

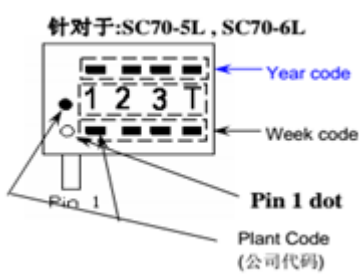
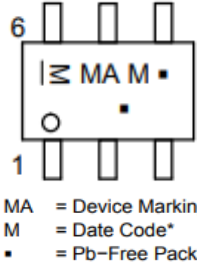


Final Product/Process Change Notification

Document # : FPCN22347X

Issue Date: 14 January 2019

Title of Change:	Former Fairchild TinyLogic® in SC70 and Fab Assembly Material and Assembly Location changing to SC88 and Datasheet Update		
Proposed first ship date:	21 April 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 <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. 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:	Marking Style will be change. CS code on the label will be changed from US to JP.		
Change Category:	<input checked="" type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input type="checkbox"/> Other _____		
Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Addition <input checked="" type="checkbox"/> Material Change <input checked="" type="checkbox"/> Datasheet/Product Doc change <input checked="" type="checkbox"/> Manufacturing Site Transfer <input type="checkbox"/> Product specific change <input checked="" type="checkbox"/> Shipping/Packaging/Marking <input checked="" type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Other: _____		
Sites Affected:	ON Semiconductor Sites: ON Leshan, China ON Cebu Philippines ON S. Portland Maine	External Foundry/Subcon Sites: Subcon China, Foundry Japan	
Description and Purpose:	FPCN22347 is issued to qualify new die source in Japan for TinyLogic® to increase the front end and back end capacity and standardizing materials.		
		Before Change (Existing flow)	After Change (New flow)
Assy Site	Subcon China	Onsemi Philippines	Onsemi Leshan
Wire	Au	Au	Cu
Lead frame	LF SC88 6L 70X86 PPF	LF SC 88 6L C194 STAMPED	SC88 Alloy 42 lead frame with Vgroove
Mold Compound	MC SUMITOMO G600 HF	MC GREEN PA CK5000A 13MMX3.9G	Henkel GR640 HV-L1
Die Attach	DA EPOXY ABLESTICK 2200D	DA EPXY HE ABLESTIK 84-1LMISR4 5CC	Eutectic
Plating	Preplated	100% Sn	100% Sn
Die Source	On South Portland	On South Portland	Foundry Japan

	From		To
	Subcon China	Onsemi Philippines	New Flow
Product marking change	<p>针对于:SC70-5L, SC70-6L</p>  <p>Above marking is for subcon China, For Onsemi Philippines there will be no plant code identifier</p>		 <p>MA = Device Marking M = Date Code* ▪ = Pb-Free Package</p> <p>(Note: Microdot may be in either location)</p> <p>*Date Code orientation and/or position may vary depending upon manufacturing location.</p>

For NC7SZ Family:

Existing datasheet

Corrected voltage level over recommended operating condition.
Description

Semiconductor's Ultra-High Speed (UHS) series of TinyLogic®. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} operating range. The inputs and output are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 6V, independent of V_{CC} operating voltage.

Changed 2V high and low input voltages.

V_{IH}	HIGH Level Input Voltage	1.65 to 1.95	0.75 V_{CC}	0.75 V_{CC}	V
		2.30 to 5.50	0.70 V_{CC}	0.70 V_{CC}	
V_{IL}	LOW Level Input Voltage	1.65 to 1.95	0.25 V_{CC}	0.25 V_{CC}	V
		2.30 to 5.50	0.30 V_{CC}	0.30 V_{CC}	

Corrected IIN VCC condition

I_{in}	Input Leakage Current	0 to 5.5	$0 \geq V_{in} \geq 5.5 V$	± 1	± 10	μA
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New

Description

Semiconductor's Ultra-High Speed (UHS) series of TinyLogic®. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} operating range. The inputs and output are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 5.5V, independent of V_{CC} operating voltage.

V_{IH}	HIGH Level Input Voltage	1.65 to 1.95	0.65 V_{CC}	0.65 V_{CC}	V
		2.30 to 5.50	0.70 V_{CC}	0.70 V_{CC}	
V_{IL}	LOW Level Input Voltage	1.65 to 1.95	0.35 V_{CC}	0.35 V_{CC}	V
		2.30 to 5.50	0.30 V_{CC}	0.30 V_{CC}	

I_{in}	Input Leakage Current	1.65 to 5.5	$0 \geq V_{in} \geq 5.5 V$	± 1	± 10	μA
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Existing datasheet

Positive and Negative threshold specs will be corrected on devices with hysteresis.

Symbol	Parameter	V _{CC} (V)	Conditions	T _{amb} =+25°C			T _{amb} =-40 to +85°C			Units
				Min.	Typ.	Max.	Min.	Max.		
V _I	Positive Threshold Voltage	1.65		0.60	1.00	1.40	0.60	1.40	V	
		1.80		0.70	1.10	1.50	0.70	1.50		
		2.30		1.00	1.40	1.80	1.00	1.80		
		3.00		1.30	1.75	2.20	1.30	2.20		
		4.50		1.90	2.45	3.10	1.90	3.10		
		5.50		2.20	2.90	3.60	2.20	3.60		
V _I	Negative Threshold Voltage	1.65		0.20	0.50	0.90	0.20	0.90	V	
		1.80		0.25	0.55	0.90	0.25	0.90		
		2.30		0.40	0.75	1.15	0.40	1.15		
		3.00		0.60	1.00	1.50	0.60	1.50		
		4.50		1.00	1.43	2.00	1.00	2.00		
		5.50		1.20	1.70	2.30	1.20	2.30		

