Final Product/Process Change Notification

Document #:FPCN24072Z
Issue Date:15 Feb 2023

Title of Change:	Qualification of Automotive FS1 Trench IGBT Technology to additional wafer diameter (8") for Wafer FAB Capacity Expansion in onsemi Bucheon Korea.
Proposed Changed Material First Ship Date:	18 Sep 2023 or earlier if approved by customer
Current Material Last Order Date:	N/A *Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability*.
Current Material Last Delivery Date:	N/A *The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory*
Product Category:	Active components – Discrete components
Contact information:	Contact your local onsemi Sales Office or Bokyun.Seo@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. Sample requests are to be submitted no later than 45 days after publication of this change notification. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Sample Availability Date:	18 Nov 2022
PPAP Availability Date:	18 Nov 2022
Additional Reliability Data:	Contact your local onsemi Sales Office or Jayoung.Hong@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com.

Change Category

Category	Type of Change
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor, New wafer diameter

Description and Purpose:

onsemi wishes to inform our customers of wafer diameter change for automotive FS1 TIGBT technology in onsemi (ONBK) located in Bucheon, Korea. This is the final product change notification (FPCN). All other aspects of the impacted products (form, fit, function) will remain unchanged. Upon expiration of this notification, all products listed here can be manufactured on 6" or 8.

	Before Change Description	After Change Description
Wafer Fab Site	6inch in Bucheon, Korea	6inch, 8inch in Bucheon, Korea

There is no product marking change as a result of this change.

Reason / Motivation for Change:	Capacity improvement
Anticipated impact on fit, form, function, reliability, product safety or manufacturability:	The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by onsemi in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
onsemi Bucheon, Korea	None

Marking of Parts/ Traceability of Change:	No change for Marking of Parts / Traceability

Reliability Data Summary:

QV DEVICE NAME : FGH75T65UPD-F085
RMS: K70582
PACKAGE: TO-247

Test	Specification	Condition	Interval	Result
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 80% of max rated (qualified with 80% BV)	1,008 hrs	0/240
HTGB	JESD22-A108	Ti = Maximum rated junction temperature for 1008 hrs, Vgss Bias = 100% of max rated	1,008 hrs	0/240
HTSL	JESD22-A103	Ta =Max rate storage temp for device for 1008 hrs	1,008 hrs	0/240
HAST	JESD22-A110	Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 100V (qualified with 100V BV)	96 hrs	0/240
TC	JESD22-A104	Ta= -55°C to +150°C	1,000 cyc	0/240
uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs	0/240
IOL	MIL-STD-750(M1037) AEC-Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff= 5 min (PKG dependent)	6kcyc cyc	0/240
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Custom Destructive Physical Analysis - TC Delamination Test, Post 1000 cyc TC		0/66
CDPA SAT	AEC-006	Post HTRB,HTGB		0/132
DPA	AEC-Q101-004 Section 4	Destructive Physical Analysis (Post TC, H3TRB, HTRB, HTGB)		0/24
CDPA WP BS	MIL 883E, AEC -006	Custom Destructive Physical Analysis - Wire Pull, Ball Shear (Post TC, HTRB, HTGB)		0/54
CDPA X Section	AEC -006	Post TC, HTRB, HTGB		0/18

NOTE: AEC 1 Pager is attached.
To view attachments:
1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file.

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

List of Affected Parts:

Note: *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal****.*

Current Part Number	New Part Number	Qualification Vehicle
FGH75T65UPD-F085	NA	FGH75T65UPD-F085