



Title of Change:	MiniGatestm Fab, Assembly Material and Test Change (SC88) and WZ/SZ Datasheet update.		
Proposed first ship date:	1 May 2019		
Contact information:	Contact your local ON Semiconductor Sales Office or <logic.fpcn@onsemi.com>		
Samples:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com> 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.		
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Joe.Chapple@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. ON Semiconductor 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>		
Change Part Identification:	CS code on the label will be changed from US to JP.		
Change Category:	☒ Wafer Fab Change ☒ Assembly Change ☐ Test Change ☐ Other _____		
Change Sub-Category(s):	☐ Manufacturing Site Addition ☒ Material Change ☒ Datasheet/Product Doc change ☒ Manufacturing Site Transfer ☐ Product specific change ☒ Shipping/Packaging/Marking ☒ Manufacturing Process Change ☐ Other: _____		
Sites Affected:	ON Semiconductor Sites: ON Leshan, China	External Foundry/Subcon Sites: Foundry Israel, Foundry Japan	
Description and Purpose:			
FPCN22348X was issued to qualify new die source in Japan for TinyLogic® to increase the front end capacity and standardizing materials.			
Material to be changed	Before Change (Existing flow)	After Change (new flow)	
Mold Compound	Henkel GR640 HV-L1 and MC GE-200F HWG	Henkel GR640 HV-L1	
Lead Frame	SC88 Lead frame	SC88 Lead frame with Vgroove	
Die Source	Foundry in Israel	Foundry in Japan	
Datasheet update as below:			
NL27WZ/NLJ27WZ/SL27WZ :			
Existing datasheet		New	
Max voltage rating changed from 7.0V to 6.5V (Excluding Automotive Devices)			
MAXIMUM RATINGS			
Symbol	Characteristics	Value	Units
V _{CC}	DC Supply Voltage	-0.5 to +7.0	V
V _I	DC Input Voltage	-0.5 ≤ V _I ≤ +7.0	V
V _O	DC Output Voltage Output in HIGH or LOW State (Note 1)	-0.5 ≤ V _O ≤ 7.0	V
MAXIMUM RATINGS			
Symbol	Characteristics	Value	Unit
V _{CC}	DC Supply Voltage TSOP-6, SC-88(NLV) SC-88, UDFN-6, SC-74	-0.5 to +7.0 -0.5 to +6.5	V
V _{IN}	DC Input Voltage TSOP-6, SC-88 (NLV) SC-88, UDFN-6, SC-74	-0.5 to +7.0 -0.5 to +6.5	V
V _{OUT}	DC Output Voltage (High or Low State) TSOP-6, SC-88(NLV) Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V _{CC} = 0 V)	-0.5 to V _{CC} +0.5 -0.5 to +7.0 -0.5 to +7.0	V
	DC Output Voltage SC-88, UDFN-6, SC-74 Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V _{CC} = 0 V)	-0.5 to V _{CC} +0.5 -0.5 to +6.5 -0.5 to +6.5	V



ESD and Latchup specifications updated.

V_{ESD}	ESD Withstand Voltage Human Body Model (Note 3) Machine Model (Note 4) Charged Device Model (Note 5)	> 2000 > 200 N/A	V
$I_{LATCHUP}$	Latchup Performance Above V_{CC} and Below GND at 125°C (Note 6)	±100	mA
V_{ESD}	ESD Withstand Voltage Human Body Model (Note 2) Machine Model (Note 3) Charged Device Model (Note 4)	> 2000 > 200 N/A	V
$I_{LATCHUP}$	Latchup Performance Above V_{CC} and Below GND at 125°C (Note 5)	±500	mA

V_{ESD}	ESD Withstand Voltage (Note 3)	Human Body Model Charged Device Model	2000 1000	V
$I_{LATCHUP}$	Latchup Performance (Note 4)		±100	mA

Existing datasheet

VIH/VIL Specs updated. (WZU04 will NOT be updated)

DC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Max	Max	
High-Level Input Voltage		V_{IH}	1.65–1.95 2.3 to 5.5	0.75 V_{CC} 0.7 V_{CC}			0.75 V_{CC} 0.7 V_{CC}			V
Low-Level Input Voltage		V_{IL}	1.65–1.95 2.3 to 5.5			0.25 V_{CC} 0.3 V_{CC}	0.25 V_{CC} 0.3 V_{CC}			V

New

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Max	Max	
V_{IH}	High-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	0.65 V_{CC} 0.70 V_{CC}	–	–	0.65 V_{CC} 0.70 V_{CC}	–	–	V
V_{IL}	Low-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	–	–	0.35 V_{CC} 0.30 V_{CC}	–	0.35 V_{CC} 0.30 V_{CC}	–	V

VT+ min / VT- max updated.