New

Symbol	Parameter	V _{CC} (V)	Conditions	T _{amb} =+25°C			T _{amb} =-40 to +85°C			Units
				Min.	Typ.	Max.	Min.	Max.		
V _I	Positive Threshold Voltage	1.65		0.60	1.00	1.40	0.60	1.40	V	
		1.80		0.70	1.10	1.50	0.70	1.50		
		2.30		1.00	1.40	1.80	1.00	1.80		
		3.00		1.30	1.75	2.20	1.30	2.20		
		4.50		1.90	2.45	3.10	1.90	3.10		
		5.50		2.20	2.90	3.60	2.20	3.60		
V _I	Negative Threshold Voltage	1.65		0.20	0.50	0.90	0.20	0.90	V	
		1.80		0.25	0.55	0.90	0.25	0.90		
		2.30		0.40	0.75	1.15	0.40	1.15		
		3.00		0.60	1.00	1.50	0.60	1.50		
		4.50		1.00	1.43	2.00	1.00	2.00		
		5.50		1.20	1.70	2.30	1.20	2.30		

Min limits will be removed on all propagation delay and tri-state specifications

Symbol	Parameter	V _{CC}	Conditions	T _{amb} =+25°C			T _{amb} =-40 to +85°C			Units	Figure
				Min.	Typ.	Max.	Min.	Max.			
t _{PLH} , t _{PLL}	Propagation Delay	1.65		2.0	6.4	13.2	2.0	13.8	ns	Figure 4 Figure 6	
		1.80	C _I =15 pF, R _I =1 MΩ S _I =OPEN	2.0	5.3	11.0	2.0	11.5			
		2.50 to 2.0		0.8	3.4	7.5	0.8	8.0			
		3.00 to 3.0		0.5	2.5	6.2	0.5	5.5			
		5.00 to 5.0		0.5	2.1	4.5	0.5	4.8			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω S _I =OPEN	1.5	3.2	5.7	1.5	6.0			
t _{OL} , t _{OH}	Output Enable Time	1.65		2.0	6.4	13.2	2.0	15.8	ns	Figure 4 Figure 6	
		1.80	C _I =50 pF, R _I =500 Ω	2.0	7.0	12.5	2.0	13.0			
		2.50 to 2.0		1.5	4.0	9.5	1.5	9.0			
		3.00 to 3.0	S _I =0 ND for t _{OL} S _I =V _I for t _{OH}	1.5	3.5	8.2	1.5	8.5			
		5.00 to 5.0	V _{IN} =2V _{CC}	0.8	2.8	5.5	0.8	5.8			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω	2.0	6.5	13.2	2.0	14.5			
t _{OL} , t _{OH}	Output Disable Time	1.65		2.0	6.4	13.2	2.0	14.5	ns	Figure 4 Figure 6	
		1.80	C _I =50 pF, R _I =500 Ω	2.0	5.4	11.0	2.0	12.0			
		2.50 to 2.0		1.5	3.5	9.0	1.5	8.5			
		3.00 to 3.0	S _I =0 ND for t _{OL} S _I =V _I for t _{OH}	1.0	2.8	5.7	1.0	6.0			
		5.00 to 5.0	V _{IN} =2V _{CC}	0.5	2.1	4.7	0.5	5.0			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω	2.0	6.5	13.2	2.0	14.5			

Symbol	Parameter	V _{CC}	Conditions	T _{amb} =+25°C			T _{amb} =-40 to +85°C			Units	Figure
				Min.	Typ.	Max.	Min.	Max.			
t _{PLH} , t _{PLL}	Propagation Delay	1.65		0.8	6.4	13.2	0.8	13.8	ns	Figure 4 Figure 6	
		1.80	C _I =15 pF, R _I =1 MΩ S _I =OPEN	0.8	5.3	11.0	0.8	11.5			
		2.50 to 2.0		0.5	3.4	7.5	0.5	8.0			
		3.00 to 3.0		0.5	2.5	6.2	0.5	5.5			
		5.00 to 5.0		0.5	2.1	4.5	0.5	4.8			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω S _I =OPEN	1.5	3.2	5.7	1.5	6.0			
t _{OL} , t _{OH}	Output Enable Time	1.65		0.8	6.4	13.2	0.8	15.8	ns	Figure 4 Figure 6	
		1.80	C _I =50 pF, R _I =500 Ω	0.8	7.0	12.5	0.8	13.0			
		2.50 to 2.0		0.5	4.0	9.5	0.5	9.0			
		3.00 to 3.0	S _I =0 ND for t _{OL} S _I =V _I for t _{OH}	0.5	3.5	8.2	0.5	8.5			
		5.00 to 5.0	V _{IN} =2V _{CC}	0.5	2.8	5.5	0.5	5.8			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω	0.8	6.5	13.2	0.8	14.5			
t _{OL} , t _{OH}	Output Disable Time	1.65		0.8	6.4	13.2	0.8	14.5	ns	Figure 4 Figure 6	
		1.80	C _I =50 pF, R _I =500 Ω	0.8	5.4	11.0	0.8	12.0			
		2.50 to 2.0		0.5	3.5	9.0	0.5	8.5			
		3.00 to 3.0	S _I =0 ND for t _{OL} S _I =V _I for t _{OH}	0.5	2.8	5.7	0.5	6.0			
		5.00 to 5.0	V _{IN} =2V _{CC}	0.5	2.1	4.7	0.5	5.0			
		5.00 to 5.0	C _I =50 pF, R _I =500 Ω	0.8	6.5	13.2	0.8	14.5			

For NC7WZ Family:

Existing datasheet

Corrected voltage level over recommended operating condition.
Description

from ON Semiconductor's Ultra-High Speed (UHS) Series of TinyLogic. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a very broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} range. The inputs and outputs are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 7V independent of V_{CC} operating voltage. Schmitt trigger inputs achieve typically 1V hysteresis between the positive and negative-going input threshold voltage at 5V.

