



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

Nov 18th, 2019

RE: PCN # ESU270-46 – SOD882 alternative backend location approval

To our valued customers,

Littelfuse would like to notify you another newly approved backend location for SOD882 TVS Diode Array (SPA® Diodes) product. This new backend factory in China 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.

Products Affected:

SOD882 Part Numbers		
SP1003-01ETG	SPHV12-01ETG	SP0402B-ULC-01ETG
SP1233-01ETG	SPHV15-01ETG	SP0402U-ULC-01ETG
SP3030-01ETG	SPHV24-01ETG	SP0402B-ELC-01ETG
SP3031-01ETG	SPHV36-01ETG	SP0402U-ELC-01ETG
SP3522-01ETG	SPHV12-01ETG-C	
SP3530-01ETG	SPHV15-01ETG-C	
SP3031-01ETG-R	SPHV24-01ETG-C	
	SPHV36-01ETG-C	

The affected product 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: Feb 18th, 2020 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 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
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800 E. Northwest Highway Des Plaines, IL 60016

Product/Process Change Notice (PCN)

PCN# :

ESU270-46 Date: Nov 18, 2019

Product Identification :

SOD882 TVS Diode Array Product
alternative backend location approval

Implementation Date for Change:

Feb 18, 2020 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:

Approve another alternated backend assembly, test, and packing locations for SOD882. There are no changes to fit, form & function of the finished product. The affected product has been fully qualified in accordance with all established criteria for performance and reliability.
All relevant details are included in the supplemental pages.

Important Dates:

- Qualification Samples Available: Available Last Time Buy:
- Final Qualification Data Available: Available
- Date of Final Product Shipment:

Method of Distinguishing Changed Product

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

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 : Jia Zhu-SPA Product Manager, Jordan Hsieh-SPA Product Engineering Manager,
Raider Chen-SPA Product Engineer,
Date : 11/15/2019
Device : SOD882 products
Revision : A

1.0 Objective:

The purpose of this project is to qualify an alternative assembly supplier for SOD882 products. Succeeding pages summarize the physical, electrical and reliability test performed in qualification lots.

2.0 Applicable Devices:

2.1 Affected Part Numbers

SOD882 Part Numbers		
SP1003-01ETG	SPHV12-01ETG	SP0402B-ULC-01ETG
SP1233-01ETG	SPHV15-01ETG	SP0402U-ULC-01ETG
SP3030-01ETG	SPHV24-01ETG	SP0402B-ELC-01ETG
SP3031-01ETG	SPHV36-01ETG	SP0402U-ELC-01ETG
SP3522-01ETG	SPHV12-01ETG-C	
SP3530-01ETG	SPHV15-01ETG-C	
SP3031-01ETG-R	SPHV24-01ETG-C	
	SPHV36-01ETG-C	

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

SOD882			
Item	Original	New	Change or not
Lead frame	Efect64T	A194	Yes
Die Attach Material	QMI519	S220	Yes
Wire	Gold	Gold	No
Mold Compound	G770HCD	CEL-9240HF	Yes
Plating	PPF	Tin	Yes

4.0 Packing Method

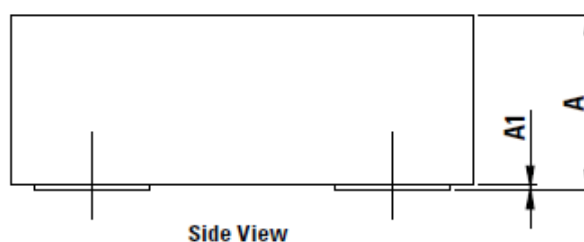
No change of packing method.

5.0 Physical Differences/Changes:

Only package height of SP3522-01ETG and SP3530-01ETG were changed as below

Unit: mm

Symbol	Original			New		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.4	0.45	0.5	0.45	0.5	0.55



6.0 Reliability Test Results Summary:

6.1 SOD882 products summary report:

Test Items	Condition	S/S	Results	ETR #
Pre-conditioning (PC)	JESD22-A113	308 each lot	0/924	ETR129848 ETR129855 ETR132242
DC Blocking (HTRB)	Bias = VRWM, Ta = 150°C, Duration = 1008 Hours	77 each lot	0/231	
Temperature Cycle (TC)	Ta = -55°C to +150°C, Duration = 1000 Cycles	77 each lot	0/231	
Temperature/Humidity (H3TRB)	Ta = 85°C, 85% RH, Bias = VRWM, Duration = 1008 Hours	77 each lot	0/231	
Autoclave (AC)	Ta = 121°C, 100%RH, 2ATM, Duration = 96 Hours	77 each lot	0/231	
Resistance to Solder Heat (RSH)	260°C, 10 sec, M-2031	10 each lot	0/30	
Moisture Sensitivity Level (MSL)	Per Jedec J-STD-020D Level 1	308 each lot	0/924	
Solderability (SD)	ANSI-J-STD-002	10 each lot	0/30	

7.0 Electrical Characteristic Summary:

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

8.0 Changed Part Identification:

There are suppliers qualified, detail please refer to below table

Package Type	Part Number	Original	New
SOD882	Refer to 2.1	H, S, G, C, M, T	F, H, S, G, C, M, T

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

Barcode Scanning Result

(P)PART NO: PSPXXXX-XXXX	HF	Pb- FREE
PART DESCRIPTION	CAT NO: *	
(Q)Q'TY: QXXXX	(K)PO NO: KXXXXXX	
(1T)LOT NO: 1TXXXXXX		
(1T)LOT NO:(When necessary) 1TXXXXXX		
 COUNTRY OF ORIGIN" COUNTRY" DATE CODE(MM/DD/YY)		

9.0 Approvals:

Jia Zhu
SPA Product Manager
Littelfuse, Wuxi

Jordan Hsieh
SPA Product Engineering Manager
Littelfuse, HsinChu

Raider Chen
SPA Product Engineer
Littelfuse, Hsin, HsinChu