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
V_{T+}	Positive Input Threshold Voltage		2.3 2.7 3.0 4.5 5.5	1.0 1.2 1.3 1.9 2.2	1.5 2.0 2.0 2.7 3.1	1.8 2.0 2.2 3.1 3.6	1.0 1.2 1.3 1.9 2.2	1.8 2.0 2.2 3.1 3.6	1.8 2.0 2.2 3.1 3.6	1.0 1.2 1.3 1.9 2.2	1.5 2.0 2.0 2.7 3.1	1.8 2.0 2.2 3.1 3.6	V
V_{T-}	Negative Input Threshold Voltage		2.3 2.7 3.0 4.5 5.5	0.4 0.5 0.6 1.0 1.2	0.75 0.87 1.0 1.5 1.9	1.15 1.4 1.5 2.0 2.3	0.4 0.5 0.6 1.0 1.2	1.15 1.4 1.5 2.0 2.3	1.15 1.4 1.5 2.0 2.3	0.4 0.5 0.6 1.0 1.2	0.75 0.87 1.0 1.5 1.9	1.15 1.4 1.5 2.0 2.3	V
V_{IH}	Input Hysteresis Voltage		2.3 2.7 3.0 4.5 5.5	0.25 0.3 0.4 0.6 0.7	0.75 0.83 1.0 1.2 1.4	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	V

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
V_{T+}	Positive Input Threshold Voltage		1.65 2.3 2.7 3.0 4.5 5.5	–	1.0 1.5 1.7 1.9 2.2	1.4 1.8 2.0 2.2 3.1	–	–	1.4 1.8 2.0 2.2 3.1	V
V_{T-}	Negative Input Threshold Voltage		1.65 2.3 2.7 3.0 4.5 5.5	0.2 0.4 0.5 0.6 1.0	0.5 0.75 0.87 1.0 1.5	–	0.2 0.4 0.5 0.6 1.0	–	–	V
V_{IH}	Input Hysteresis Voltage		1.65 2.3 2.7 3.0 4.5 5.5	0.1 0.25 0.3 0.4 0.6	0.48 0.75 0.83 0.99 1.2	0.9 1.1 1.15 1.2 1.5	0.1 0.05 0.3 0.4 0.6	0.1 0.05 0.3 0.4 0.6	0.9 1.1 1.15 1.2 1.5	V

Existing datasheet

IIN specification condition clarified.

Input Leakage Current	$V_{IN} = 5.5\text{ V or GND}$	I_{IN}	0 to 5.5	±0.1	±1.0	µA
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New

I_{IN}	Input Leakage Current	$V_{IN} = 5.5\text{ V or GND}$	1.65 to 5.5	–	–	±0.1*	–	±1.0	µA
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Propagation Delay specification updated.

AC ELECTRICAL CHARACTERISTICS $t_{IN} = t_P = 2.5\text{ ns}$; $C_L = 50\text{ pF}$; $R_L = 500\text{ }\Omega$

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
Propagation Delay (Figure 3 and 4)	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$	t_{PLH} t_{PLH}	1.65	1.8	2.3	9.2	1.8	11.0		ns
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		1.8	1.8	4.4	7.6	1.8	8.4		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		2.5 ± 0.2	1.2	3.0	5.1	1.2	5.6		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		3.3 ± 0.3	0.8	2.2	3.4	0.8	3.8		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			1.2	2.9	4.5	1.2	5.0		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		5.0 ± 0.5	0.5	1.8	2.8	0.5	3.1		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			0.8	2.3	3.6	0.8	4.0		

AC ELECTRICAL CHARACTERISTICS $t_{IN} = t_P = 2.5\text{ ns}$; $C_L = 50\text{ pF}$; $R_L = 500\text{ }\Omega$

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
Propagation Delay (Figure 3 and 4)	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$	t_{PLH} t_{PLH}	1.65	1.8	2.3	9.2	1.8	11.0		ns
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		1.8	1.8	4.4	7.6	1.8	8.4		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		2.5 ± 0.2	1.2	3.0	5.1	1.2	5.6		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		3.3 ± 0.3	0.8	2.2	3.4	0.8	3.8		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			1.2	2.9	4.5	1.2	5.0		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		5.0 ± 0.5	0.5	1.8	2.8	0.5	3.1		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			0.8	2.3	3.6	0.8	4.0		

NL7SZ :

Existing datasheet

Max voltage rating changed from 7.0V to 6.5V (Excluding Automotive Devices)

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	DC Supply Voltage	–0.5 to +7.0	V
V_{IN}	DC Input Voltage	–0.5 to +7.0	V
V_{OUT}	DC Output Voltage	–0.5 to +7.0	V

New

MAXIMUM RATINGS

Symbol	Characteristics	Value	Unit
V_{CC}	DC Supply Voltage TSOP-6, SC-88(NLV) SC-88, UDFN-6, SC74	–0.5 to +7.0 –0.5 to +6.5	V
V_{IN}	DC Input Voltage TSOP-6, SC-88(NLV) SC-88, UDFN-6, SC74	–0.5 to +7.0 –0.5 to +6.5	V
V_{OUT}	DC Output Voltage TSOP-6, SC-88(NLV) Tri-State Mode (Note 1) Power-Down Mode ($V_{CC} = 0\text{ V}$)	–0.5 to $V_{CC} + 0.5$ –0.5 to +7.0 –0.5 to +7.0	V
	DC Output Voltage SC-88, UDFN-6, SC74 Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode ($V_{CC} = 0\text{ V}$)	–0.5 to $V_{CC} + 0.5$ –0.5 to +6.5 –0.5 to +6.5	V



ESD and Latchup specifications updated.