Absolute max ratings of 7.0V will be changed to 6.5V

Symbol	Parameter	Rating
V _{CC}	Supply Voltage	-0.5V to +7V
V _{IN}	DC Input Voltage	-0.5V to +7V
V _{OUT}	DC Output Voltage	-0.5V to +7V

Changed high and low input voltages.

V _{IN}	HIGH Level Input Voltage	1.65-1.96	0.75 x V _{CC}	0.75 x V _{CC}	V
		2.3-5.5	0.7 x V _{CC}	0.7 x V _{CC}	
V _{IL}	LOW Level Input Voltage <td>1.65-1.96</td> <td>0.25 x V_{CC}</td> <td>0.25 x V_{CC}</td> <td>V</td>	1.65-1.96	0.25 x V _{CC}	0.25 x V _{CC}	V
		2.3-5.5	0.3 x V _{CC}	0.3 x V _{CC}	

Corrected I_{IN} V_{CC} condition

I _{IN}	Input Leakage Current	0 to 5.5	0 ≤ V _{IN} ≤ 5.5 V	±1	±10	µA
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New

Description

from ON Semiconductor's Ultra-High Speed (UHS) Series of TinyLogic. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a very broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} range. The inputs and outputs are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 5.5V independent of V_{CC} operating voltage. Schmitt trigger inputs achieve typically 1V hysteresis between the positive and negative-going input threshold voltage at 5V.

Symbol	Parameter	Rating
V _{CC}	Supply Voltage	-0.5V to +6.5V
V _{IN}	DC Input Voltage	-0.5V to +6.5V
V _{OUT}	DC Output Voltage	-0.5V to +6.5V

V _{IN}	HIGH Level Input Voltage	1.65-1.96	0.65 x V _{CC}	0.65 x V _{CC}	V
		2.3-5.5	0.7 x V _{CC}	0.7 x V _{CC}	
V _{IL}	LOW Level Input Voltage	1.65-1.96	0.35 x V _{CC}	0.35 x V _{CC}	V
		2.3-5.5	0.3 x V _{CC}	0.3 x V _{CC}	

I _{IN}	Input Leakage Current	1.85 to 5.5	0 ≤ V _{IN} ≤ 5.5 V	±1	±10	µA
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Existing datasheet

Positive and Negative threshold specs will be corrected on devices with hysteresis.

Symbol	Parameter	V _{cc} (V)	Conditions	T _a +25°C		T _a ~-40 to +85°C		T _a ~-40 to +125°C		Units	
				Min.	Typ.	Max.	Min.	Max.	Min.		Max.
V _{th}	Positive Threshold Voltage	1.65		0.60	1.40	0.60	1.40	0.60	1.40	V	
		1.80		0.70	1.50	0.70	1.50	0.70	1.50		
		2.30		1.00	1.80	1.00	1.80	1.00	1.80		
		3.00		1.30	2.20	1.30	2.20	1.30	2.20		
		4.50		1.90	3.10	1.90	3.10	2.00	3.20		
		5.50		2.20	3.60	2.20	3.60	2.30	3.70		
V _{th}	Negative Threshold Voltage	1.65		0.20	0.50	0.20	0.50	0.30	0.90	V	
		1.80		0.25	0.56	0.25	0.56	0.35	1.00		
		2.30		0.40	0.75	1.15	0.40	1.15	0.50		1.20
		3.00		0.60	0.98	1.50	0.60	1.50	0.70		1.60
		4.50		1.00	1.42	2.00	1.00	2.00	1.10		2.20
		5.50		1.20	1.68	2.30	1.20	2.30	1.40		2.50

New

Symbol	Parameter	V _{cc} (V)	Conditions	T _a +25°C		T _a ~-40 to +85°C		T _a ~-40 to +125°C		Units
				Min.	Typ.	Max.	Min.	Max.	Min.	
V _{th}	Positive Threshold Voltage	1.65				1.40	1.40	1.40	1.40	V
		1.80				1.50	1.50	1.50	1.50	
		2.30				1.80	1.80	1.80	1.80	
		3.00				2.20	2.20	2.20	2.20	
		4.50				3.10	3.10	3.10	3.20	
		5.50				3.60	3.60	3.60	3.70	
V _{th}	Negative Threshold Voltage	1.65		0.20	0.50	0.20	0.30	0.30	0.90	V
		1.80		0.25	0.56	0.25	0.35	0.35	1.00	
		2.30		0.40	0.75	0.40	0.50	0.50	1.20	
		3.00		0.60	0.98	0.60	0.70	0.70	1.60	
		4.50		1.00	1.42	1.00	1.10	1.10	2.20	
		5.50		1.20	1.68	1.20	1.40	1.40	2.50	

