



Final Product/Process Change Notification

Document #:FPCN22966ZAB

Issue Date: 09 May 2023

Title of Change:	Qualification of FS4 Trench IGBT 12inch Technology at Global Foundries in New York, US for Wafer Fab Capacity expansion.
Proposed Changed Material First Ship Date:	16 Nov 2023 or earlier if approved by customer
Current Material Last Order Date:	N/A <i>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.</i>
Current Material Last Delivery Date:	N/A <i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>
Product Category:	Active components – Discrete components
Contact information:	Contact your local onsemi Sales Office or Yoichi.Hoshina@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 Mar 2023
PPAP Availability Date:	09 Mar 2023
Additional Reliability Data:	Contact your local onsemi Sales Office or Marco.kang@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
Test Flow	Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor, New wafer diameter
Equipment	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process.
Description and Purpose:	
<p>The changes include transferring wafer fabrication, back grind and back metal, to Global Foundries, and utilizing 300mm instead of 200mm diameter wafers.</p> <p>And while the assembly location remains unchanged (at onsemi, Suzhou, China), wafer saw and die attach tooling are being updated to accommodate 300mm wafers.</p>	



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	From	To
Fab Site	onsemi, Bucheon, Korea,	onsemi, Bucheon, Korea, Global Foundries, East Fishkill, USA
Wafer size	200 mm	200 mm and 300mm
Probe test site Location	onsemi, Bucheon, Korea,	onsemi, Bucheon, Korea, Global Foundries, East Fishkill, USA

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	Global Foundries East Fishkill, New York, United States

Marking of Parts/ Traceability of Change:	Changed material can be identified by lot code.
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Reliability Data Summary:

All Packages will follow the generic plans shown below based on Package type and application:

FS4 TIGBT TECHNOLOGY IN EAST FISHKILL
QV DEVICE NAME : AFGB40T65SQDN
RMS: U81564
PACKAGE: D2PAK

Test	Specification	Condition	Interval	Results
uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs	0/231
HAST	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 42V max	96 hrs	0/231
HTGB	JESD22-A108	Ti = Maximum rated junction temperature for 1008 hrs, Vgss Bias = 100% of max rated	1008hrs	0/231
HTRB	JESD22-A108	Tj = Max rate Tj for device, bias = 80% of rated V	1008hrs	0/231
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008hrs	0/231
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is pkg dependent	6000cyc	0/231
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	24hrs	0/30
		Required for through hole devices only		

QV DEVICE NAME : AFGHL75T65SQD

RMS: U81563

PACKAGE: TO247

Test	Specification	Condition	Interval	Results
uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs	0/231
HAST	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 42V max	96 hrs	0/231
HTGB	JESD22-A108	Ti = Maximum rated junction temperature for 1008 hrs, Vgss Bias = 100% of max rated	1008hrs	0/231
HTRB	JESD22-A108	Tj = Max rate Tj for device, bias = 80% of rated V	1008hrs	0/231
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008hrs	0/231
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is pkg dependent	6000cyc	0/231
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	24hrs	0/30
		Required for through hole devices only		

NOTE: AEC-1pager 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
AFGB40T65SQDN	NA	AFGB40T65SQDN
AFGHL40T65SQD	NA	AFGHL75T65SQD
AFGHL40T65SQ	NA	AFGHL75T65SQD
AFGHL50T65SQ	NA	AFGHL75T65SQD
AFGHL50T65SQD	NA	AFGHL75T65SQD
AFGHL50T65SQDC	NA	AFGHL75T65SQD
AFGHL75T65SQD	NA	AFGHL75T65SQD
AFGHL75T65SQDT	NA	AFGHL75T65SQD

Appendix A: Changed Products

PCN#: FPCN22966ZAB
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DIKG: DIGI-KEY

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
AFGB40T65SQDN		AFGB40T65SQDN	NA	
AFGHL40T65SQD		AFGHL75T65SQD	NA	
AFGHL40T65SQ		AFGHL75T65SQD	NA	
AFGHL50T65SQ		AFGHL75T65SQD	NA	
AFGHL50T65SQD		AFGHL75T65SQD	NA	
AFGHL50T65SQDC		AFGHL75T65SQD	NA	
AFGHL75T65SQD		AFGHL75T65SQD	NA	
AFGHL75T65SQDT		AFGHL75T65SQD	NA	