V_{ESD}	ESD Withstand Voltage	Human Body Model (Note 2) Machine Model (Note 3) Charged Device Model (Note 4)	>2000 >200 N/A	V
$I_{LATCHUP}$	Latchup Performance	Above V_{CC} and Below GND at 125°C (Note 5)	±500	mA

V_{ESD}	ESD Withstand Voltage (Note 3)	Human Body Model Charged Device Model	2000 1000	V
$I_{LATCHUP}$	Latchup Performance (Note 4)		±100	mA

Existing datasheet

VIH/VIL Specs updated. (WZU04 will NOT be updated)

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V _{CC} (V)	T _A = 25°C			T _A = -40°C to 85°C		Unit
				Min	Typ	Max	Min	Max	
V _{IH}	High-Level Input Voltage		1.65 2.3 to 5.5	0.75 V _{CC} 0.70 V _{CC}			0.75 V _{CC} 0.70 V _{CC}		V
V _{IL}	Low-Level Input Voltage		1.65 2.3-5.5			0.25 V _{CC} 0.30 V _{CC}		0.25 V _{CC} 0.30 V _{CC}	V

New

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V _{CC} (V)	T _A = 25°C			-55°C ≤ T _A ≤ 125°C		Units
				Min	Typ	Max	Min	Max	
V _{IH}	High-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	0.65 V _{CC} 0.70 V _{CC}	–	–	0.65 V _{CC} 0.70 V _{CC}	–	V
V _{IL}	Low-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	– –	–	0.35 V _{CC} 0.30 V _{CC}	– –	0.35 V _{CC} 0.30 V _{CC}	V

VT+ min / VT- max updated.

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V _{CC} (V)	T _A = 25°C			-55°C ≤ T _A ≤ 125°C		Units
				Min	Typ	Max	Min	Max	
V _{T+}	Positive Input Threshold Voltage		1.65	–	1.0	1.4	–	1.4	V
			2.3	–	1.5	1.8	–	1.8	
			2.7	–	1.7	2.0	–	2.0	
			3.0	–	1.9	2.2	–	2.2	
			4.5	–	2.7	3.1	–	3.1	
			5.5	–	3.3	3.6	–	3.6	
V _{T–}	Negative Input Threshold Voltage		1.65	0.2	0.5	–	0.2	–	V
			2.3	0.4	0.75	–	0.4	–	
			2.7	0.5	0.87	–	0.5	–	
			3.0	0.6	1.0	–	0.6	–	
			4.5	1.0	1.5	–	1.0	–	
			5.5	1.2	1.9	–	1.2	–	
V _H	Input Hysteresis Voltage		1.65	0.1	0.48	0.9	0.1	0.9	V
			2.3	0.25	0.75	1.1	0.25	1.1	
			2.7	0.3	0.83	1.15	0.3	1.15	
			3.0	0.4	0.93	1.2	0.4	1.2	
			4.5	0.6	1.2	1.5	0.6	1.5	
			5.5	0.7	1.4	1.7	0.7	1.7	

IIN specification condition clarified and added IOFF specification when not present.

I_{IN}	Input Leakage Current	$0 \leq V_{IN} \leq 5.5\text{ V}$	0 to 5.5			±0.1		±1.0		±1.0	µA
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I_{IN}	Input Leakage Current	$V_{IN} = 5.5\text{ V}$ or GND	1.65 to 5.5	–	–	±0.1*	–	±1.0	µA
I_{OFF}	Power Off Leakage Current	$V_{IN} = 5.5\text{ V}$ or $V_{OUT} = 5.5\text{ V}$	0	–	–	1.0	–	10	µA

Propagation Delay specification updated.

AC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Figure	Symbol	V _{CC}	T _A = 25°C			T _A = -55°C to 125°C		Unit
					Min	Typ	Max	Min	Max	
Propagation Delay A to Y ₀ or Y ₁	C _L = 15 pF R _D = 1.0 MΩ S = OPEN	Figures 1 & 3	t _{PLH} t _{PLH}	1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	2.0 1.0 0.8 0.5	6.3 3.6 2.7 2.0	10.1 5.7 4.0 3.1	2.0 1.0 0.8 0.5	10.5 6.0 4.3 3.3	nS
	C _L = 50 pF R _D = 500 Ω S = OPEN		3.3 ± 0.3 5.0 ± 0.5	1.2 0.8	3.4 2.5	4.9 3.9	1.2 0.8	5.4 4.2	nS	
	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}		1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	3.0 1.8 1.2 0.8	6.9 4.2 3.2 2.5	12 6.8 5.0 4.0	3.0 1.8 1.2 0.8	12.5 7.3 5.5 4.3	nS	
	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}		1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	2.5 1.5 0.8 0.3	6.0 4.0 2.9 1.8	10 6.8 4.9 3.5	2.5 1.5 0.8 0.3	10.5 7.1 5.3 3.7	nS	