Min limits will be removed on all propagation delay and tri-state specifications

Symbol	Parameter	V _{cc} (V)	T _a ~-25°C			T _a ~-40°C to +85°C			Units	Conditions	Figure Number
			Min.	Typ.	Max.	Min.	Max.	Min.			
t _{PLH} t _{PLH}	Propagation Delay A _q to Y _q	1.8 ± 0.15	2.0		12.0	2.0	13.0			C _L = 15 pF	Figures 1, 3
		2.5 ± 0.2	1.0		7.5	1.0	8.0			R _p = 1 MΩ	
		3.3 ± 0.3	0.8		5.2	0.8	5.5			S1+ Open	
t _{PLL} t _{PLL}	Propagation Delay A _q to Y _q	3.3 ± 0.3	1.2		5.7	1.2	6.0			C _L = 50 pF	Figures 1, 3
		5.0 ± 0.5	0.8		5.0	0.8	5.3			R _p = 500Ω	
										S1+ Open	
t _{OSLH} t _{OSLH}	Output to Output Slew (Note 5)	3.3 ± 0.3			1.0		1.0			C _L = 50 pF	Figures 1, 3
		5.0 ± 0.5			0.8		0.8			R _p = 500Ω	
t _{DEL} t _{DEL}	Output Enable Time	1.8 ± 0.15	3.0		14.0	3.0	15.0			C _L = 50 pF	Figures 1, 3
		2.5 ± 0.2	1.8		8.5	1.8	9.0			R _p , R _p = 500 Ω	
		3.3 ± 0.3	1.2		6.2	1.2	6.5			S1 = GND for t _{DELH}	
t _{DEL} t _{DEL}	Output Disable Time	1.8 ± 0.15	2.5		12.0	2.5	13.0			C _L = 50 pF	Figures 1, 3
		2.5 ± 0.2	1.5		8.0	1.5	8.5			R _p , R _p = 500 Ω	
		3.3 ± 0.3	0.8		5.7	0.8	6.0			S1 = GND for t _{DELH}	

Symbol	Parameter	V _{cc} (V)	T _a ~-25°C			T _a ~-40°C to +85°C			Units	Conditions	Figure Number
			Min.	Typ.	Max.	Min.	Max.	Min.			
t _{PLH} t _{PLH}	Propagation Delay A _q to Y _q	1.8 ± 0.15			12.0			13.0		C _L = 15 pF	Figures 1, 3
		2.5 ± 0.2			7.5			8.0		R _p = 1 MΩ	
		3.3 ± 0.3			5.2			5.5		S1+ Open	
t _{PLL} t _{PLL}	Propagation Delay A _q to Y _q	3.3 ± 0.3			5.7			6.0		C _L = 50 pF	Figures 1, 3
		5.0 ± 0.5			5.0			5.3		R _p = 500Ω	
										S1+ Open	
t _{OSLH} t _{OSLH}	Output to Output Slew (Note 5)	3.3 ± 0.3			1.0			1.0		C _L = 50 pF	Figures 1, 3
		5.0 ± 0.5			0.8			0.8		R _p = 500Ω	
t _{DEL} t _{DEL}	Output Enable Time	1.8 ± 0.15			14.0			15.0		C _L = 50 pF	Figures 1, 3
		2.5 ± 0.2			8.5			9.0		R _p , R _p = 500 Ω	
		3.3 ± 0.3			6.2			6.5		S1 = GND for t _{DELH}	
t _{DEL} t _{DEL}	Output Disable Time	1.8 ± 0.15			12.0			13.0		C _L = 50 pF	Figures 1, 3
		2.5 ± 0.2			8.0			8.5		R _p , R _p = 500 Ω	
		3.3 ± 0.3			5.7			6.0		S1 = GND for t _{DELH}	

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
NC7SZ10P6X	NLV27WZ14DFT2G
NC7SZ11P6X	NLV27WZ14DFT2G
NC7SZ157P6X	NLV27WZ14DFT2G
NC7SZ175P6X	NLV27WZ14DFT2G
NC7SZ18P6X	NLV27WZ14DFT2G
NC7SZ19P6X	NLV27WZ14DFT2G
NC7SZ27P6X	NLV27WZ14DFT2G
NC7SZ332P6X	NLV27WZ14DFT2G
NC7SZ373P6X	NLV27WZ14DFT2G
NC7SZ374P6X	NLV27WZ14DFT2G
NC7SZ386P6X	NLV27WZ14DFT2G
NC7SZ57P6X	NLV27WZ14DFT2G
NC7SZ58P6X	NLV27WZ14DFT2G
NC7WZ04P6X	NLV27WZ14DFT2G
NC7WZ07P6X	NLV27WZ14DFT2G
NC7WZ14EP6X	NLV27WZ14DFT2G
NC7WZ14P6X	NLV27WZ14DFT2G
NC7WZ16P6X	NLV27WZ14DFT2G
NC7WZ17P6X	NLV27WZ14DFT2G
NC7WZU04P6X	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。



