



# Final Product/Process Change Notification

Document #:FPCN25572Z21

Issue Date: 05 Feb 2024

<b>Title of Change:</b>	Update to <b>FPCN25572Z</b> - To include the reliability data of 3V Minigates SC88A package for the Qualification of Vanguard Fab and Assembly related changes for Logic parts.	
<b>Proposed Changed Material First Ship Date:</b>	12 Aug 2024 or earlier if approved by customer	
<b>Current Material Last Order Date:</b>	20 Nov 2023 <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 – Integrated circuits	
<b>Contact information:</b>	Contact your local onsemi Sales Office or <a href="mailto:logic.fpcn@onsemi.com">logic.fpcn@onsemi.com</a>	
<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>	2 Feb 2024	
<b>PPAP Availability Date:</b>	2 Mar 2024	
<b>Additional Reliability Data:</b>	Contact your local onsemi Sales Office or <a href="mailto:ChangKit.Mok@onsemi.com">ChangKit.Mok@onsemi.com</a>	
<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>	
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor	
Equipment	Production from a new equipment/tool which uses a different basic technology or which due to its unique form or function can be expected to influence the integrity of the final product	
Data Sheet	Change of datasheet parameters/electrical specification (min./max./typ. values) and/or AC/DC specification	
<b>Description and Purpose:</b>		
With reference to <b>FPCN25572Z</b> , this FPCN presents the information solely for 3V Minigates in SC88A package.		
	<b>From</b>	<b>To</b>
<b>Fab Site</b>	TPSCo	Vanguard

Datasheet Updates:

# NL17SV125 - AC Characteristics

Existing

New

AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V <sub>CC</sub> = 00	T <sub>A</sub> = 25°C			T <sub>A</sub> = -55°C to +125°C			Unit
				Min	Typ	Max	Min	Max		
t <sub>PHL</sub> , t <sub>PL</sub>	Propagation Delay, A to Y (Figures 3 and 4)	R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF	0.9	-	16.6	-	-	-	-	ns
			1.10 to 1.30	-	7.3	11.5	-	14.9		
		R <sub>L</sub> = 2 kΩ, C <sub>L</sub> = 15 pF	1.40 to 1.60	-	3.9	5.3	-	5.7		
			R <sub>L</sub> = 500 Ω, C <sub>L</sub> = 30 pF	1.65 to 1.95	-	2.7	4.3	-	4.6	
			2.3 to 2.7	-	1.9	2.6	-	3.0		
			2.7 to 3.6	-	1.6	2.6	-	2.8		
t <sub>ONL</sub> , t <sub>OL</sub>	Output Enable Time, OE to Y (Figures 3 and 4)	C <sub>L</sub> = 30 pF R <sub>1</sub> = R <sub>L</sub> = 1 kΩ	0.9	-	14	-	-	-	ns	
			1.10 to 1.30	-	6.0	9.7	-	16.4		
		1.40 to 1.60	-	4.0	6.0	-	7.5			
		1.65 to 1.95	-	3.0	4.5	-	5.0			
		2.3 to 2.7	-	2.0	3.0	-	3.4			
		2.7 to 3.6	-	1.2	2.6	-	2.9			

AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V <sub>CC</sub> = 00	T <sub>A</sub> = 25°C			T <sub>A</sub> = -55°C to +125°C			Unit
				Min	Typ	Max	Min	Max		
t <sub>PHL</sub> , t <sub>PL</sub>	Propagation Delay, A to Y (Figures 3 and 4)	R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF	0.9	-	24.5	-	-	-	ns	
			1.10 to 1.30	-	7.3	16.2	-	19.0		
		R <sub>L</sub> = 2 kΩ, C <sub>L</sub> = 15 pF	1.40 to 1.60	-	3.9	5.3	-	5.7		
			R <sub>L</sub> = 500 Ω, C <sub>L</sub> = 30 pF	1.65 to 1.95	-	2.7	4.3	-		4.6
			2.3 to 2.7	-	1.9	2.6	-	3.0		
			2.7 to 3.6	-	1.6	2.6	-	2.8		
t <sub>ONL</sub> , t <sub>OL</sub>	Output Enable Time, OE to Y (Figures 3 and 4)	C <sub>L</sub> = 30 pF R <sub>1</sub> = R <sub>L</sub> = 1 kΩ	0.9	-	21.3	-	-	-	ns	
			1.10 to 1.30	-	6.3	15.5	-	18.3		
		1.40 to 1.60	-	4.0	6.0	-	7.5			
		1.65 to 1.95	-	3.0	4.5	-	5.0			
		2.3 to 2.7	-	2.0	3.0	-	3.4			
		2.7 to 3.6	-	1.2	2.6	-	2.9			

Reason / Motivation for Change:

Supply disruption

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

None

Vanguard International Semiconductor, Taiwan

Marking of Parts/ Traceability of Change:

Custom source on label will show TW instead of JP to indicate new die source from Vanguard. Changed material may be identified by plant code or lot code too.

**Reliability Data Summary:**

**QV DEVICE NAME: NC7SP14P5X**

**RMS: S88008 / S88413**

**PACKAGE: SC88A**

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hours	0/231
Earlier Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hours	0/2400
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hours	0/231
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	-	0/693
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cycles	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hours	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hours	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/30

**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 available upon request.

**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
NLV17SV125DFT2G	NL17SV125DFT2G-Q	NC7SP14P5X