Final Product/Process Change Notification

Document #:FPCN25631ZC
Issue Date:11 Dec 2024

Title of Change:	Qualification of IGBT Technology onsemi Bucheon 8inch Fab in Korea
Proposed Changed Material First Ship Date:	20 Jun 2025 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
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:	02 Dec 2024
PPAP Availability Date:	27 Dec 2024
Additional Reliability Data:	Contact your local onsemi Sales Office
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
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:

This FPCN announces the planned IGBT fab site change from onsemi Korea 6 inch Fab to onsemi Korea 8 inch Fab. Other wafer back side processes and probes are compatible with both wafer diameters, so there is no change.

	From	To
Fab Site	onsemi, Bucheon, Korea 6inch Fab	onsemi, Bucheon, Korea 6/8inch Fab
Wafer size	150 mm	150mm and 200 mm

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:	Changed material can be identified by lot code.

Reliability Data Summary:

QV DEVICE NAME : FGB40T65SPD-F085
RMS : U95258 / S95214
PACKAGE : D2PAK-3

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=175°C, 100% max rated V	1008 hrs	0/231
High Temperature Gate Bias	JESD22-A108	Ta=175°C, 100% max rated Vgss	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta=175°C	1008 hrs	0/231
Preconditioning	J-STD-020 JESD-A113	MSL 1@ 260°C, Pre IOL, TC, uHAST, H3TRB for surface mount pkgs only	-	0/693
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 3.5 min	8572 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
High Humidity High Temperature Reverse Bias	JESD22-A101	Ta=85C, 85% RH, biased	1008 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/30

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
AFGHL40T65SPD	#NONE	FGB40T65SPD-F085