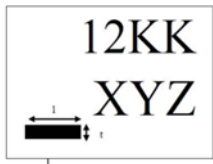





Title of Change:	Former Fairchild Tiny Logic® MicroPak 8lds Die and Back End Material Change, Assembly and Test Transfer and Datasheet Change.																						
Proposed first ship date:	23 January 2019																						
Contact information:	Contact your local ON Semiconductor Sales Office or < 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:	Affected product will be marked with new plant code.																						
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 S. Portland, Maine	External Foundry/Subcon Sites: Subcon Thailand External Foundry Japan																					
Description and Purpose:																							
Qualify new die source for Former Fairchild Tiny Logic® and transfer to a new subcon site to increase capacity.																							
	<table border="1"> <thead> <tr> <th>Material to be changed</th> <th>Before Change (Existing flow)</th> <th>After Change (new flow)</th> </tr> </thead> <tbody> <tr> <td>Assy Site</td> <td>Subcon Thailand</td> <td>Subcon Thailand</td> </tr> <tr> <td>Mold Compound</td> <td>MC CEL9220HF13H HF</td> <td>MOLDING COMPOUND; G700LTD</td> </tr> <tr> <td>Wire</td> <td>Au</td> <td>PCC</td> </tr> <tr> <td>Lead Frame</td> <td>LF UQFN 8L C7025 Cu 1.6X1.6 ETCHED UPPF</td> <td>LF PPF+RT-UPG</td> </tr> <tr> <td>Die Attach</td> <td>DA EPOXY HE ABLEBOND 8006NS 10CC 14G NON CON</td> <td>NON-CONDUCTIVE DIE ATTACH FILM; HR-5104</td> </tr> <tr> <td>Die Source</td> <td>Onsemi Fab in Maine US</td> <td>Foundry in Japan</td> </tr> </tbody> </table>		Material to be changed	Before Change (Existing flow)	After Change (new flow)	Assy Site	Subcon Thailand	Subcon Thailand	Mold Compound	MC CEL9220HF13H HF	MOLDING COMPOUND; G700LTD	Wire	Au	PCC	Lead Frame	LF UQFN 8L C7025 Cu 1.6X1.6 ETCHED UPPF	LF PPF+RT-UPG	Die Attach	DA EPOXY HE ABLEBOND 8006NS 10CC 14G NON CON	NON-CONDUCTIVE DIE ATTACH FILM; HR-5104	Die Source	Onsemi Fab in Maine US	Foundry in Japan
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	From	To
Product marking change	<p><u>MicroPak MLP/ Micro MLP Top And Micro Pak 2 Top Mark Layout</u></p>  <p>Pin #1 identifier l = 0.4 mm (Min) t = 0.08 mm (Min)</p> <p>1ST LINE MARKING:</p> <p>12 : Device Code KK : Lot Trace Code (&K)</p> <p>2ND LINE MARKING:</p> <p>XY : Two Digit Date Code (&2) Z : Assembly Plant Code (&Z) (Appendix A)</p> <p>Existing Plant Code is H</p>	<p><u>MicroPak MLP/ Micro MLP Top And Micro Pak 2 Top Mark Layout</u></p>  <p>Pin #1 identifier l = 0.4 mm (Min) t = 0.08 mm (Min)</p> <p>1ST LINE MARKING:</p> <p>12 : Device Code KK : Lot Trace Code (&K)</p> <p>2ND LINE MARKING:</p> <p>XY : Two Digit Date Code (&2) Z : Assembly Plant Code (&Z) (Appendix A)</p> <p>New Plant Code is S</p>

Datasheet change: The original datasheet will be left active on the www.onsemi.com customer web site for comparison purposes until the FPCN expires. The new datasheet will become visible on the web site on that FPCN expiration."

Existing datasheet

- Power Down High-Impedance Inputs/Outputs
- Over-Voltage Tolerance Inputs Facilitate 5V to 3V Translation
- Proprietary Noise/EMI Reduction Circuitry
- Ultra-Small MicroPak™ Package
- Space-Saving USB Surface Mount Package

1.65V to 5.5V V_{CC}. The inputs and outputs are high impedance when V_{CC} is 0V. Inputs tolerate voltages up to 7V, independent of V_{CC} operating voltage.

The signal level applied to the D input is transferred to the Q output during the positive-going transition of the CLK pulse.

Symbol	Parameter	Min.	Max.	Unit
V _{CC}	Supply Voltage	-0.5	7.0	V
V _{IN}	DC Input Voltage	-0.5	7.0	V
V _{OUT}	DC Output Voltage	-0.5	7.0	V

I_{IN}	Input Leakage Current	0 to 5.5	$0 \leq V_{IN} \leq 5.5V$			± 0.1		± 1.0	μA
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New

- Power Down High-Impedance Inputs/Outputs
- Over-Voltage Tolerance Inputs Facilitate 5V to 3V Translation
- Proprietary Noise/EM Reduction Circuitry

1.65V to 5.5V V_{CC}. 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.

The signal level applied to the D input is transferred to the Q output during the positive-going transition of the CLK pulse.

