ON Semiconductor®

Update Notification

Document # : FPCN20937Z1
Issue Date: 06 July 2017

Title of Change:	Update to FPCN20937Z - Trench 6 Technology transfer from ON Semiconductor Gresham, Oregon to Aizu Fujitsu Semiconductor Manufacturing, Japan site.
Proposed Changed Material First Ship Date:	27 April 2018 *or earlier upon customer approval*.
Current Material Last Order Date:	N/A
Current Material Last Delivery Date:	N/A
Product Category:	Active components – Discrete components
Contact information	Contact your local ON Semiconductor Sales.
Samples	Contact your local ON Semiconductor Sales Office or <Cheryl.Nudo@onsemi.com> Sample requests are to be submitted no later than 45 days after publication of this change notification.
Sample Availability Date:	1 June 2017
PPAP Availability Date:	27 May 2017
Additional Reliability Data	Contact your local ON Semiconductor Sales Office or <Don.Knudsen@onsemi.com>
Type of Notification	This is an update Notification to Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 12 months prior to implementation of the change or earlier upon customer approval. ON Semiconductor 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:	**Type of Change**
Process – Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor
Process – Wafer Production	Process integrity: tuning within specification
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 is an Update of FPCN20937Z as a clarification of capacity expansion strategy for Trench T6 technology. Trench T6 technology is being transferred from Gresham to Aizu Fujitsu (AFSM) factory. New part numbers listed below from AFSM have been set up to facilitate early conversion and qualification.

Upon the expiration of this FPCN AFSM will be the primary site for the Trench T6 technology and current Gresham part numbers will be sourced from AFSM only.

Reason / Motivation for Change:	**Change benefits for customer:** FAB capacity expansion to meet customer demand **Risk for late release for customer**: Failure to approve will expose the possible risk of not getting all the required products or cause an extended lead time to receive the products
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 ON Semiconductor in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.

Sites Affected:

☐ All site(s) ☐ not applicable ☐ ON Semiconductor site(s) : ☒ External Foundry/Subcon site(s)
FUJITSU SEMICONDUCTOR LTD.

Marking of Parts/ Traceability of Change:	Affected products will be identified with date code.

Reliability Data Summary:

NVMFS5C604NLT1G (60V LL)

Package: S08FL HEFET

Test	Specification	Condition	Interval	Sample Size	Results
HTRB	MILSTD750-1 method M1038A	Ta = 175°C, 100% max rated Bvdss	1008 hrs	84pcs/3 lots	0/252
HTGB	JESD22 A108	Ta = 175°C, 100% rated Vgss	1008 hrs	84pcs/3 lots	0/252
HTSL	JESD22-A103	Ta=175°C	2016 hrs	84pc/3 lots	0/252
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	30000 cyc	84pc/3 lots	0/252
TC	JESD22-A104	Ta=-55°C to +150°C	1000 cyc	84pc/3 lots	0/252
HAST	JESD22-A110	130°C, 85% RH, 80% Vds, 18.8psig	192 hrs	84pc/3 lots	0/252
Uhast	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	192 hrs	84pc/3 lots	0/252

NVMFS5C404NT1G (40V SG)

Package: S08FL HEFET

Test	Specification	Condition	Interval	Sample Size	Results
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgss	1008 hrs	84pc/3 lots	0/252

NVMFS5C410NLT1G (40V LL)

Package: S08FL

Test	Specification	Condition	Interval	Sample Size	Results
HTRB	MILSTD750-1 method M1038A	Ta = 175°C, 100% max rated Bvdss	1008 hrs	84pcs/3 lots	0/252
HTGB	JESD22 A108	Ta = 175°C, 100% rated Vgss	1008 hrs	84pcs/3 lots	0/252
HTSL	JESD22-A103	Ta=175°C	1008 hrs	84pc/3 lots	0/252
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	84pc/3 lots	0/252
TC	JESD22-A104	Ta=-55°C to +150°C	1000 cyc	84pc/3 lots	0/252
HAST	JESD22-A110	130°C, 85% RH, 80% Vds, 18.8psig	96 hrs	84pc/3 lots	0/252
Uhast	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	84pc/3 lots	0/252

Note: AEC-1pager is attached.

To access file attachments on pdf copy of PCN, please be guided by the steps below:

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 Characteristic Summary:

Electrical characteristics are not impacted.

