



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

March 11th, 2014

RE: PCN # ESU270-23 – SOD882 Package Alternate Location Approval for Backend Assembly, Test and Packing

To our valued customers,

Littelfuse would like to notify you of a newly approved backend location for the SOD882 package of our TVS Diode Array (SPA[®] Diodes) products. The new backend factory in Philippines 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 complete. Please see the attached documentation for change detail and affected part numbers.

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: March 11th, 2014
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 Chad Marak, Product Manager.

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

Best Regards,

A handwritten signature in black ink that reads "Chad Marak". The signature is written in a cursive, flowing style.

Chad Marak
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cmarak@littelfuse.com



800 E. Northwest Highway Des Plaines, IL 60016

Product/Process Change Notice (PCN)

PCN#: ESU270-23 **Date:** 03/11/2014

Product Identification:

SOD882 Package of TVS

Diode Array Products

Implementation Date for Change:

03/11/2014

Contact Information

Name: Chad Marak

Title: Product Marketing Manager

Phone #: +1 408 886 1600

Fax#: N/A

E-mail: cmarak@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 an alternate backend assembly, test, and packing location in Philippines for the SOD882 package.

There are no changes to fit, form & function of the finished product. The affected products have been fully qualified in accordance with all established criteria for performance and reliability.

All relevant detail is included in the supplemental pages..

Important Dates:

- Qualification Samples Available: 03/11/2014 Last Time Buy:
- Final Qualification Data Available: 03/11/2014
- Date of Final Product Shipment:

Method of Distinguishing Changed Product

- Product Mark,
- Date Code,
- Other, CAT NO as 'C' on labels - see Packing Method (4.0) in the succeeding PCN report for details

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

LF Qualification Plan/Results:

Attached.Full detail available upon request.

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 : JC Chuang-SPA Package Design Engineer,
Jordan Hsieh-SPA Product Engineering Manager,
Date : 3/6/2014
Device : SOD882 Package Product
Revision : C

1.0 Objective:

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

2.0 Applicable Devices:

Part Numbers	Part Numbers
SP1003-01ETG	
SP1007-01ETG	
SP3030-01ETG	

3.0 Assembly, Process & Material Differences/Changes:

3.1 Assembly and Process Changes

There are no significant changes in the assembly and process method.

3.2 Material Changes

Material	SOD882				Change d?
	Original		New		
	Material Name	Supplier	Material Name	Supplier	
Lead frame	F2L UTDFN	ASM	Cu Alloy-C194	Poongsan	Yes
Die Attach Material	8006NS	HENKEL	8900NC	HENKEL	Yes
Au Wire	Au 0.8 mils, 99.99%	TANAKA	Au 0.8 mils, 99.99%	Heraeus	Yes
Molding Compound	CEL9220HF	HITACHI	G600	SUMITOMO	Yes
Lead Finish	NiPdAu	ASM	NiPdAu	Poongsan	Yes

4.0 Packing Method

There will be no changes in the packing method.
To distinguishing different vendors please check label information as CAT NO as below,



Barcode Scanning Result

(P)PART NO: PSPXXXX-XXXX	HF	
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)		

5.0 Physical Differences/Changes:

There is no change in mechanical specification or package outline dimension (POD).

6.0 Reliability Test Results Summary:

Test Items	Condition	S/S	Results	ETR #
Pre-conditioning	JESD22-A113	308	0/308	ETR53889
DC Blocking(HTRB)	Bias = 5V, Ta = 150°C Duration = 168 Hours	77	0/77	
Temperature Cycle	Ta = -55°C to +150°C Duration = 100 Cycles	77	0/77	
Temperature/Humidity	Ta = 85°C, 85% RH Duration = 168 Hours	77	0/77	
Autoclave	Ta = 121°C, 100%RH, 2ATM Duration = 96 Hours	77	0/77	
Resistance to Solder Heat	260°C, 10 sec M-2031	30	0/30	
Moisture Sensitivity Level(MSL)	Per Jedec J-STD-020D Level 1	308	0/308	
Solderability	ANSI-J-STD-002	10	0/10	

7.0 Electrical Characteristic Summary:

There is no change in electrical characteristics. Characterization data is available upon request.

8.0 Changed Part Identification:

There is no change in SP1003-01ETG, SP1007-01ETG and SP3030-01ETG product manufactured by the alternate location.

9.0 Recommendations & Conclusions:

Based on the test results, it is determined that the alternative backend location is qualified and certified for production of all Littelfuse SP1003-01ETG, SP1007-01ETG and SP3030-01ETG products.

10.0 Approvals:

JC Chuang
Design Engineer
Littelfuse, HsinChu

Jordan Hsieh
SPA Product Engineering Manager
Littelfuse, HsinChu