AC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Figure	Symbol	V _{CC}	T _A = 25°C			T _A = -55°C to 125°C		Unit
					Min	Typ	Max	Min	Max	
Propagation Delay A to Y ₀ or Y ₁	C _L = 15 pF R _D = 1.0 MΩ S = OPEN	Figures 1 & 3	t _{PLH} t _{PLH}	1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	6.3 3.6 2.7 2.0	10.1 5.7 4.0 3.1		10.5 6.0 4.3 4.3	nS	
	C _L = 50 pF R _D = 500 Ω S = OPEN		Figures 1 & 3		3.3 ± 0.3 5.0 ± 0.5	3.4 2.5	4.9 3.9		5.4 4.2	nS
Output Enable Time	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}	Figures 1 & 3	t _{PLZ} t _{PLZ}	1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	6.9 4.2 3.2 2.5	12 6.8 5.0 4.0		12.5 7.3 5.5 4.3	nS	
	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}		Figures 1 & 3		1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	6.0 4.0 2.9 1.8	10 6.8 4.9 3.5		10.5 7.1 5.3 3.7	nS

**Reliability Data Summary:**

QV DEVICE NAME: NLV27WZ14DFT2G

RMS: L51921

PACKAGE: SC88

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/288
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/252
TC	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/297
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/273
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/234
PC	J-STD-020 JESD-A113	MSL 1 @260 °C		0/804
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30

Electrical Characteristic 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](#).

Part Number	Qualification Vehicle
NL27WZ04DFT1G	NLV27WZ14DFT2G
NL27WZ04DFT2G	NLV27WZ14DFT2G
NL27WZ06DFT2G	NLV27WZ14DFT2G
NL27WZ07DFT2G	NLV27WZ14DFT2G
NL27WZ14DFT2G	NLV27WZ14DFT2G
NL27WZ16DFT2G	NLV27WZ14DFT2G
NL27WZ17DFT2G	NLV27WZ14DFT2G
NL27WZU04DFT2G	NLV27WZ14DFT2G
NL7SZ18DFT2G	NLV27WZ14DFT2G
NL7SZ19DFT2G	NLV27WZ14DFT2G
NL7SZ57DFT2G	NLV27WZ14DFT2G
NL7SZ58DFT2G	NLV27WZ14DFT2G
NL7SZ97DFT2G	NLV27WZ14DFT2G
NL7SZ98DFT2G	NLV27WZ14DFT2G
NLJ27WZ14DFT2G	NLV27WZ14DFT2G
NLJ27WZ17DFT2G	NLV27WZ14DFT2G
NL27WZ14DFT4G	NLV27WZ14DFT2G
SL27WZ14DFT2G	NLV27WZ14DFT2G

