.




## 9.0 Recommendations & Conclusions:

Based on the reliability test results, it is determined that the alternative assembly supplier for SP1255-01UTG product was qualified and certified for mass production.

## 10.0 Approvals:

| | | |
|---|---|---|
| **Jia Zhu** | **Jordan Hsieh** | **Raider Chen** |
| **SPA Product Manager** | **SPA Product Engineering Manager** | **SPA Product Engineer** |
| **Littelfuse, Wuxi** | **Littelfuse, HsinChu** | **Littelfuse, HsinChu** |