

PRODUCT / PROCESS CHANGE NOTIFICATION PCN-000693

Date: APR-13-2021 P1/2

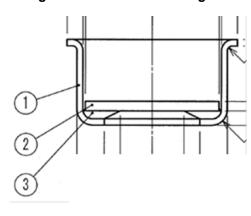
Semtech Corporation, 200 Flynn Road, Camarillo CA 93012									
Change Details									
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	GN3052-3E	A5AM3E	:3						
	GN3068-3E	B6AL3E	3						
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Descri	iption, Pu	rpose d	and Effect o	or Change.					
ROSA p	oroduct's w	indow ca	ap is currently	y made of PbC) seal gl	lass ma	terial which wi	II be chan	iged to a
Pb free	seal glass	material.	. This does no	ot affect the wi	indow c	ap, only	the type of m	aterial wil	Il be changed.
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						Func	tion		
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PRODUCT / PROCESS CHANGE NOTIFICATION PCN-000693

Date: APR-13-2021 P2/2

• Seal glass material to be changed is item #3 in the drawing below.



Issuing Authority				
Semtech Business Unit:	Signal Integrity Product Group (SIP)			
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FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: http://www.semtech.com/contact/index.html#support



Pb-free Window Cap for Yamamura Reliability Qualification Report

Revision History

Version	ECO	Date	Modifications
0	ECO-055883	Mar 2021	New Release

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1 Background

Yamamura Photonics is the supplier of window caps used in certain Semtech's ROSA products and the window cap is currently made of PbO type of glass. Yamamura recently requested a change for moving to a Pb free seal glass material. The purpose of this report is to document the qualification of Pb-free lens cap for the ROSA products manufactured at Hisense.

2 Product Scope

Please refer to table 1 for more information about all products that are affected by this change.

Table 1: all products covered in this qualification

Product	
GN3052	
GN3068	

3 Device Specific

3.1 Qualification Approach

Since the change was only the glass materials of the window cap and no change has been made in the optical design and optical patch materials, the risk of optical performance change is minimal. As a result, it is not necessary to test the optical performance in this qualification. Leakage, damped heat and mechanical shock tests were performed on Pb-free type of glass to examine the mechanical properties of the material. Same stresses were carried out on current glass (PbO type) material for comparison.

GN3052 and GN3068 are fully qualified Semtech's product. For more information about the qualification of those products, please refer to GENDOC-051065 and GENDOC-058317 for the reliability report of GN3052 and GN3068 respectively. This qualification is only intended to assess the reliability impact of changing the PbO type glass to Pb-free type glass.

4 Reliability Qualification Stresses

4.1 Qualification Tests

Table 2: Reliability qualification stresses for PbO and Pb-free type of glass

Stress	Conditions	Duration	Vehicle	Sample Size	Result
Temp Cycling	GR-468 Method 3.3.2.2,	1000 cycles	PbO type glass	10	Pass
remp Cycling	-55°C/125°C, Visual Inspection	1000 cycles	Pb-free type glass	10	Pass
Damp Heat	GR-468-CORE Issue 2, Section 3.3.3.3 85°C.85%,	1000 hours	PbO type glass	10	Pass
Damp Hoat	Visual Inspection		Pb-free type glass	10	Pass
Mechanical Shock	GR-468 Method 3.3.1.1 1500G, 0.5ms,	NA	PbO type glass	10	Pass
Test	5 times/X, Y, Z directions		Pb-free type glass	10	Pass

4.2 Pass/Fail Criteria

 Table 1.:
 Qualification Stresses

Parameter	Criterion
Hermeticity	< 1 x 10-9 [Pa·m3/s]
Visual Inspection*	No physical damage after testing

^{*}Not applicable in Mechanical Shock Test

5 Conclusion

In conclusion, all parts passed this qualification. Thus, the change of Pb-free seal glass material in windows caps for GN3052 and GN3068 has been qualified.