最終製品 / プロセス変更通知

文書番号# : FPCN22347X

発行日 : 14 January 2019

変更件名:	旧 FairchildTinyLogic® (SC70) についての Fab 拠点、組立て材料、および組立て拠点の変更、ならびにデータシートの更新		
初回出荷予定日:	21 April 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.co> 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 <ChangKit.Mok@onsemi.com> までお問い合わせください。		
通知種別:	これは、お客様宛の最終製品 / プロセス変更通知 (FPCN) です。FPCN は、変更実施の 90 日前に発行されます。オン・セミコンダクターは、この通知の送付から 30 日以内に書面による問い合わせがない限り、この変更が承諾されたものとみなします。お問い合わせは、<PCN.Support@onsemi.com> 宛てにお願いします。		
変更部品の識別:	マーキング様式が変更されます。ラベルの CS (もしくは DIFFUSED IN) コードは US から JP に変更されます		
変更カテゴリ:	<input checked="" type="checkbox"/> ウェハファブの変更 <input checked="" type="checkbox"/> アセンブリの変更 <input checked="" type="checkbox"/> 試験の変更 <input type="checkbox"/> その他 _____		
変更サブカテゴリ:	<input type="checkbox"/> 製造拠点の追加 <input checked="" type="checkbox"/> 材料の変更 <input checked="" type="checkbox"/> データシート/製品資料の変更 <input checked="" type="checkbox"/> 製造拠点の移転 <input type="checkbox"/> 製品仕様の変更 <input checked="" type="checkbox"/> 出荷/パッケージング/表記 <input checked="" type="checkbox"/> 製造プロセスの変更 <input type="checkbox"/> 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 ON Cebu Philippines ON S. Portland Maine	外部製造工場 / 下請業者拠点: Subcon China, Foundry Japan	
説明および目的:	FPCN22347 は TinyLogic® の生産能力を増強するため日本の新たなダイソースを認定し、組立て材料の標準化を図ることを通知するためのものです。		
	変更前の表記		変更後の表記
組み立て拠点	Subcon China	Onsemi Philippines	Onsemi Leshan
ワイヤ	Au	Au	Cu
リードフレーム	LF SC88 6L 70X86 PPF	LF SC 88 6L C194 STAMPED	SC88 Alloy 42 lead frame with Vgroove
モールド・コンパウンド	MC SUMITOMO G600 HF	MC GREEN PA CK5000A 13MMX3.9G	Henkel GR640 HV-L1
ダイ接着剤	DA EPOXY ABLESTICK 2200D	DA EPXY HE ABLESTIK 84-1LMISR4 5CC	Eutectic
メッキ	Preplated	100% Sn	100% Sn
ダイソース	On South Portland	On South Portland	Foundry Japan



	変更前		変更後
	Subcon China	Onsemi Philippines	New Flow
製品表示変更	<p>针对于:SC70-5L, SC70-6L</p> <p>Year code</p> <p>Week code</p> <p>Pin 1 dot</p> <p>Plant Code (公司代码)</p>		<p>MA = Device Marking</p> <p>M = Date Code*</p> <p>▪ = Pb-Free Package</p> <p>(Note: Microdot may be in either location)</p> <p>*Date Code orientation and/or position may vary depending upon manufacturing location.</p>
	<p>Above marking is for subcon China, For Onsemi Philippines there will be no plant code identifier</p>		

NC7SZ ファミリーについて:

Existing datasheet

Corrected voltage level over recommended operating condition.

Description

Semiconductor's Ultra-High Speed (UHS) series of TinyLogic®. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} operating range. The ~~inputs and output are high-impedance~~ when V_{CC} is 0V. ~~Inputs tolerate voltages up to 6V.~~ Independent of V_{CC} operating voltage.

Changed 2V high and low input voltages.

V_{in}	HIGH Level Input Voltage	1.65 to 1.95	2.30 to 5.50	0.75 V_{CC}	0.75 V_{CC}	0.75 V_{CC}	0.75 V_{CC}	V
V_L	LOW Level Input Voltage	1.65 to 1.95	2.30 to 5.50	0.25 V_{CC}	0.25 V_{CC}	0.30 V_{CC}	0.30 V_{CC}	V

Corrected IIN VCC condition

I_{in}	Input Leakage Current	0 to 5.5	0 $\geq V_{in} \geq 5.5V$	± 1	± 10	μA
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New

Description

Semiconductor's Ultra-High Speed (UHS) series of TinyLogic®. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} operating range. The ~~inputs and output are high-impedance~~ when V_{CC} is 0V. ~~Inputs tolerate voltages up to 6V.~~ Independent of V_{CC} operating voltage.

V_{in}	HIGH Level Input Voltage	1.65 to 1.95	2.30 to 5.50	0.65 V_{CC}	0.65 V_{CC}	0.70 V_{CC}	0.70 V_{CC}	V
V_L	LOW Level Input Voltage	1.65 to 1.95	2.30 to 5.50	0.35 V_{CC}	0.35 V_{CC}	0.30 V_{CC}	0.30 V_{CC}	V

I_{in}	Input Leakage Current	1.65 to 5.5	0 $\geq V_{in} \geq 5.5V$	± 1	± 10	μA
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Existing datasheet

Positive and Negative threshold specs will be corrected on devices with hysteresis.

