Peregrine Semiconductor Corp.
9380 Carroll Park Drive, San Diego, CA. 92121

Product/Process Change (PCN) Notification

PCN Number: CO-18870	Contact: Elizabeth La Greca
Date Issued: November 17th, 2017	Title: Director, Sales Operations
PCN Effective Date: February 17th, 2018	Phone: 1-858-795-0106
Product(s) Affected: PE42540	Email: pcn@psemi.com
Sample Availability: November 17th, 2017	
Change Control Board Approval #: CO-18870	

Change Category:

☒ Wafer Fabrication Process	☐ Shipping/Labeling
☐ Design/Mask Change	☐ Equipment
☐ Singulation Process	☐ Material
☐ Assembly Process	☐ Product Specification
☐ Electrical Test	☐ Product End of Life
☐ Manufacturing Site	☒ Other - Ordering codes change

Purpose of Change:

To enable Lapis as the primary wafer fabrication site for the PE42540.

Description of Change:

MagnaChip closed their 150 mm wafer CMOS fab in South Korea at the end of 2015. To ensure there is no disruption to supply, we have been working to transfer products from MagnaChip fab to Lapis fab in Japan. Magnachip and Lapis are qualified Peregrine fabs.

Lapis PE42540 material has been qualified with no change to form, fit, function or reliability.

Beginning February 17th, 2018, the PE42540 shipped to customers will be supplied from either MagnaChip or Lapis wafers. Lapis will become the primary wafer fabrication site for the PE42540.

Ordering code changes:

Original ordering codes (MagnaChip): PE42540D-Z, EK42540-05

New ordering codes (Lapis): PE42540E-Z, EK42540-06

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Customer Acknowledgement of Receipt:

☐ Change Denied *(Include explanation in comments section below)* ☐ Change Approved	**Name:**	
	Title:	
	Company:	
	Date:	
	Signature:	
Customer Comments:		

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Appendix A – Reliability Qualification Summary

Peregrine Semiconductor

PE42540

Reliability Summary Report

Part Number(s):	PE42540	**Product Family:**	Switch
Package Type:	32L 5x5 FCLGA	**MSL Rating:**	3
Technology Platform:	UltraCMOS®5		
Reliability Summary:	Based on the results of reliability testing, the PE42540 has met the reliability requirements for production.		

Table 1: Product Design Reliability Results

Test #	Test Performed	TEST METHOD/ Conditions	Duration	Sample Size (#LOT x SS)	Result
1	High Temperature Operating Life (HTOL)	JESD22-A108; VDD= 3.6 V; VCTL= 3.6 V; $T_A = T_J$= 150 °C;	500 hrs.	1 x 77	Pass
2	ESD Human Body Model (HBM)	JS-001 / MIL-STD-883 Model 3015.7 (All pins)	1kV	1 x 3	Pass
		JS-001 / MIL-STD-883 Model 3015.7 (RF Pins Only)	2kV	1 x 3	Pass
3	ESD Machine Model (MM)	JEDEC JESD22-A115	100V	1 x 3	Pass
4	ESD Charged Device Model (CDM)	JEDEC JESD22-C101	450V	1 x 3	Pass

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PE42540

Reliability Summary Report

Table 2: Package Reliability Results

Test	Test Performed	TEST METHOD/ Conditions	Duration	Sample Size (#LOT x SS)	Result
5	High Temperature Operating Life (HTOL)	JESD22-A108; VDD= 3.6V; VCTL= 3.6V; T_J= 150°C	500 hrs.	3 x 77	Pass
6	High Temperature Storage Life (HTSL)	JESD22-A103; T_A= 150°C	1,000 hrs.	1 x 77	Pass
7	Moisture Sensitivity Level (MSL3)	JESD22-A113/J-STD-020 Moisture Soak at 30°C/ 60% RH. Reflow at 260°C.	192 hrs. 3x Reflow	3 x 15	Pass
8	Highly Accelerated Stress Test (HAST)	JESD22-A110; T_A= 110°C; RH= 85%; VDD= 3.55 V	264 hrs.	3 x 45	Pass
9	Temperature Cycling (TC)	JESD22-A104; T_A= -55°C to +125°C	1,000 cyc.	3 x 45	Pass
10	Physical Dimensions	JESD22-B100 / Subcon specs.	-	3 x 3	Pass
11	Die Peel	Mil-Std-883 M2019.8 / Subcon specs.	-	3 x 2	Pass
12	Solderability	JESD22-B102 / Subcon specs.	-	3 x 3	Pass

Bump Process Qualification Report: DOC-72033
Technology Process Qualification Report: DOC-81028