



Title of Change:	1200V FSII TIGBT and 1200V FRD Passivation change to improve HTRB robustness	
Proposed first ship date:	16 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 or <PCN.Samples@onsemi.com>	
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or Choonbae Park <Choonbae.Park@onsemi.com>	
Type of notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs 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 WW15 onwards	
Change category:	<input checked="" type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____	
Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input checked="" type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____	
Sites Affected:	ON Semiconductor Sites: ON Roznov, Czech Republic ON Niigata, Japan	External Foundry/Subcon Sites: None
Description and Purpose:		
This FPCN announces the change of passivation for 1200V FSII TIGBT and 1200V FRD to improve HTRB robustness. The change is planned in 2 Onsemi sites – Onsemi Roznov and Onsemi Niigata. 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 TIGBT Passivation	USG + aSi + Oxinitride + Nitride	HR Nitride
1200V FRD Passivation	USG + aSi + Oxinitride + Nitride	HR Nitride



Reliability Data Summary:

QV DEVICE NAME : SNXH160T120L2Q1PG (Q1APCK)

RMS: 43687, 45079, 43768, 45666

PACKAGE: Q1Pack and Qx platform

Test	Specification	Condition	Interval	Lot 1	Lot 2	Comments
HTRB	JESD22-A108	Tj=150C, VCE = 960V, VGE = 0V (80% bias by Huawei request)	1008hr	0/5	0/5	Qx platform Lot 1: CN72, Lot 2: CV10
H3TRB	JESD22-A101	T = 85°C, RH = 85%, time = 1000 hours, VCE = 100V, VGE = 0V	1008hr	0/5	0/5	Qx platform Lot 1: CN72, Lot 2: CV10
eH3TRB	JESD22-A101	T = 85°C, RH = 85%, time = 1000 hours, VCE = 960V, VGE = 0V	504hr	0/5	0/5	Qx platform Lot 1: CN72, Lot 2: CV10
TC	JESD22-A104 cond. G, soak mode 4	- 40°C to 125°C, Temperature soak = 30 min, Transition time = 20 min max	100 cyc	0/5	0/5	Q1Pack Lot 1, Lot 2: CN72
TS	JESD22-A104 cond. G, soak mode 4	Tmin = -40°C, Tmax = 125°C, cycles = 100 Dwell time 10min, Transition time 5sec max in two chamber equip.	100 cyc	0/5	0/5	Q1Pack Lot 1, Lot 2: CN72

QV DEVICE NAME : NXH160T120L2Q2F2SG (Q2APCK), NHX80T120L2Q0S1G (Q0Pack)

RMS: 43575, 43573, 43574

PACKAGE: Q0Pack, Q2Pack and Universal platform (F2)

Test	Specification	Condition	Interval	Lot 1	Lot 2	Lot 3	comments
HTRB	JESD22-A108	Tj=150C, VCE = 960V, VGE = 0V (80% bias by Huawei request)	1008hr	0/11	0/11	0/11	Universal (F2) Lot 1, Lot 2, Lot 3: CN72
H3TRB	JESD22-A101	T = 85°C, RH = 85%, time = 1000 hours, VCE = 100V, VGE = 0V	1008hr	0/6	0/6	0/6	Universal (F2) Lot 1, Lot 2, Lot 3: CN72
eH3TRB	JESD22-A101	T = 85°C, RH = 85%, time = 1000 hours, VCE = 960V, VGE = 0V	504hr	0/6	0/6	0/6	Universal (F2) Lot 1, Lot 2, Lot 3: CN72
TC	JESD22-A104 cond. G, soak mode 4	- 40°C to 125°C, Temperature soak = 30 min, Transition time = 20 min max	100 cyc	0/6	0/6	0/6	Lot 1, Lot 2: CN72, Q2Pack Lot 3 : CN72, Q0Pack
TS	JESD22-A104 cond. G, soak mode 4	Tmin = -40°C, Tmax = 125°C, cycles = 100. Dwell time 10min, Transition time 5sec max in two chamber equip.	100 cyc	0/6	0/6	0/6	Lot 1, Lot 2: CN72, Q2Pack Lot 3 : CN72, Q0Pack



Electrical Characteristic Summary:

Electrical characteristics are not impacted.

List of Affected Standard Parts:

Product ID	Qualification Vehicle
NXH160T120L2Q2F2SG	SNXH160T120L2Q1PG
NXH80B120H2Q0SG	
NXH80T120L2Q0PG	
NXH80T120L2Q0S1G	
NXH80T120L2Q0S2G	
NXH80T120L2Q0SG	
SNXH150B120H3Q2F2PG-N	
SNXH150B120H3Q2F2PG-R	
SNXH160B120L2Q0PG	
SNXH160T120L2Q1PG	
SNXH80T120L2Q0SG	
XCSNXH150B120H3Q2F2PG	
XCSNXH150B120H3Q2F2PG-N	

NOTE:

Please be informed that there may be Customer Specific parts impacted by this Notification, thus MPN & CPN info will not be reflected in the parts list of this Generic document. Instead please click the link to the addendum PDN copy provided in the email notification to see full list of affected products specific to your company.

Appendix A: Changed Products

D

Product	Customer Part Number	Qualification Vehicle
NXH160T120L2Q2F2SG		SNXH160T120L2Q1PG
NXH80B120H2Q0SG		SNXH160T120L2Q1PG
NXH80T120L2Q0PG		SNXH160T120L2Q1PG
NXH80T120L2Q0S1G		SNXH160T120L2Q1PG
NXH80T120L2Q0S2G		SNXH160T120L2Q1PG
NXH80T120L2Q0SG		SNXH160T120L2Q1PG
SNXH160T120L2Q1PG		SNXH160T120L2Q1PG