



Expertise Applied | Answers Delivered

Mar 31st , 2015

RE: LFPCN41228

To: Our Valued Customers.

From: Littelfuse Product Management Team

Subject: B and C-rated DO-214AA SIDACtor® Devices Optimization

Littelfuse would like to notify you of die grid design optimization only for B and C-rated SIDACtor® Devices in DO-214AA Package, there is NO change in active area of silicon, therefore the actual electrical performance stays identical to existing design , Littelfuse also would like to take this chance to update some Capacitance and ITSM value in datasheet to more accurately reflect the actual performance of the products.

Please refer to third page for summary of datasheet update highlight, and refer to attachment for the affected Part number List

There are no changes to fit, form, and function of the finished product and electrical parameter.

Form, Fit, Function Changes: None
Part Number Changes: None
Effective Date: July, 1st , 2015
Migration period: July 1st 2015 to Oct 1st 2015
Replacement Products: N/A
Last Time Buy: N/A

If you have any other question or concerns, please contact Littelfuse® local sales representative, or Meng Wang, Assistant Product Manager for further assistance.

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

Best Regards,

Meng Wang

Assistant Product Manager
Commodity TVS and SIDACtor
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800 E. Northwest Highway Des Plaines, IL 60016

Product/Process Change Notice (PCN)

PCN#: LFPCN41228 **Date:** Mar 31st 2015

Product Identification:

DO-214AA SIDACtor®

B and C-rated Products

Implementation Date for Change:

July 1st 2015

Contact Information

Name: Meng Wang

Title: Assistant Product Manager

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Category of Change:

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

Description of Change:

Littelfuse would like to notify you of die grid design optimization only for B and C-rated SIDACtor® Devices in DO-214AA Package , there is NO change in active area of silicon, therefore the actual electrical performance stays identical to existing design.

Important Dates:

- Qualification Samples Available: Mar 31st 2015 Last Time Buy: N/A
- Final Qualification Data Available: Mar 31st 2015
- Date of Final Product Shipment: N/A

Method of Distinguishing Changed Product

- Product Mark, N/A
- Date Code, 5Gxxx
- Other,

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

N/A

LF Qualification Plan/Results:

available , see attached next page

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.

Datasheet change Summary

Commercial B rated

Part Number	Capacitance				ITSM	
	before		after		before	after
	pF min	pF max	pF min	pF max	A min	A min
P0080SBLRP	25	150	30	50	25	30
P0220SBLRP	25	150	30	50	25	30
P0300SBLRP	15	140	20	50	25	30
P0640SBLRP	40	80	20	50	25	30
P0720SBLRP	35	75	20	50	25	30
P0900SBLRP	35	70	20	50	25	30
P1100SBLRP	30	70	20	50	25	30
P1200SBLRP	30	65	20	50	25	30
P1300SBLRP	25	60	20	50	25	30
P1500SBLRP	25	55	20	50	25	30
P1800SBLRP	25	50	20	50	25	30
P2000SBLRP	25	90	20	50	25	30
P2100SBLRP	20	35	20	50	25	30
P2300SBLRP	25	50	20	50	25	30
P2500SBLRP	35	95	20	50	25	30
P2600SBLRP	20	45	20	50	25	30
P3100SBLRP	20	45	20	50	25	30
P3500SBLRP	20	40	20	50	25	30
P4500SBLRP	20	65	20	50	25	30
P4500SCLHLRP	20	65	20	50	30	30
SMTBJ050A	n/a	n/a	20	50	20	30
SMTBJ056A	n/a	n/a	20	50	20	30
SMTBJ120A	n/a	n/a	20	50	20	30
SMTBJ170A	n/a	n/a	20	50	20	30
SMTBJ200A	n/a	n/a	20	50	20	30
SMTBJ240A	n/a	n/a	20	50	20	30