Japanese translation of the notification starts here.
通知の日本語訳はここから始まります。

Note: *The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.*

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。



変更件名:	MiniGates™ の Fab、組み立て材料、およびテスト変更 (SC88)、ならびに WZ/SZ データシートの更新。																																				
初回出荷予定日:	1 May 2019																																				
連絡先情報:	現地のオン・セミコンダクター営業所または <logic.fpcn@onsemi.com> までお問い合わせください。																																				
サンプル:	現地のオン・セミコンダクター営業所または <PCN.samples@onsemi.com> までお問い合わせください。 サンプルは、この変更の初回通知、初回 PCN、または最終 PCN の日付から 30 日以内に要求してください。																																				
その他の信頼性データ:	現地のオン・セミコンダクター営業所または <Joe.Chapple@onsemi.com> までお問い合わせください。																																				
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変更カテゴリ:	☒ ウェハファブの変更 ☒ アセンブリの変更 ☐ 試験の変更 ☐ その他 _____																																				
変更サブカテゴリ:	☐ 製造拠点の追加 ☒ 材料の変更 ☒ データシート/製品資料の変更 ☒ 製造拠点の移転 ☐ 製品仕様の変更 ☒ 出荷/パッケージング/表記 ☒ 製造プロセスの変更 ☐ その他: _____																																				
影響を受ける拠点:	オン・セミコンダクター拠点: ON Leshan, China	外部製造工場 / 下請業者拠点: Foundry Israel, Foundry Japan																																			
説明および目的: FPCN22348X は TinyLogic®に関する FAB キャパシティ増強のための日本の新たなダイソースの認定、および材料の標準化を通知するためのものです。																																					
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データシートを以下のように更新します。 NL27WZ/NU27WZ/SL27WZ : Existing datasheet Max voltage rating changed from 7.0V to 6.5V (Excluding Automotive Devices) MAXIMUM RATINGS <table border="1"> <thead> <tr> <th>Symbol</th> <th>Characteristics</th> <th>Value</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>V_{CC}</td> <td>DC Supply Voltage</td> <td>-0.5 to +7.0</td> <td>V</td> </tr> <tr> <td>V_I</td> <td>DC Input Voltage</td> <td>-0.5 ≤ V_I ≤ +7.0</td> <td>V</td> </tr> <tr> <td>V_O</td> <td>DC Output Voltage Output in HIGH or LOW State (Note 1)</td> <td>-0.5 ≤ V_O ≤ 7.0</td> <td>V</td> </tr> </tbody> </table> New MAXIMUM RATINGS <table border="1"> <thead> <tr> <th>Symbol</th> <th>Characteristics</th> <th>Value</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>V_{CC}</td> <td>DC Supply Voltage TSOP-6, SC-88 (NLV) SC-88, UDFN-6, SC-74</td> <td>-0.5 to +7.0 -0.5 to +6.5</td> <td>V</td> </tr> <tr> <td>V_{IN}</td> <td>DC Input Voltage TSOP-6, SC-88 (NLV) SC-88, UDFN-6, SC-74</td> <td>-0.5 to +7.0 -0.5 to +6.5</td> <td>V</td> </tr> <tr> <td rowspan="2">V_{OUT}</td> <td>DC Output Voltage TSOP-6, SC-88 (NLV) Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V_{CC} = 0 V)</td> <td>-0.5 to V_{CC} +0.5 -0.5 to +7.0 -0.5 to +7.0</td> <td>V</td> </tr> <tr> <td>DC Output Voltage SC-88, UDFN-6, SC-74 Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V_{CC} = 0 V)</td> <td>-0.5 to V_{CC} +0.5 -0.5 to +6.5 -0.5 to +6.5</td> <td>V</td> </tr> </tbody> </table>			Symbol	Characteristics	Value	Units	V _{CC}	DC Supply Voltage	-0.5 to +7.0	V	V _I	DC Input Voltage	-0.5 ≤ V _I ≤ +7.0	V	V _O	DC Output Voltage Output in HIGH or LOW State (Note 1)	-0.5 ≤ V _O ≤ 7.0	V	Symbol	Characteristics	Value	Unit	V _{CC}	DC Supply Voltage TSOP-6, SC-88 (NLV) SC-88, UDFN-6, SC-74	-0.5 to +7.0 -0.5 to +6.5	V	V _{IN}	DC Input Voltage TSOP-6, SC-88 (NLV) SC-88, UDFN-6, SC-74	-0.5 to +7.0 -0.5 to +6.5	V	V _{OUT}	DC Output Voltage TSOP-6, SC-88 (NLV) Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V _{CC} = 0 V)	-0.5 to V _{CC} +0.5 -0.5 to +7.0 -0.5 to +7.0	V	DC Output Voltage SC-88, UDFN-6, SC-74 Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V _{CC} = 0 V)	-0.5 to V _{CC} +0.5 -0.5 to +6.5 -0.5 to +6.5	V
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ESD and Latchup specifications updated.

V_{ESD}	ESD Withstand Voltage Human Body Model (Note 3) Machine Model (Note 4) Charged Device Model (Note 5)	> 2000 > 200 N/A	V
$I_{LATCHUP}$	Latchup Performance Above V_{CC} and Below GND at 125°C (Note 6)	±100	mA

V_{ESD}	ESD Withstand Voltage Human Body Model (Note 2) Machine Model (Note 3) Charged Device Model (Note 4)	> 2000 > 200 N/A	V
$I_{LATCHUP}$	Latchup Performance Above V_{CC} and Below GND at 125°C (Note 5)	±500	mA

V_{ESD}	ESD Withstand Voltage (Note 3)	Human Body Model Charged Device Model	2000 1000	V
$I_{LATCHUP}$	Latchup Performance (Note 4)		±100	mA

Existing datasheet

VIH/VIL Specs updated. (WZU04 will NOT be updated)

DC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Max	Max	
High-Level Input Voltage		V_{IH}	1.65–1.95 2.3 to 5.5	0.75 V_{CC} 0.7 V_{CC}			0.75 V_{CC} 0.7 V_{CC}			V
Low-Level Input Voltage		V_{IL}	1.65–1.95 2.3 to 5.5			0.25 V_{CC} 0.3 V_{CC}	0.25 V_{CC} 0.3 V_{CC}			V

New

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Max	Max	
V_{IH}	High-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	0.65 V_{CC} 0.70 V_{CC}	–	–	0.65 V_{CC} 0.70 V_{CC}	–	–	V
V_{IL}	Low-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	–	–	0.35 V_{CC} 0.30 V_{CC}	–	0.35 V_{CC} 0.30 V_{CC}	–	V

VT+ min / VT- max updated.

