ON Semiconductor®

Initial Product/Process Change Notification

Document # : IPCN22140X
Issue Date: 1 March 2018

Title of Change:	TIGBT 1200V FSII Passivation change to improve HTRB robustness.
Proposed first ship date:	7 July 2018 or *earlier upon customer approval*.
Contact information:	Contact your local ON Semiconductor Sales Office or <way-shan.yong@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office
Type of notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customer. IPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>.
Change Part Identification:	Product date code WW14 onwards
Change category:	☒ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☐ Other _____

Change Sub-Category(s):

☐ Manufacturing Site Change/Addition
☒ Manufacturing Process Change
☐ Material Change
☐ Product specific change
☐ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☐ Other: _____

Sites Affected:	ON Semiconductor Sites: ON Niigata, Japan ON Roznov, Czech Republic	External Foundry/Subcon Sites: None

Description and Purpose:

This IPCN announces the change of passivation for TIGBT 1200V FSII to improve HTRB robustness.

The change is planned in 2 ON Semiconductor sites – ON Roznov, Czech Republic and ON Niigata, Japan.

Upon the expiration of this PCN, PIM IGBT modules will be processed with HRN passivation that will provide robustness to reliability of the modules. These products will be qualified to industrial requirements.

Material to be changed	Before Change Description	After Change Description
1200V FSII TGIBT Passivation	USG 50 nm + aSi 200 nm + Oxinitride 1000 nm + Nitride 300 nm	HR Nitride 1500nm 400C

Qualification Plan:

QV DEVICE NAME: NG8012CN72UTCL2
PACKAGE: T0247

Test	Condition	Interval	Sample Size
HTRB	Ta = 145 °C, Tjmax=150°C bias = 80% of rated V	1008 hrs	80
H3TRB	Temp = 85°C, RH=85%, bias = 80% of rated V or 100V max	1008 hrs	80
TC	Ta = -65°C to +150°C; for 1000 cycles	1000 cyc	80

Qualification completion: 19 February 2018

QV DEVICE NAME: SNXH160T120L2Q1PG
PACKAGE: GENI 1100V Q1PACK

Test	Condition	Interval	Sample Size
HTRB	For C72, CV10, Ta = 150 °C, VCE = 80% VCES, VGE = 0V	1008 hrs	10
H3TRB	For C72, CV10, 85°C / 85% RH, VCE = 100V, VGE = 0V	1008 hrs	10
eH3TRB	For C72, CV10, 85°C / 85% RH, VCE = 80% VCES, VGE = 0V	504 hrs	10
TC	- 40°C to 125°C, Temperature soak = 30 min, Transition time = 20 min max	100 cyc	10
TS	- 40°C to 125°C, Temperature soak = 10 min, Transition time = less than 5 sec	100 cyc	10

Qualification completion: 19 February 2018

Electrical Characteristic Summary:

Electrical characteristics are not impacted.

List of Affected Standard Parts:

Part Number	Qualification Vehicle
NXH160T120L2Q2F2SG	SNXH160T120L2Q1PG
NXH80B120H2Q0SG	
NXH80T120L2Q0PG	
NXH80T120L2Q0S1G	
NXH80T120L2Q0S2G	
NXH80T120L2Q0SG	
SNXH150B120H3Q2F2PG-R	
SNXH160B120L2Q0PG	

SNXH160T120L2Q1PG	SNXH160T120L2Q1PG
SNXH80T120L2Q0SG	
XCSNXH150B120H3Q2F2PG	
XCSNXH150B120H3Q2F2PG-N	
SNXH150B120H3Q2F2PG-N	

Appendix A: Changed Products

Product	Customer Part Number	Qualification Vehicle
NXH160T120L2Q2F2SG		SNXH160T120L2Q1PG
NXH80B120H2Q0SG		SNXH160T120L2Q1PG
NXH80T120L2Q0PG		SNXH160T120L2Q1PG
NXH80T120L2Q0S1G		SNXH160T120L2Q1PG
NXH80T120L2Q0SG		SNXH160T120L2Q1PG
SNXH160T120L2Q1PG		SNXH160T120L2Q1PG