



Final Product/Process Change Notification

Document #:FPCN24802X

Issue Date:10 Mar 2023

Title of Change:	Qualification of Minigates Vanguard die in SC88 and SC88A Package
Proposed First Ship date:	30 Jun 2023 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or logic.fpcn@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Additional Reliability Data:	Contact your local onsemi Sales Office or ChangKit.Mok@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Custom source on label will show TW instead of JP (TPSCo) to indicate new die source from Vanguard.
Change Category:	Wafer Fab Change, Assembly Change
Change Sub-Category(s):	Manufacturing Site Addition, Manufacturing Process Change

Sites Affected:

onsemi Sites

onsemi Leshan, China

onsemi Seremban, Malaysia

External Foundry/Subcon Sites

Vanguard International Semiconductor, Taiwan

Description and Purpose:

This Final Notification announces that onsemi is qualifying Vanguard wafer fabrication for SC88 and SC88A package.

SC88 and SC88A package:

	From		To	
Assembly Site	# onsemi Seremban	Leshan Phoenix Semiconductor	# onsemi Seremban	Leshan Phoenix Semiconductor
Die Source	TPSCo	TPSCo	TPSCO or Vanguard	TPSCO or Vanguard

Only those approved OPNs under FPCN23285X are running at both sites (onsemi SBN and onsemi Leshan), else onsemi Leshan is the only site for before.

*Those * in the qualification vehicle column are the OPNs running at both onsemi Seremban and onsemi Leshan. Those without * in the qualification vehicle column are the OPNs running at onsemi Leshan only.*

There is no product marking change as a result of this change.



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We would also like to take this opportunity to inform customers to convert below orderable part numbers to the correct orderable part numbers in the future as we would like to standardize our orderable part number to our standard logic nomenclature.

Current Orderable Part Number	New Orderable Part Number
M74VHC1G125DFT1G	MC74VHC1G125DFT1G
M74VHC1G125DFT2G	MC74VHC1G125DFT2G
M74VHC1G126DFT1G	MC74VHC1G126DFT1G
M74VHC1G126DFT2G	MC74VHC1G126DFT2G
M74VHC1G132DFT1G	MC74VHC1G132DFT1G
M74VHC1G132DFT2G	MC74VHC1G132DFT2G
M74VHC1G135DFT1G	MC74VHC1G135DFT1G
M74VHC1G135DFT2G	MC74VHC1G135DFT2G
M74VHC1GT00DFT1G	MC74VHC1GT00DFT1G
M74VHC1GT00DFT2G	MC74VHC1GT00DFT2G
M74VHC1GT02DFT1G	MC74VHC1GT02DFT1G
M74VHC1GT02DFT2G	MC74VHC1GT02DFT2G
M74VHC1GT04DFT1G	MC74VHC1GT04DFT1G
M74VHC1GT04DFT2G	MC74VHC1GT04DFT2G
M74VHC1GT04DFT3G	MC74VHC1GT04DFT3G
M74VHC1GT08DFT1G	MC74VHC1GT08DFT1G
M74VHC1GT08DFT2G	MC74VHC1GT08DFT2G
M74VHC1GT125DF1G	MC74VHC1GT125DFT1G
M74VHC1GT125DF2G	MC74VHC1GT125DFT2G
M74VHC1GT126DF1G	MC74VHC1GT126DFT1G
M74VHC1GT126DF2G	MC74VHC1GT126DFT2G
M74VHC1GT14DFT1G	MC74VHC1GT14DFT1G
M74VHC1GT14DFT2G	MC74VHC1GT14DFT2G
M74VHC1GT32DFT1G	MC74VHC1GT32DFT1G
M74VHC1GT32DFT2G	MC74VHC1GT32DFT2G
M74VHC1GT50DFT1G	MC74VHC1GT50DFT1G
M74VHC1GT50DFT2G	MC74VHC1GT50DFT2G
M74VHC1GU04DFT1G	MC74VHC1GU04DFT1G
M74VHC1GU04DFT2G	MC74VHC1GU04DFT2G
MC74VHC1GU04DF1G	MC74VHC1GU04DFT1G

We will provide PCN samples using the current orderable part numbers, however, we expect customers to use the new orderable part numbers to place order in the future.



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Reliability Data Summary:

QV DEVICE NAME: NL27WZ14DFT2G

RMS: L85492 / L82712

PACKAGE: SC88

Test	Specification	Condition	Interval	Results
Earlier Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2400
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/308
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/308
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	-	0/924
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/308
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/308
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/308
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/40

QV DEVICE NAME: MC74VHC1G14DFT1G

RMS: S85493

PACKAGE: SC88A

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/77
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/77
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	-	0/231
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/77
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/10

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**](#).

To view attached Parts List:

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/s.

Part Number	Qualification Vehicle
NL27WZ16DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL27WZ14DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL27WZ07DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL27WZ06DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL27WZ04DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL27WZ04DFT1G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZU04DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ126DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ125DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ86DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ32DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ17DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ16DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ14DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ08DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ07DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ06DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ04DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ02DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL17SZ00DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL7SZ97DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL7SZ58DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL7SZ57DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL7SZ19DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL7SZ18DFT2G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZU04P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ17P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ16P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ14P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ14EP6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ07P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7WZ04P6X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZU04P5X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ386P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ374P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ373P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ332P6X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ175P6X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ157P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ126P5X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ58P6X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ57P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ38P5X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ32P5X	NL27WZ14DFT2G, MC74VHC1G14DFT1G

NC7SZ27P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ19P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ14P5X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NC7SZ11P6X	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
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NC7SZ18P6X	NL27WZ14DFT2G, MC74VHC1G14DFT1G
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NL27WZ17DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
NL18SZ125DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
MC74HC1G08DFT1G	*NL27WZ14DFT2G, MC74VHC1G14DFT1G
MC74HC1G04DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G

MC74HC1G04DFT1G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
MC74HC1G02DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
MC74HC1G00DFT2G	NL27WZ14DFT2G, MC74VHC1G14DFT1G
MC74HC1G00DFT1G	NL27WZ14DFT2G, MC74VHC1G14DFT1G