



# Process Change Notice #1611215

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<b>PCN Issue Date:</b> 11/21/2016	<b>Effective Date:</b> 2/24/2017	
<b>Title:</b> CP2102N Datasheet and Errata update		
<b>PCN Type:</b>		
<input checked="" type="checkbox"/> <b>Datasheet</b>	<input type="checkbox"/> <b>Foundry</b>	<input type="checkbox"/> <b>Packing</b>
<input type="checkbox"/> <b>Product Revision</b>	<input type="checkbox"/> <b>Assembly</b>	<input type="checkbox"/> <b>Labeling</b>
<input type="checkbox"/> <b>Discontinuance</b>	<input type="checkbox"/> <b>Test</b>	<input checked="" type="checkbox"/> <b>Other</b>
<b>Last Order Date:</b> NA		
<b>PCN Details</b>		
<b>Description of Change:</b>		
Silicon Labs is pleased to announce the following datasheet update: The CP2102N data sheet was updated from Revision 1.0 to Revision 1.1.		
<ol style="list-style-type: none"> <li>Updated the minimum Operating Supply Voltage on VDD to 3.0 V in 1. Feature List and Ordering Information, 3.1.1 Recommended Operating Conditions, 3.1.4 Configuration Memory, and Figure 2.3 Connection Diagram with Voltage Regulator Not Used on page 3.</li> <li>Updated 4.3.6 Clock Output (CLK) to specify that the clock is not present when the device is in USB Suspend.</li> <li>Updated QFN24 bottom pad label to GND instead of VSS.</li> <li>Adjusted D, E, and aaa in QFN28 Package Dimensions.</li> <li>Adjusted D, E, and L in QFN24 Package Dimensions.</li> </ol>		
Silicon Labs is also pleased to announce the following Errata update: The CP2102N A01 errata includes the following errata for A01 revision. These issues will be solved in A01 devices with a date code of 1639 or later.		
<ol style="list-style-type: none"> <li>Systems using CP2102N may see devices fail to respond until a power-on reset. If a device fails to respond properly, remove and replace power until the device properly responds. Devices with a date code of 1639 or later will not have this issue.</li> <li>CP2102N devices can fail to notify the host of an error flag if an error occurs while the host is reading the UART status. Devices with a date code of 1639 or later will not have this issue.</li> <li>Devices may draw additional current on the order of normal operation mode when not connected to USB and in the self-powered configuration. The devices may not enter suspend mode properly if the USB host is disconnected. This issue is fixed in devices with a date code of 1639 or later.</li> </ol>		
<b>Reason for Change:</b>		
Silicon Labs has announced an errata document and updated datasheet for CP2102N A01 devices. Please visit <a href="http://www.silabs.com">www.silabs.com</a> for more information.		
<b>Impact on Form, Fit, Function, Quality, Reliability:</b>		
This change is considered a minor change which does not affect form, fit, function, quality, or reliability.		