Symbol	Parameter	Min.	Max.	Unit
V _{CC}	Supply Voltage	-0.5	6.5	V
V _{IN}	DC Input Voltage	-0.5	6.5	V
V _{OUT}	DC Output Voltage	-0.5	6.5	V

I_{IN}	Input Leakage Current	1.65 to 5.5	$0 \leq V_{IN} \leq 5.5V$			± 0.1		± 1.0	μA
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Existing datasheet

Symbol	Parameter	V _{CC} (V)	Conditions	T _A =+25°C			T _A =-40 to +85°C		Units
				Min.	Typ.	Max.	Min.	Max.	
V _p	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 _s	Negative Threshold Voltage	1.65		0.20	0.50	0.80	0.20	0.80	
		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	

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				
t _{PLH}	Propagation Delay	1.8 ± 0.15	2.0	12.0	2.0	13.0	ns	C _L = 15 pF R _O = 1 MΩ S1 = Open	ns	Figures 1, 3	
t _{PHL}	A _N to Y _N	2.5 ± 0.2	1.0	7.5	1.0	8.0					
		3.3 ± 0.3	0.8	5.2	0.8	5.5					
		5.0 ± 0.5	0.5	4.5	0.5	4.8					
t _{PLH}	Propagation Delay	3.3 ± 0.3	1.2	5.7	1.2	6.0	ns	C _L = 50 pF R _O = 500Ω S1 = Open	ns	Figures 1, 3	
t _{PHL}	A _N to Y _N	5.0 ± 0.5	0.8	5.0	0.8	5.3					
t _{OSLH}	Output to Output Skew	3.3 ± 0.3		1.0		1.0	ns	C _L = 50 pF R _O = 500Ω S1 = Open	ns	Figures 1, 3	
t _{OSHL}	(Note 5)	5.0 ± 0.5		0.8		0.8					
t _{PLZL}	Output Enable Time	1.8 ± 0.15	3.0	14.0	3.0	15.0	ns	C _L = 50 pF R _D , R _U = 500 Ω S1 = GND for t _{PLZH} S1 = V _I for t _{PLZL} V _I = 2 × V _{CC}	ns	Figures 1, 3	
t _{PHZ}		2.5 ± 0.2	1.8	8.5	1.8	9.0					
		3.3 ± 0.3	1.2	6.2	1.2	6.5					
		5.5 ± 0.5	0.8	5.5	0.8	5.8					
t _{PLZL}	Output Disable Time	1.8 ± 0.15	2.5	12.0	2.5	13.0	ns	C _L = 50 pF R _D , R _U = 500 Ω S1 = GND for t _{PLZH} S1 = V _I for t _{PLZL} V _I = 2 × V _{CC}	ns	Figures 1, 3	
t _{PHZ}		2.5 ± 0.2	1.5	8.0	1.5	8.5					
		3.3 ± 0.3	0.8	5.7	0.8	6.0					
		5.0 ± 0.5	0.3	4.7	0.3	5.0					

New

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

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				
t _{PLH}	Propagation Delay	1.8 ± 0.15		12.0		13.0	ns	C _L = 15 pF R _D = 1 MΩ S1 = Open		Figures 1, 3	
t _{PHL}	A _N to Y _N	2.5 ± 0.2		7.5		8.0					
		3.3 ± 0.3		5.2		5.5					
		5.0 ± 0.5		4.5		4.8					
t _{PLH}	Propagation Delay	3.3 ± 0.3		5.7		6.0	ns	C _L = 50 pF R _D = 500Ω S1 = Open		Figures 1, 3	
t _{PHL}	A _N to Y _N	5.0 ± 0.5		5.0		5.3					
t _{OSLH}	Output to Output Skew	3.3 ± 0.3		1.0		1.0	ns	C _L = 50 pF R _D = 500Ω S1 = Open		Figures 1, 3	
t _{OSHL}	(Note 5)	5.0 ± 0.5		0.8		0.8					
t _{PLZL}	Output Enable Time	1.8 ± 0.15		14.0		15.0	ns	C _L = 50 pF R _D , R _U = 500 Ω S1 = GND for t _{PLZH} S1 = V _I for t _{PLZL} V _I = 2 × V _{CC}		Figures 1, 3	
t _{PHZ}		2.5 ± 0.2		8.5		9.0					
		3.3 ± 0.3		6.2		6.5					
		5.0 ± 0.5		5.5		5.8					
t _{PLZL}	Output Disable Time	1.8 ± 0.15		12.0		13.0	ns	C _L = 50 pF R _D , R _U = 500 Ω S1 = GND for t _{PLZH} S1 = V _I for t _{PLZL} V _I = 2 × V _{CC}		Figures 1, 3	
t _{PHZ}		2.5 ± 0.2		8.0		8.5					
		3.3 ± 0.3		5.7		6.0					
		5.0 ± 0.5		4.7		5.0					

Reliability Data Summary:

DEVICE: NC7SZ74L8X

RMS: W45201

PACKAGE: UQFN8

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, Vcc = 6.6V (1.2X of Vcc max)	1008 hours	0/240
HTSL	JESD22-A103	Ta= 150°C	1008 hours	0/240
PC	J-STD-020 JESD-A113	MSL 1@260°C	-	0/720
TC + PC	JESD22-A104	Ta= -65°C to +150°C	500 cycles	0/240
HAST + PC	JESD22-A110	130°C, 85% RH, 18.8psig, bias, Vcc=5.5V	192 hours	0/240
uHAST + PC	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hours	0/240
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/90
SD	JSTD002	Ta = 245C, 10 sec	-	0/30

**Electrical Characteristic Summary:**

Electrical characteristics Available upon request.

List of Affected Parts:

Part Number	Qualification Vehicle
NC7SZ74L8X	NC7SZ74L8X
NC7NZ34L8X	
NC7WZ125L8X	
NC7WZ86L8X	
NC7WZ126L8X	
NC7NZ17L8X	
NC7WZ02L8X	
NC7NZ04L8X	
NC7WZ08L8X	
NC7WZ241L8X	
NC7WZ00L8X	
NC7NZ14L8X	
NC7WZ240L8X	
NC7WZ32L8X	
NC7WZ38L8X	
NC7WZ132L8X	