Commercial C rated

	Capacitance				ITSM	
	before		after		before	after
Part Number	pF min	pF max	pF min	pF max	A min	A min
P0080SCMCLRP	25	75	30	60	30	35
P0220SCMCLRP	30	65	30	60	30	35
P0300SCMCLRP	25	45	15	40	30	35
P1500SCMCLRP	35	55	30	60	30	35
P1800SCMCLRP	35	50	30	60	30	35
P2100SCMCLRP	30	50	30	60	30	35
P2300SCMCLRP	30	50	30	60	30	35
P2600SCMCLRP	30	45	30	60	30	35
P3100SCMCLRP	30	45	30	60	30	35
P3500SCMCLRP	25	50	30	60	30	35
P4500SCMCLRP	20	45	30	60	30	35
P0080SCLRP	45	260	40	70	30	35
P0220SCLRP	30	240	40	70	30	35
P0300SCLRP	25	250	20	50	30	35
P1500SCLRP	35	95	40	70	30	35
P1800SCLRP	35	90	40	70	30	35
P2100SCLRP	30	90	40	70	30	35
P2300SCLRP	30	80	40	70	30	35
P2500SCLRP	30	85	40	70	30	35
P2600SCLRP	30	80	40	70	30	35
P3100SCLRP	30	70	40	70	30	35
P3500SCLRP	25	65	40	70	30	35
P4500SCLRP	25	65	40	70	30	35
P2000SCLRP	25	30	40	70	30	35



Expertise Applied | Answers Delivered

Littelfuse electronic(Wuxi)Co., Ltd
East #3, Zhenfa 6 Road, Shuofang Industrial Park,
Jiangsu, China

Memorandum

To: Those who may concern
 From: Gimmy Shi, Senior Product Engineer, Littelfuse.
 Date: Feb 27, 2015
 Subject: **Qualification test result for Littelfuse DO-214AA B and C rated series SIDACTor® parts**

This report is to summarize the qualification result of P0300SCLRP; P0080SCLRP; P1800SCLRP; P3100SCLRP; P3500SCLRP; P0300SBLRP; P0080SBLRP; P3100SBLRP.

This test result covers most of DO-214AA B and C rated SIDACTor® series their special devices.

1. Qualification sample

Part Number	Assy Lot	Remark
P3100SCLRP	TEST LOT	DC/AC Blocking/TC/PCT/H3TRB/RSH

2. Reliability test items and result summary

Reliability Part Number: P0080SCLRP; P0300SCLRP; P1800SCLRP; P3100SCLRP; P3500SCLRP; P0080SBLRP; P0300SBLRP; P3100SBLRP.

Test Category	Description	Condition	Part	Lot type	SS/lot	Lot Size	Result	ETR
Reliability	Pre-condition	24 hours bake at 125°C, 168hrs 85°C/85% RH storage,	P3100SCLRP	Control lot	120	1 lot	passed	69123
			P3100SCLRP	Test lot				
	HTRB	125C, DC/AC bias(peak)=80% Rated VDRM, 1008hrs	P3100SCLRP	Control lot	77	1 lot	passed	
			P3100SCLRP	Test lot				
	HTSL	168/500/1000 hours at TA = 150C	P3100SCLRP	Control lot	40	1 lot	passed	
			P3100SCLRP	Test lot				
	TC	100cycles, -65°C & +150°C,	P3100SCLRP	Control lot	40	1 lot	passed	
			P3100SCLRP	Test lot				
	H3TRB	168/500/1000 hours at Tj = 85C/85% RH	P3100SCLRP	Control lot	40	1 lot	passed	
			P3100SCLRP	Test lot				
	TST	0°C & 100°C, 10 cycles	P3100SCLRP	Control lot	40	1 lot	passed	
			P3100SCLRP	Test lot				