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
V_{T+}	Positive Input Threshold Voltage		2.3 2.7 3.0 4.5 5.5	1.0 1.2 1.3 1.9 2.2	1.5 1.7 1.9 2.7 3.3	1.8 2.0 2.2 3.1 3.6	1.0 1.2 1.3 1.9 2.2	1.8 2.0 2.2 3.1 3.6	1.8 2.0 2.2 3.1 3.6	1.0 1.2 1.3 1.9 2.2	1.5 1.7 1.9 2.7 3.3	1.8 2.0 2.2 3.1 3.6	V
V_{T-}	Negative Input Threshold Voltage		2.3 2.7 3.0 4.5 5.5	0.4 0.5 0.6 1.0 1.2	0.75 0.87 1.0 1.5 1.9	1.15 1.4 1.5 2.0 2.3	0.4 0.5 0.6 1.0 1.2	1.15 1.4 1.5 2.0 2.3	1.15 1.4 1.5 2.0 2.3	0.4 0.5 0.6 1.0 1.2	0.75 0.87 1.0 1.5 1.9	1.15 1.4 1.5 2.0 2.3	V
V_{H}	Input Hysteresis Voltage		2.3 2.7 3.0 4.5 5.5	0.25 0.3 0.4 0.6 0.7	0.75 0.85 1.0 1.2 1.4	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	0.25 0.3 0.4 0.6 0.7	1.1 1.15 1.2 1.5 1.7	V

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
V_{T+}	Positive Input Threshold Voltage		1.65 2.3 2.7 3.0 4.5 5.5	–	1.0 1.5 1.7 1.9 2.2 3.1	1.4 1.8 2.0 2.2 3.1 3.6	–	–	1.4 1.8 2.0 2.2 3.1 3.6	V
V_{T-}	Negative Input Threshold Voltage		1.65 2.3 2.7 3.0 4.5 5.5	0.2 0.4 0.5 0.6 1.0 1.2	0.5 0.75 0.87 1.0 1.5 1.9	–	0.2 0.4 0.5 0.6 1.0 1.2	–	–	V
V_{H}	Input Hysteresis Voltage		1.65 2.3 2.7 3.0 4.5 5.5	0.1 0.25 0.3 0.4 0.6 0.7	0.48 0.75 0.85 0.99 1.2 1.4	0.9 1.1 1.15 1.2 1.5 1.7	0.1 0.05 0.3 0.4 0.6 0.7	–	–	V

Existing datasheet

IIN specification condition clarified.

Input Leakage Current	$V_{IN} = 5.5\text{ V or GND}$	I_{IN}	0 to 5.5	±0.1	±1.0	µA
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New

I_{IN}	Input Leakage Current	$V_{IN} = 5.5\text{ V or GND}$	1.65 to 5.5	–	–	±0.1*	–	±1.0	µA
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Propagation Delay specification updated.

AC ELECTRICAL CHARACTERISTICS $t_{in} = t_r = 2.5\text{ ns}$; $C_L = 50\text{ pF}$; $R_L = 500\text{ }\Omega$

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
Propagation Delay (Figure 3 and 4)	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$	t_{PLH} t_{PLL}	1.65	1.8	2.3	9.2	1.8	11.0		ns
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		1.8	1.8	4.4	7.6	1.8	8.4		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		2.5 ± 0.2	1.2	3.0	5.1	1.2	5.6		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		3.3 ± 0.3	0.8	2.2	3.4	0.8	3.8		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			1.2	2.9	4.5	1.2	5.0		
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		5.0 ± 0.5	0.5	1.8	2.8	0.5	3.1		
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			0.8	2.3	3.6	0.8	4.0		

AC ELECTRICAL CHARACTERISTICS $t_{in} = t_r = 2.5\text{ ns}$; $C_L = 50\text{ pF}$; $R_L = 500\text{ }\Omega$

Parameter	Condition	Symbol	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$			Units
				Min	Typ	Max	Min	Typ	Max	
Propagation Delay (Figure 3 and 4)	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$	t_{PLH} t_{PLL}	1.65	–	2.3	9.2	–	–	11.0	ns
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		1.8	–	4.4	7.6	–	–	8.4	
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		2.5 ± 0.2	–	3.0	5.1	–	–	5.6	
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		3.3 ± 0.3	–	2.2	3.4	–	–	3.8	
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			–	2.9	4.5	–	–	5.0	
	$R_L = 1\text{ M}\Omega$, $C_L = 15\text{ pF}$		5.0 ± 0.5	–	1.8	2.8	–	–	3.1	
	$R_L = 500\text{ }\Omega$, $C_L = 50\text{ pF}$			–	2.3	3.6	–	–	4.0	

NL7SZ :

Existing datasheet

Max voltage rating changed from 7.0V to 6.5V (Excluding Automotive Devices)

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	DC Supply Voltage	–0.5 to +7.0	V
V_{IN}	DC Input Voltage	–0.5 to +7.0	V
V_{OUT}	DC Output Voltage	–0.5 to +7.0	V

New

MAXIMUM RATINGS

Symbol	Characteristics	Value	Unit
V_{CC}	DC Supply Voltage TSOP-6, SC-88(NLV) SC-88, UDFN-6, SC74	–0.5 to +7.0 –0.5 to +6.5	V
V_{IN}	DC Input Voltage TSOP-6, SC-88(NLV) SC-88, UDFN-6, SC74	–0.5 to +7.0 –0.5 to +6.5	V
V_{OUT}	DC Output Voltage TSOP-6, SC-88(NLV) Tri-State Mode (Note 1) Power-Down Mode ($V_{CC} = 0\text{ V}$)	–0.5 to $V_{CC} + 0.5$ –0.5 to +7.0 –0.5 to +7.0	V
	DC Output Voltage SC-88, UDFN-6, SC74 Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode ($V_{CC} = 0\text{ V}$)	–0.5 to $V_{CC} + 0.5$ –0.5 to +6.5 –0.5 to +6.5	V



ESD and Latchup specifications updated.

