



## Final Product/Process Change Notification

Document #:FPCN24425ZE

Issue Date:06 Mar 2025

<b>Title of Change:</b>	Assembly and Final Test Site Addition of Amkor Technology Kuala Langat, Malaysia as second source for Automotive MOSFET S08FL and u8FL packages.
<b>Proposed Changed Material First Ship Date:</b>	13 Sep 2025 or earlier if approved by customer
<b>Current Material Last Order Date:</b>	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>
<b>Current Material Last Delivery Date:</b>	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>
<b>Product Category:</b>	Active components – Discrete components
<b>Contact information:</b>	Contact your local onsemi Sales Office.
<b>PCN Samples Contact:</b>	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.
<b>Sample Availability Date:</b>	06 Mar 2025
<b>PPAP Availability Date:</b>	05 Apr 2025
<b>Additional Reliability Data:</b>	Contact your local onsemi Sales Office.
<b>Type of Notification:</b>	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 <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a> .
<b>Change Category</b>	
<b>Category</b>	<b>Type of Change</b>
Test Flow	Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor
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.
Process - Assembly	Move of all or part of assembly to a different location/site/subcontractor., Change of leadframe base material

## Description and Purpose:

onsemi would like to announce that Amkor Malaysia has been qualified as an additional Assembly and Test operations manufacturing site of SO8FL and u8FL packages to enable capacity flexibility, so future deliveries will be sourced from Amkor Malaysia, or any of the previously qualified assembly & test locations at the discretion of our supply chain.

The BOM for each assembly site is shown below:

	Before	After
Assembly Site	onsemi Seremban Malaysia	onsemi Seremban Malaysia Amkor Malaysia
Leadframe Base Material	onsemi Seremban - TAMAC4	onsemi Seremban - TAMAC4 Amkor Malaysia - C194
Final Test Site	onsemi Seremban Malaysia	onsemi Seremban Malaysia Amkor Malaysia

## Reason / Motivation for Change:

Source/Supply/Capacity Changes Process/Materials Change

## 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 Seremban, Malaysia

AMKOR, Malaysia

## Marking of Parts/ Traceability of Change:

Changed material can be identified by assembly plant code.

## Reliability Data Summary:

QV DEVICE NAME: NVMF55C612NLET1G

RMS: S90674, S94412

PACKAGE: SO8FL

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231

Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVMFS6H824NT1G**

**RMS: S90680, S95135**

**PACKAGE: SO8FL**

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVMFS6H852NLT1G**

**RMS: S90678**

**PACKAGE: SO8FL**

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVTF5014P04M8LTAG**

**RMS: S90676**

**PACKAGE: u8FL**

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVTF55C466NLETAG**  
**RMS: S90575**  
**PACKAGE: u8FL**

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVTF56H850NTAG**  
**RMS: S90679**  
**PACKAGE: u8FL**

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, HAST for surface mount pkgs only		0/924

Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**QV DEVICE NAME: NVTFS004N04CETAG**

**RMS: S90572**

**PACKAGE: u8FL**

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
Low Temperature Storage Life	JESD22-A119	Ta= -40°C	168 hrs	0/75
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260 °C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Physical Dimensions	JESD22-B120			Pass

**QV DEVICE NAME: NVTFS004N04CTAG**

**RMS: S90573**

**PACKAGE: u8FL**

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, HAST for surface mount pkgs only		0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 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 Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45
Low Temperature Storage Life	JESD22-A119 cond. A - 40C (+10C/-0C)	Ta = -40°C	168 hrs	0/75

**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.



## Final Product/Process Change Notification

Document #:FPCN24425ZE

Issue Date:06 Mar 2025

### 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
NVTF54C05NTAG	NVTF54C305NETAG	NVTF5004N04CETAG
NVTF54C13NTAG	NVTF54C13NETAG	NVTF5004N04CETAG
NVTF5004N04CTAG	NVTF5004N04CETAG	NVTF5004N04CETAG
NVTF5014P04M8LTAG	#NONE	NVTF5014P04M8LTAG
NVTF56H850NTAG	#NONE	NVTF56H850NTAG
NVTF55C466NLTAG	NVTF55C466NLETAG	NVTF55C466NLETAG
NVTF55C453NLTAG	NVTF55C453NLETAG	NVTF5004N04CETAG
NVTF55C460NLTAG	#NONE	NVTF5004N04CTAG
NVTF56H860NTAG	#NONE	NVTF5004N04CTAG
NVTF56H880NTAG	#NONE	NVTF5004N04CTAG
NVMF56H824NT1G	#NONE	NVMF56H824NT1G
NVMF56H852NLT1G	#NONE	NVMF56H852NLT1G
NVMF55C612NLAFT1G	NVMF55C612NLET1G	NVMF55C612NLET1G