Symbol	Parameter	V _{CC} (V)	Conditions	T _A =+25°C			T _A =-40 to +85°C			Units
				Min.	Typ.	Max.	Min.	Max.		
V _I	Positive Threshold Voltage	1.65	C _I =15 pF R _I =1 MΩ S _I =OPEN	0.60	1.00	1.40	0.60	1.40	V	
		1.80		0.70	1.10	1.50	0.70	1.50		
		2.30		1.00	1.40	1.80	1.00	1.80		
		3.00		1.30	1.75	2.20	1.30	2.20		
		4.50		1.50	2.45	3.10	1.90	3.10		
		5.50		2.20	2.90	3.60	2.20	3.60		
V _I	Negative Threshold Voltage	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	0.20	0.50	0.90	0.20	0.90	V	
		1.80		0.25	0.55	0.90	0.25	0.90		
		2.30		0.40	0.75	1.15	0.40	1.15		
		3.00		0.60	1.00	1.50	0.60	1.50		
		4.50		1.00	1.43	2.00	1.00	2.00		
		5.50		1.20	1.70	2.30	1.20	2.30		

New

Symbol	Parameter	V _{CC} (V)	Conditions	T _A =+25°C			T _A =-40 to +85°C			Units
				Min.	Typ.	Max.	Min.	Max.		
V _I	Positive Threshold Voltage	1.65	C _I =15 pF R _I =1 MΩ S _I =OPEN	0.60	1.00	1.40	0.60	1.40	V	
		1.80		0.70	1.10	1.50	0.70	1.50		
		2.30		1.00	1.40	1.80	1.00	1.80		
		3.00		1.30	1.75	2.20	1.30	2.20		
		4.50		1.50	2.45	3.10	1.90	3.10		
		5.50		2.20	2.90	3.60	2.20	3.60		
V _I	Negative Threshold Voltage	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	0.20	0.50	0.90	0.20	0.90	V	
		1.80		0.25	0.55	0.90	0.25	0.90		
		2.30		0.40	0.75	1.15	0.40	1.15		
		3.00		0.60	1.00	1.50	0.60	1.50		
		4.50		1.00	1.43	2.00	1.00	2.00		
		5.50		1.20	1.70	2.30	1.20	2.30		

Min limits will be removed on all propagation delay and tri-state specifications

Symbol	Parameter	V _{CC}	Conditions	T _A =+25°C			T _A =-40 to +85°C			Units	Figure
				Min.	Typ.	Max.	Min.	Max.			
t _{pd} (ns)	Propagation Delay	1.65	C _I =15 pF, R _I =1 MΩ S _I =OPEN	2.0	6.4	13.2	2.0	13.8	ns	Figure 4 Figure 6	
		1.80		2.0	5.3	11.0	2.0	11.5			
		2.50 ±0.20		0.8	3.4	7.5	0.8	8.0			
		3.30 ±0.30		0.5	2.5	5.2	0.5	5.5			
		5.00 ±0.50		0.5	2.1	4.5	0.5	4.8			
		6.00 ±0.60		1.5	3.2	5.7	1.5	6.0			
t _{en} (ns)	Output Enable Time	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	2.0	8.4	15.0	2.0	15.6	ns	Figure 4 Figure 6	
		1.80		2.0	7.0	12.5	2.0	13.0			
		2.50 ±0.20		1.5	4.0	8.5	1.5	9.0			
		3.30 ±0.30		1.5	3.5	6.2	1.5	6.5			
		5.00 ±0.50		0.8	2.9	5.5	0.8	5.8			
		6.00 ±0.60		0.8	2.6	5.0	0.8	5.3			
t _{od} (ns)	Output Disable Time	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	2.0	6.5	13.2	2.0	14.5	ns	Figure 4 Figure 6	
		1.80		2.0	5.4	11.0	2.0	12.0			
		2.50 ±0.20		1.5	3.5	8.0	1.5	8.5			
		3.30 ±0.30		1.0	2.8	5.7	1.0	6.0			
		5.00 ±0.50		0.5	2.1	4.7	0.5	5.0			
		6.00 ±0.60		0.5	2.1	4.7	0.5	5.0			

Symbol	Parameter	V _{CC}	Conditions	T _A =+25°C			T _A =-40 to +85°C			Units	Figure
				Min.	Typ.	Max.	Min.	Max.			
t _{pd} (ns)	Propagation Delay	1.65	C _I =15 pF, R _I =1 MΩ S _I =OPEN	0.60	1.00	1.40	0.60	1.40	ns	Figure 4 Figure 6	
		1.80		0.70	1.10	1.50	0.70	1.50			
		2.50 ±0.20		0.8	3.4	7.5	0.8	8.0			
		3.30 ±0.30		0.5	2.5	5.2	0.5	5.5			
		5.00 ±0.50		0.5	2.1	4.5	0.5	4.8			
		6.00 ±0.60		1.5	3.2	5.7	1.5	6.0			
t _{en} (ns)	Output Enable Time	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	2.0	8.4	15.0	2.0	15.6	ns	Figure 4 Figure 6	
		1.80		2.0	7.0	12.5	2.0	13.0			
		2.50 ±0.20		1.5	4.0	8.5	1.5	9.0			
		3.30 ±0.30		1.5	3.5	6.2	1.5	6.5			
		5.00 ±0.50		0.8	2.9	5.5	0.8	5.8			
		6.00 ±0.60		0.8	2.6	5.0	0.8	5.3			
t _{od} (ns)	Output Disable Time	1.65	C _I =50 pF, R _I =500 Ω S _I =OPEN	2.0	6.5	13.2	2.0	14.5	ns	Figure 4 Figure 6	
		1.80		2.0	5.4	11.0	2.0	12.0			
		2.50 ±0.20		1.5	3.5	8.0	1.5	8.5			
		3.30 ±0.30		1.0	2.8	5.7	1.0	6.0			
		5.00 ±0.50		0.5	2.1	4.7	0.5	5.0			
		6.00 ±0.60		0.5	2.1	4.7	0.5	5.0			

NC7WZ ファミリーについて:

Existing datasheet

Corrected voltage level over recommended operating condition.
Description

from ON Semiconductor's Ultra-High Speed (UHS) Series of TinyLogic. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a very broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} range. The inputs and outputs are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 7V independent of V_{CC} operating voltage. Schmitt trigger inputs achieve typically 1V hysteresis between the positive- and negative-going input threshold voltage at 5V.