V_{ESD}	ESD Withstand Voltage	Human Body Model (Note 2) Machine Model (Note 3) Charged Device Model (Note 4)	>2000 >200 N/A	V
$I_{LATCHUP}$	Latchup Performance	Above V_{CC} and Below GND at 125°C (Note 5)	±500	mA

V_{ESD}	ESD Withstand Voltage (Note 3)	Human Body Model Charged Device Model	2000 1000	V
$I_{LATCHUP}$	Latchup Performance (Note 4)		±100	mA

Existing datasheet

VIH/VIL Specs updated. (WZU04 will NOT be updated)

DC ELECTRICAL CHARACTERISTICS

			V _{CC} (V)	T _A = 25°C			T _A = -40°C to 85°C		Unit
Symbol	Parameter	Condition		Min	Typ	Max	Min	Max	
V _{IH}	High-Level Input Voltage		1.65 2.3 to 5.5	0.75 V _{CC} 0.70 V _{CC}			0.75 V _{CC} 0.70 V _{CC}		V
V _{IL}	Low-Level Input Voltage		1.65 2.3-5.5			0.25 V _{CC} 0.30 V _{CC}		0.25 V _{CC} 0.30 V _{CC}	V

New

DC ELECTRICAL CHARACTERISTICS

			V _{CC} (V)	T _A = 25°C			-55°C ≤ T _A ≤ 125°C		Units
Symbol	Parameter	Condition		Min	Typ	Max	Min	Max	
V _{IH}	High-Level Input Voltage			1.65 to 1.95 2.3 to 5.5	0.65 V _{CC} 0.70 V _{CC}	-	-	0.65 V _{CC} 0.70 V _{CC}	
V _{IL}	Low-Level Input Voltage		1.65 to 1.95 2.3 to 5.5	- -	-	0.35 V _{CC} 0.30 V _{CC}	-	0.35 V _{CC} 0.30 V _{CC}	

VT+ min / VT- max updated.

DC ELECTRICAL CHARACTERISTICS

DC ELECTRICAL CHARACTERISTICS			T _A = 25°C			-55°C ≤ T _A ≤ 125°C		Units	
Symbol	Parameter	Condition	V _{CC} (V)	Min	Typ	Max	Min		Max
V _{I+}	Positive Input Threshold Voltage		1.65	–	1.0	1.4	–	1.4	V
			2.3	–	1.5	1.8	–	1.8	
			2.7	–	1.7	2.0	–	2.0	
			3.0	–	1.9	2.2	–	2.2	
			4.5	–	2.7	3.1	–	3.1	
			5.5	–	3.3	3.6	–	3.6	
V _{I–}	Negative Input Threshold Voltage		1.65	0.2	0.5	–	0.2	–	V
			2.3	0.4	0.75	–	0.4	–	
			2.7	0.5	0.87	–	0.5	–	
			3.0	0.6	1.0	–	0.6	–	
			4.5	1.0	1.5	–	1.0	–	
			5.5	1.2	1.9	–	1.2	–	
V _{HI}	Input Hysteresis Voltage		1.65	0.1	0.48	0.9	0.1	0.9	V
			2.3	0.25	0.75	1.1	0.25	1.1	
			2.7	0.3	0.83	1.15	0.3	1.15	
			3.0	0.4	0.93	1.2	0.4	1.2	
			4.5	0.6	1.2	1.5	0.6	1.5	
			5.5	0.7	1.4	1.7	0.7	1.7	

IIN specification condition clarified and added IOFF specification when not present.

I_{IN}	Input Leakage Current	$0 \leq V_{IN} \leq 5.5\text{ V}$	0 to 5.5		±0.1	±1.0	±1.0	µA
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I_{IN}	Input Leakage Current	$V_{IN} = 5.5\text{ V or GND}$	1.65 to 5.5	–	–	±0.1*	–	±1.0	µA
I_{OFF}	Power Off Leakage Current	$V_{IN} = 5.5\text{ V or } V_{OUT} = 5.5\text{ V}$	0	–	–	1.0	–	10	µA

Propagation Delay specification updated.