Appendix

**CP2102N AEC-Q100 Qualification Report**



W7101F1 - Product Qualification Report Record Rev. H

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CP2102N, HHGrace Fabrication, ASECL and UTACTH Assembly							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
<b>Test Group A – Accelerated Environment Stress Tests - 20GFN - CuPd Wire ASECL</b>							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q037190	0/77	1		Pass
			Q037191	0/80	1	3 lots	
			Q037192	0/80	1	0/237	
UHASt	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q037199	0/81	1		Pass
			Q037200	0/80	1	3 lots	
			Q037202	0/82	1	0/243	
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q037196	0/80	1		Pass
			Q037197	0/80	1	3 lots	
			Q037198	0/80	1	0/240	
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q037193	0/30	1		Pass
			Q037194	0/30	1	3 lots	
			Q037195	0/30	1	0/90	
<b>Test Group A – Accelerated Environment Stress Tests - 24GFN - CuPd Wire UTACTH</b>							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q035792	0/80	1		Pass
			Q035788	0/77	1	3 lots	
			Q035789	0/80	1	0/237	
UHASt	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q037163	0/80	1		Pass
			Q037164	0/80	1	3 lots	
			Q037165	0/80	1	0/240	
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q038520	0/80	1		Pass
			Q038521	0/80	1	3 lots	
			Q038522	0/80	1	0/240	
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q035682	0/30	1		Pass
			Q037977	0/80	1	3 lots	
			Q037159	0/30	1	0/140	
<b>Test Group A – Accelerated Environment Stress Tests - 28GFN - CuPd Wire UTACTH</b>							
HAST	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q035792	0/80	1		Pass
			Q035788	0/77	1	3 lots	
			Q035789	0/80	1	0/237	
UHASt	JA110 130°C, 85%RH Vcc=3.6V, 96 hours	3 lots, N=>77	Q037163	0/80	1		Pass
			Q037164	0/80	1	3 lots	
			Q037165	0/80	1	0/240	
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q037160	0/80	1		Pass
			Q037161	0/80	1	3 lots	
			Q037162	0/80	1	0/240	
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q035682	0/30	1		Pass
			Q037977	0/80	1		
			Q037159	0/30	1	4 lots	
			Q037806	0/45	1	0/185	

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Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
<b>Test Group B – Accelerated Lifetime Simulation Tests</b>							
HTOL	JA108 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=3.6V, 1000 hours	3 lots, N=>77	Q035684 Q035685 Q037250	0/84 0/84 0/80		3 lots 0/248	Pass
LTOL	JA108 -40°C, Dynamic Vcc=3.6V, 1000 hours	1 lot, N=>32	Q036550	0/35		1 lots 0/35	Pass
ELFR	AEC-Q100-008 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=3.6V, 48 hours	3 lots, N=>800	Q035681 Q036910 Q037251 Q036509	0/839 0/839 0/836 0/840		4 lots 0/3354	Pass
Data Retention High Temp	AEC Q100-005 150°C, 1000hrs	3 lots, N=>39	Q035781 Q035783 Q037252	0/45 0/44 0/45		3 lots 0/134	Pass
Data Retention Low Temp	AEC Q100-005 25°C, 1000hrs	3 lots, N=>38	Q035784 Q035786 Q037253	0/45 0/45 0/45		3 lots 0/135	Pass
NVM P/E Cycling High Temp	AEC Q100-005 85°C, 1000hrs	3 lots, N=>77	Q035787 Q035782 Q037254	0/84 0/84 0/84		3 lots 0/252	Pass
NVM P/E Cycling Lowtemp	AEC Q100-005 55°C, 1000hrs	3 lots, N=>77	Q035791 Q035785 Q037255	0/80 0/80 0/84		3 lots 0/244	Pass
<b>Test Group C – Package Assembly Integrity Tests</b>							
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30 20QFN	Q037487	0/5	2	1 lots 0/5	Pass
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30 28QFN	Q037489	0/5	3	1 lots 0/5	Pass
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30 24QFN	Q038577	0/5	4	1 lots 0/5	Pass

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Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q036561		5		2 kV
			Q035689		5		2 kV
			Q037643		5		2 kV
ESD-CDM	AEC-Q100-011	1 lot, N=>3	Q036705		2		1500 V
			Q035688		3		1250 V
			Q037648		3		1250 V
			Q036558		3		1500 V
			Q038628		4		1500 V
Latch Up	AEC-Q100-004 ±200mA	1 lot, N=>6	Q037647	125 °C			Pass
			Q037674	25 °C			Pass
Electromagnetic Compatibility	SAE J1752	1 lot, N=>1	Q038023				Pass

Notes:

1. Parts are Pre-conditioned at MSL2/260°C
2. 20-QFN
3. 28-QFN
4. 24-QFN
5. Five USB-related pins passed 8 kV. They are D+, D-, VBUS, VSS, VREGIN.

This report applies to the following part numbers:
CP2102N-A01-GQFN20 CP2102N-A01-GQFN24 CP2102N-A01-GQFN28