Absolute max ratings of 7.0V will be changed to 6.5V

Symbol	Parameter	Rating
V _{CC}	Supply Voltage	-0.5V to +7V
V _{IN}	DC Input Voltage	-0.5V to +7V
V _{OUT}	DC Output Voltage	-0.5V to +7V

Changed high and low input voltages.

V _{IN}	HIGH Level Input Voltage	1.65-1.95	0.75 x V _{CC}	0.75 x V _{CC}	0.75 x V _{CC}	V
		2.3-5.5	0.7 x V _{CC}	0.7 x V _{CC}	0.7 x V _{CC}	
V _{IL}	LOW Level Input Voltage	1.65-1.95	0.25 x V _{CC}	0.25 x V _{CC}	0.25 x V _{CC}	V
		2.3-5.5	0.3 x V _{CC}	0.3 x V _{CC}	0.3 x V _{CC}	

Corrected I_{IN} V_{CC} condition

I _{IN}	Input Leakage Current	0 to 5.5	0 ± V _{IN} ≥ 5.5 V	±1	±10	µA
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New

Description

from ON Semiconductor's Ultra-High Speed (UHS) Series of TinyLogic. The device is fabricated with advanced CMOS technology to achieve ultra-high speed with high output drive while maintaining low static power dissipation over a very broad V_{CC} operating range. The device is specified to operate over the 1.65V to 5.5V V_{CC} range. The inputs and outputs are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 5.5V independent of V_{CC} operating voltage. Schmitt trigger inputs achieve typically 1V hysteresis between the positive- and negative-going input threshold voltage at 5V.

Symbol	Parameter	Rating
V _{CC}	Supply Voltage	-0.5V to +6.5V
V _{IN}	DC Input Voltage	-0.5V to +6.5V
V _{OUT}	DC Output Voltage	-0.5V to +6.5V

V _{IN}	HIGH Level Input Voltage	1.65-1.95	0.65 x V _{CC}	0.65 x V _{CC}	0.65 x V _{CC}	V
		2.3-5.5	0.7 x V _{CC}	0.7 x V _{CC}	0.7 x V _{CC}	
V _{IL}	LOW Level Input Voltage	1.65-1.95	0.35 x V _{CC}	0.35 x V _{CC}	0.35 x V _{CC}	V
		2.3-5.5	0.3 x V _{CC}	0.3 x V _{CC}	0.3 x V _{CC}	

I _{IN}	Input Leakage Current	1.65 to 5.5	0 ± V _{IN} ≥ 5.5 V	±1	±10	µA
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Existing datasheet

Positive and Negative threshold specs will be corrected on devices with hysteresis.

Symbol	Parameter	V _{CC} (V)	Conditions	T _A =+25°C			T _A =-40 to +85°C		T _A =-40 to +125°C		Units
				Min.	Typ.	Max.	Min.	Max.	Min.	Max.	
V _T	Positive Threshold Voltage	1.65		0.60	1.40	0.60	1.40	0.60	1.40		V
		1.80		0.70	1.50	0.70	1.50	0.70	1.50		
		2.30		1.00	1.80	1.00	1.80	1.00	1.80		
		3.00		1.30	2.20	1.30	2.20	1.30	2.20		
		4.50		1.90	3.10	1.90	3.10	2.00	3.20		
		5.50		2.30	3.60	2.30	3.60	2.30	3.70		
V _T	Negative Threshold Voltage	1.65		0.20	0.50	0.20	0.50	0.20	0.50		V
		1.80		0.25	0.58	0.25	0.58	0.25	0.58		
		2.30		0.40	0.75	0.40	0.75	0.40	0.75		
		3.00		0.60	0.98	0.60	0.98	0.60	0.98		
		4.50		1.00	1.42	1.00	1.42	1.10	1.42		
		5.50		1.20	1.68	1.20	1.68	1.40	2.50		

New

Symbol	Parameter	V _{CC} (V)	Conditions	T _A =+25°C			T _A =-40 to +85°C		T _A =-40 to +125°C		Units
				Min.	Typ.	Max.	Min.	Max.	Min.	Max.	
V _T	Positive Threshold Voltage	1.65				1.40	1.40	1.40			V
		1.80				1.50	1.50	1.50			
		2.30				1.80	1.80	1.80			
		3.00				2.20	2.20	2.20			
		4.50				3.10	3.10	3.20			
		5.50				3.60	3.60	3.70			
V _T	Negative Threshold Voltage	1.65		0.20	0.50	0.20	0.50	0.30	0.90		V
		1.80		0.25	0.58	0.25	0.58	0.35	0.95		
		2.30		0.40	0.75	0.40	0.75	0.50	1.20		
		3.00		0.60	0.98	0.60	0.98	0.70	1.60		
		4.50		1.00	1.42	1.00	1.42	1.10	2.20		
		5.50		1.20	1.68	1.20	1.68	1.40	2.50		

Min limits will be removed on all propagation delay and tri-state specifications.