AC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Figure	Symbol	V _{CC}	T _A = 25°C			T _A = -55°C to 125°C		Unit
					Min	Typ	Max	Min	Max	
Propagation Delay A to Y ₀ or Y ₁	C _L = 15 pF R _D = 1.0 MΩ S = OPEN	Figures 1 & 3	t _{PLH}	1.8 ± 0.15	2.0	6.3	10.1	2.0	10.5	nS
	t _{PLH}		2.5 ± 0.2	1.0	3.6	5.7	1.0	6.0		
				3.3 ± 0.3	0.8	2.7	4.0	0.8	4.3	
				5.0 ± 0.5	0.5	2.0	3.1	0.5	3.3	
	C _L = 50 pF R _D = 500 Ω S = OPEN	Figures 1 & 3		3.3 ± 0.3	1.2	3.4	4.9	1.2	5.4	nS
				5.0 ± 0.5	0.8	2.5	3.9	0.8	4.2	
Output Enable Time	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}	Figures 1 & 3	t _{PLZ}	1.8 ± 0.15	3.0	6.9	12	3.0	12.5	nS
	t _{PLH}		2.5 ± 0.2	1.8	4.2	6.8	1.8	7.3		
				3.3 ± 0.3	1.2	3.2	5.0	1.2	5.5	
				5.0 ± 0.5	0.8	2.5	4.0	0.8	4.3	
	C _L = 50 pF R _D , R _U = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}	Figures 1 & 3	t _{PLZ}	1.8 ± 0.15	2.5	6.0	10	2.5	10.5	nS
			t _{PLH}	2.5 ± 0.2	1.5	4.0	6.8	1.5	7.1	
				3.3 ± 0.3	0.8	2.9	4.9	0.8	5.3	
				5.0 ± 0.5	0.3	1.8	3.5	0.3	3.7	

AC ELECTRICAL CHARACTERISTICS

Parameter	Condition	Figure	Symbol	V _{CC}	T _A = 25°C			T _A = -55°C to 125°C		Unit
					Min	Typ	Max	Min	Max	
Propagation Delay A to Y ₀ or Y ₁	C _L = 15 pF R _D = 1.0 MΩ S = OPEN	Figures 1 & 3	t _{PLH} t _{PLH}	1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	–	6.3 3.6 2.7 2.0	10.1 6.0 4.0 3.1	–	10.5 6.0 4.3 3.3	nS
	C _L = 50 pF R _D = 500 Ω S = OPEN			3.3 ± 0.3 5.0 ± 0.5	–	3.4 2.5	4.9 3.9	–	5.4 4.2	
	C _L = 50 pF R _D = 500 Ω S = GND for t _{PLH} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}	Figures 1 & 3	t _{PLZ} t _{PLZ}	1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	–	6.9 4.2 3.2 2.5	12 7.3 5.5 4.0	–	12.5 7.3 5.5 4.3	nS
	C _L = 50 pF R _D , R _O = 500 Ω S = GND for t _{PLZ} S = V _{IN} for t _{PLZ} V _I = 2 × V _{CC}			1.8 ± 0.15 2.5 ± 0.2 3.3 ± 0.3 5.0 ± 0.5	–	6.0 4.0 2.9 1.8	10 6.8 4.9 3.5	–	10.5 7.1 5.3 3.7	



信頼性データの要約:

デバイス名: NLV27WZ14DFT2G

RMS: L51921

パッケージ: SC88

テスト	仕様	条件	間隔	結果
HTOL	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/288
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/252
TC	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/297
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/273
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/234
PC	J-STD-020 JESD-A113	MSL 1 @260 °C		0/804
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30

電気特性の要約: 電気的特性の提出は要求に基づきます。

影響を受ける部品の一覧:

注: 部品一覧には標準部品番号 (既製品) のみが記載されています。本 PCN の影響を受けるカスタム部品番号は、PCN メールで提供される顧客個別の付録、または PCN カスタマイズポータルに記載されています。

部品番号	認定試験用ビークル
NL27WZ04DFT1G	NLV27WZ14DFT2G
NL27WZ04DFT2G	NLV27WZ14DFT2G
NL27WZ06DFT2G	NLV27WZ14DFT2G
NL27WZ07DFT2G	NLV27WZ14DFT2G
NL27WZ14DFT2G	NLV27WZ14DFT2G
NL27WZ16DFT2G	NLV27WZ14DFT2G
NL27WZ17DFT2G	NLV27WZ14DFT2G
NL27WZU04DFT2G	NLV27WZ14DFT2G
NL7SZ18DFT2G	NLV27WZ14DFT2G
NL7SZ19DFT2G	NLV27WZ14DFT2G
NL7SZ57DFT2G	NLV27WZ14DFT2G
NL7SZ58DFT2G	NLV27WZ14DFT2G
NL7SZ97DFT2G	NLV27WZ14DFT2G
NL7SZ98DFT2G	NLV27WZ14DFT2G
NLJ27WZ14DFT2G	NLV27WZ14DFT2G
NLJ27WZ17DFT2G	NLV27WZ14DFT2G
NL27WZ14DFT4G	NLV27WZ14DFT2G
SL27WZ14DFT2G	NLV27WZ14DFT2G