



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

July 22th, 2013

RE: PCN # ESU270-20 – 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 Taiwan 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 and the new factory will begin shipments starting in August. 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: July 22th, 2013
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'.

Chad Marak
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800 E. Northwest Highway Des Plaines, IL 60016

Product/Process Change Notice (PCN)

PCN#: ESU270-20 **Date:** 07/22/2013

Product Identification:

SOD882 Package of TVS

Diode Array Products

Implementation Date for Change:

07/22/2013

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 for 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: 07/22/2013

☐ Last Time Buy:

☒ Final Qualification Data Available: 07/22/2013

☐ Date of Final Product Shipment:

Method of Distinguishing Changed Product

- ☐ Product Mark,
- ☐ Date Code,
- ☒ Other, Country of Origin label - new site is TAIWAN

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

Minor visual differences in color

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 Engineer,
Date : 07/19/2013
Device : SOD882 Package Product
Revision : A

1.0 Objective:

The purpose of this project is to qualify a second / 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	
SP1005-01ETG	
SP1007-01ETG	

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				
	Original		New		Changed?
	Material Name	Supplier	Material Name	Supplier	
Lead frame	F2L UTDFN	ASM	FR4	NORSUN CIRCUITED	Yes
Die Attach Material	8006NS	HENKEL	EP2015-3/EP2005BK	FEEDPOOL	Yes
Au Wire	Au 0.8 mils, 99.99%	TANAKA	Al 1.25 mils, 99.99%	CEBU CHIP CONNECTIONS	Yes
Molding Compound	CEL9220HF	HITACHI	ELER-8-700HP	E'DALE	Yes
Lead Finish	NiPdAu	ASM	CuNiAu	NORSUN CIRCUITED	Yes

4.0 Packing Method

There will be no changes in the packing method.

5.0 Physical Differences/Changes:

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



6.0 Reliability Test Results Summary:

6.1 SP1005 product summary report

Test Items	Condition	S/S	Results	ETR #
Pre-conditioning	JESD22-A113	308	0/308	ETR48084
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, SP1005-01ETG and SP1007-01ETG product manufactured by the alternate location.

9.0 Recommendations & Conclusions:

Based on the test results, it is determined that the second/alternative backend location is qualified and certified for production of all Littelfuse SP1003-01ETG, SP1005-01ETG and SP1007-01ETG products.

10.0 Approvals:

JC Chuang
Design Engineer
Littelfuse, HsinChu

Jordan Hsieh
SPA Product Engineer
Littelfuse, HsinChu