List of Affected Standard Parts:

Current Gresham Part Number	New AFSM Part Number	Qualification Vehicle
NVMFS5C604NLT1G	NVMFS5C604NLAFT1G	NVMFS5C604NLT1G
NVMFS5C604NLT3G		
NVMFS5C604NLWFT1G	NVMFS5C604NLWFAFT1G	
NVMFS5C604NLWFT3G		
NVMFS5C612NLT1G	NVMFS5C612NLAFT1G	
NVMFS5C612NLT3G		
NVMFS5C612NLWFT1G	NVMFS5C612NLWFAFT1G	
NVMFS5C612NLWFT3G		
NVMFS5C628NLT1G	NVMFS5C628NLAFT1G	
NVMFS5C628NLT3G		
NVMFS5C628NLWFT1G	NVMFS5C628NLWFAFT1G	
NVMFS5C628NLWFT3G		
NVMFS5C645NLT1G	NVMFS5C645NLAFT1G	
NVMFS5C645NLT3G		
NVMFS5C645NLWFT1G	NVMFS5C645NLWFAFT1G	
NVMFS5C645NLWFT3G		
NVMFS5C646NLT1G	NVMFS5C646NLAFT1G	
NVMFS5C646NLT3G		
NVMFS5C646NLWFT1G	NVMFS5C646NLWFAFT1G	
NVMFS5C646NLWFT3G		
NVMFS5C670NLT1G	NVMFS5C670NLAFT1G	
NVMFS5C670NLT3G		
NVMFS5C670NLWFT1G	NVMFS5C670NLWFAFT1G	
NVMFS5C670NLWFT3G		
NVMFS5C673NLT1G	NVMFS5C673NLAFT1G	
NVMFS5C673NLT3G		
NVMFS5C673NLWFT1G	NVMFS5C673NLWFAFT1G	

NVMFS5C673NLWFT3G		
NVMFS5C682NLT1G	NVMFS5C682NLAFT1G	
NVMFS5C682NLT3G		
NVMFS5C682NLWFT1G	NVMFS5C682NLWFAFT1G	
NVMFS5C682NLWFT3G		
NVMFS5C404NLT1G	NVMFS5C404NLAFT1G	NVMFS5C604NLT1G NVMFS5C410NLT1G
NVMFS5C404NLT3G		
NVMFS5C404NLWFT1G	NVMFS5C404NLWFAFT1G	
NVMFS5C404NLWFT3G		
NVMFS5C410NLT1G	NVMFS5C410NLAFT1G	
NVMFS5C410NLT3G		
NVMFS5C410NLWFT1G	NVMFS5C410NLWFAFT1G	
NVMFS5C410NLWFT3G		
NVMFS5C423NLT1G	NVMFS5C423NLAFT1G	
NVMFS5C423NLT3G		
NVMFS5C423NLWFT1G	NVMFS5C423NLWFAFT1G	
NVMFS5C423NLWFT3G		
NVMFS5C430NLT1G	NVMFS5C430NLAFT1G	
NVMFS5C430NLT3G		
NVMFS5C430NLWFT1G	NVMFS5C430NLWFAFT1G	
NVMFS5C430NLWFT3G		
NVMFS5C442NLT1G	NVMFS5C442NLAFT1G	
NVMFS5C442NLT3G		
NVMFS5C442NLWFT1G	NVMFS5C442NLWFAFT1G	
NVMFS5C442NLWFT3G		
NVMFS5C450NLT1G	NVMFS5C450NLAFT1G	
NVMFS5C450NLT3G		
NVMFS5C450NLWFT1G	NVMFS5C450NLWFAFT1G	
NVMFS5C450NLWFT3G		
NVMFS5C456NLT1G	NVMFS5C456NLAFT1G	
NVMFS5C456NLT3G		
NVMFS5C456NLWFT1G	NVMFS5C456NLWFAFT1G	
NVMFS5C456NLWFT3G		
NVMFS5C460NLT1G	NVMFS5C460NLAFT1G	
NVMFS5C460NLT3G		
NVMFS5C460NLWFT1G	NVMFS5C460NLWFAFT1G	
NVMFS5C460NLWFT3G		
NVMFS5C468NLT1G	NVMFS5C468NLAFT1G	
NVMFS5C468NLT3G		
NVMFS5C468NLWFT1G	NVMFS5C468NLWFAFT1G	
NVMFS5C468NLWFT3G		

NVMFS5C404NT1G	NVMFS5C404NAFT1G	NVMFS5C604NLT1G NVMFS5C404NT1G
NVMFS5C404NT3G		
NVMFS5C404NWFT1G	NVMFS5C404NWFAFT1G	
NVMFS5C404NWFT3G		
NVMFS5C410NT1G	NVMFS5C410NAFT1G	
NVMFS5C410NT3G		
NVMFS5C410NWFT1G	NVMFS5C410NWFAFT1G	
NVMFS5C410NWFT3G		
NVMFS5C426NT1G	NVMFS5C426NAFT1G	
NVMFS5C426NT3G		
NVMFS5C426NWFT1G	NVMFS5C426NWFAFT1G	
NVMFS5C426NWFT3G		
NVMFS5C430NT1G	NVMFS5C430NAFT1G	
NVMFS5C430NT3G		
NVMFS5C430NWFT1G	NVMFS5C430NWFAFT1G	
NVMFS5C430NWFT3G		
NVMFS5C442NT1G	NVMFS5C442NAFT1G	
NVMFS5C442NT3G		
NVMFS5C442NWFT1G	NVMFS5C442NWFAFT1G	
NVMFS5C442NWFT3G		
NVMFS5C450NT1G	NVMFS5C450NAFT1G	
NVMFS5C450NT3G		
NVMFS5C450NWFT1G	NVMFS5C450NWFAFT1G	
NVMFS5C450NWFT3G		