Symbol	Parameter	V _{CC} (V)	T _A =+25°C			T _A =-40 to +85°C		Units	Conditions	Figure Number
			Min.	Typ.	Max.	Min.	Max.			
t _{PLH}	Propagation Delay A ₀ to Y ₀	1.8 ± 0.15	2.0	12.0	2.0	13.0		C _L = 15 pF	Figures 1-3	
t _{PLH}		2.5 ± 0.2	1.0	7.5	1.0	8.0	ns	R _D = 1 MΩ S ₁ = Open		
t _{PLH}		3.3 ± 0.3	0.8	5.2	0.8	5.5				
t _{PLL}	Propagation Delay A ₀ to Y ₀	3.3 ± 0.3	1.2	5.7	1.2	6.0		C _L = 50 pF R _D = 500Ω S ₁ = Open	Figures 1-3	
t _{PLL}		5.0 ± 0.5	0.8	5.0	0.8	5.3	ns			
t _{PLL}		3.3 ± 0.3	1.2	5.7	1.2	6.0				
t _{OSLH}	Output to Output Strobe (Note 5)	3.3 ± 0.3		1.0		1.0		C _L = 50 pF R _D = 500Ω S ₁ = Open	Figures 1-3	
t _{OSLH}		5.0 ± 0.5		0.8		0.8	ns			
t _{OSLH}		3.3 ± 0.3		1.0		1.0				
t _{DEL}	Output Enable Time	1.8 ± 0.15	3.0	14.0	3.0	15.0		C _L = 50 pF R _D , R _U = 500 Ω	Figures 1-3	
t _{DEL}		2.5 ± 0.2	1.8	8.5	1.8	9.0	ns	S ₁ = GND for t _{DEL} S ₁ = V _I for t _{DEL}		
t _{DEL}		3.3 ± 0.3	1.2	6.2	1.2	6.5		V _I = 2 × V _{CC}		
t _{DIS}	Output Disable Time	1.8 ± 0.15	2.5	12.0	2.5	13.0		C _L = 50 pF R _D , R _U = 500 Ω	Figures 1-3	
t _{DIS}		2.5 ± 0.2	1.5	8.0	1.5	8.5	ns	S ₁ = GND for t _{DIS} S ₁ = V _I for t _{DIS}		
t _{DIS}		3.3 ± 0.3	0.8	5.7	0.8	6.0		V _I = 2 × V _{CC}		

Symbol	Parameter	V _{CC} (V)	T _A =+25°C			T _A =-40 to +85°C		Units	Conditions	Figure Number
			Min.	Typ.	Max.	Min.	Max.			
t _{PLH}	Propagation Delay A ₀ to Y ₀	1.8 ± 0.15		12.0		13.0		C _L = 15 pF	Figures 1-3	
t _{PLH}		2.5 ± 0.2		7.5		8.0	ns	R _D = 1 MΩ S ₁ = Open		
t _{PLH}		3.3 ± 0.3		5.2		5.5				
t _{PLL}	Propagation Delay A ₀ to Y ₀	3.3 ± 0.3		5.7		6.0		C _L = 50 pF R _D = 500Ω S ₁ = Open	Figures 1-3	
t _{PLL}		5.0 ± 0.5		5.0		5.3	ns			
t _{PLL}		3.3 ± 0.3		5.7		6.0				
t _{OSLH}	Output to Output Strobe (Note 5)	3.3 ± 0.3		1.0		1.0		C _L = 50 pF R _D = 500Ω S ₁ = Open	Figures 1-3	
t _{OSLH}		5.0 ± 0.5		0.8		0.8	ns			
t _{OSLH}		3.3 ± 0.3		1.0		1.0				
t _{DEL}	Output Enable Time	1.8 ± 0.15		14.0		15.0		C _L = 50 pF R _D , R _U = 500 Ω	Figures 1-3	
t _{DEL}		2.5 ± 0.2		8.5		9.0	ns	S ₁ = GND for t _{DEL} S ₁ = V _I for t _{DEL}		
t _{DEL}		3.3 ± 0.3		6.2		6.5		V _I = 2 × V _{CC}		
t _{DIS}	Output Disable Time	1.8 ± 0.15		12.0		13.0		C _L = 50 pF R _D , R _U = 500 Ω	Figures 1-3	
t _{DIS}		2.5 ± 0.2		8.0		8.5	ns	S ₁ = GND for t _{DIS} S ₁ = V _I for t _{DIS}		
t _{DIS}		3.3 ± 0.3		5.7		6.0		V _I = 2 × V _{CC}		

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	認定試験用ピークル
NC7SZ10P6X	NLV27WZ14DFT2G
NC7SZ11P6X	NLV27WZ14DFT2G
NC7SZ157P6X	NLV27WZ14DFT2G
NC7SZ175P6X	NLV27WZ14DFT2G
NC7SZ18P6X	NLV27WZ14DFT2G
NC7SZ19P6X	NLV27WZ14DFT2G
NC7SZ227P6X	NLV27WZ14DFT2G
NC7SZ332P6X	NLV27WZ14DFT2G
NC7SZ373P6X	NLV27WZ14DFT2G
NC7SZ374P6X	NLV27WZ14DFT2G
NC7SZ386P6X	NLV27WZ14DFT2G
NC7SZ57P6X	NLV27WZ14DFT2G
NC7SZ58P6X	NLV27WZ14DFT2G
NC7WZ04P6X	NLV27WZ14DFT2G
NC7WZ07P6X	NLV27WZ14DFT2G
NC7WZ14EP6X	NLV27WZ14DFT2G
NC7WZ14P6X	NLV27WZ14DFT2G
NC7WZ16P6X	NLV27WZ14DFT2G
NC7WZ17P6X	NLV27WZ14DFT2G
NC7WZU04P6X	NLV27WZ14DFT2G