Test Category	Description	Condition	Part	Lot type	SS/lot	Lot Size	Result	ETR
Parametric	Surge out 2x10us	test from 90% IPP, 10% per step till damage	P3500SCLRP	Test lot	10	1 lot	Passed	ETR#68409 ETR#68410 ETR#68731 ETR#69104 ETR#69105
			P3100SCLRP	Test lot	10	1 lot		
			P1800SCLRP	Test lot	10	1 lot		
			P0300SCLRP	Test lot	10	1 lot		
			P0080SCLRP	Test lot	10	1 lot		
			P0300SBLRP	Test lot	10	1 lot		
			P0080BCLRP	Test lot	10	1 lot		
	Surge out 8x20us	test from 90% IPP, 10% per step till damage	P3500SCLRP	Test lot	10	1 lot	Passed	
			P3100SCLRP	Test lot	10	1 lot		
			P1800SCLRP	Test lot	10	1 lot		
			P0300SCLRP	Test lot	10	1 lot		
			P0080SCLRP	Test lot	10	1 lot		
			P3100SBLRP	Test lot	10	1 lot		
			P0300SBLRP	Test lot	10	1 lot		
	Surge out 10x700us	test from 90% IPP, 10% per step till damage	P3500SCLRP	Test lot	10	1 lot	Passed	
			P3100SCLRP	Test lot	10	1 lot		
			P1800SCLRP	Test lot	10	1 lot		
			P0300SCLRP	Test lot	10	1 lot		
			P0080SCLRP	Test lot	10	1 lot		
			P3100SBLRP	Test lot	10	1 lot		
			P0300SBLRP	Test lot	10	1 lot		
	Surge out 10x1000us	test from 90% IPP, 10% per step till damage	P3500SCLRP	Test lot	10	1 lot	Passed	
			P3100SCLRP	Test lot	10	1 lot		
			P1800SCLRP	Test lot	10	1 lot		
			P0300SCLRP	Test lot	10	1 lot		
			P0080SCLRP	Test lot	10	1 lot		
			P3100SBLRP	Test lot	10	1 lot		
P0300SBLRP			Test lot	10	1 lot			
Capacitance	Bias 1MHZ,2V	P3500SCLRP	Test lot	10	1 lot	Passed		
		P3100SCLRP	Test lot	10	1 lot			
		P1800SCLRP	Test lot	10	1 lot			
		P0300SCLRP	Test lot	10	1 lot			
		P0080SCLRP	Test lot	10	1 lot			
		P3100SBLRP	Test lot	10	1 lot			
		P0300SBLRP	Test lot	10	1 lot			
Vs	100V/us	P3500SCLRP	Test lot	10	1 lot	Passed		
		P3100SCLRP	Test lot	10	1 lot			
		P1800SCLRP	Test lot	10	1 lot			
		P0300SCLRP	Test lot	10	1 lot			
		P0080SCLRP	Test lot	10	1 lot			
		P3100SBLRP	Test lot	10	1 lot			
		P0300SBLRP	Test lot	10	1 lot			
ITSM	1.0ipp start,50/60HZ	P3500SCLRP	Test lot	10	1 lot	Passed		
		P3100SCLRP	Test lot	10	1 lot			
		P1800SCLRP	Test lot	10	1 lot			
		P0300SCLRP	Test lot	10	1 lot			
		P0080SCLRP	Test lot	10	1 lot			
		P3100SBLRP	Test lot	10	1 lot			
		P0300SBLRP	Test lot	10	1 lot			

3. FAB Process & Material Differences/Changes:

3.1 Wafer and Process Changes

There is grid size optimization to 5mil/side from 7.5mil/side in FAB process method

4. Assembly, Process & Material Differences/Changes:

4.1 Assembly and Process Changes

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

5. Packaging Method

There will be no changes in the packing method.

6. Marking Method

There will be no changes in the marking method.

7. Physical Differences/Changes

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

8. Electrical Characteristic Summary:

There is no change in electrical characteristics. Characterization data is available upon request. But datasheet has been re-characterized to reflect the real product performance.

9. Changed Part Identification

There is no change in Part Identification.

10. Recommendations & Conclusions:

Based on the test results, it was determined that optimization of B and C-rated DO-214AA SIDACTor were qualified and certified for mass production