

<b>PCN Number:</b>	20240723008.1	<b>PCN Date:</b>	July 23, 2024																		
<b>Title:</b>	Qualification of AIZU using qualified Process Technology, Die Revision, Datasheet update and additional Assembly Site/BOM options for select devices																				
<b>Customer Contact:</b>	Change Management Team	<b>Dept:</b>	Quality Services																		
<b>Proposed 1<sup>st</sup> Ship Date:</b>	October 21, 2024	<b>Sample requests accepted until:</b>	August 22, 2024*																		
<b>*Sample requests received after August 22, 2024 will not be supported.</b>																					
<b>Change Type:</b>																					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design																		
<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Data Sheet																		
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change																		
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site																		
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process																		
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material																		
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process																		
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Site																		
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Material																		
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Process																		
<b>PCN Details</b>																					
<b>Description of Change:</b>																					
Texas Instruments is pleased to announce the qualification of its AIZU fabrication facility as an additional Wafer Fab option in addition to Assembly site/BOM options for the devices listed below.																					
<table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab Site</th> </tr> <tr> <th>Current Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Additional Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td>DFAB</td> <td>LBCSOI</td> <td>200 mm</td> <td>AIZU</td> <td>LBCSOI2</td> <td>200 mm</td> </tr> </tbody> </table>			Current Fab Site			Additional Fab Site			Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter	DFAB	LBCSOI	200 mm	AIZU	LBCSOI2	200 mm	
Current Fab Site			Additional Fab Site																		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter																
DFAB	LBCSOI	200 mm	AIZU	LBCSOI2	200 mm																
The die was also changed as a result of the process change.																					
Construction differences are as follows:																					
<b>Group 1:</b>																					
	<b>ASESH</b>	<b>FMX</b>																			
Wire diam/type	1.3mil Au	0.96mil Cu																			
Mount compound	EY1000063	4147858																			
Mold compound	EN2000509	4211880																			
Package marking	Pin1 stripe, with G4	Pin 1 dot, no G4																			
<b>Group 2:</b>																					
	<b>Current</b>	<b>Proposed</b>																			
Wire diam/type	1.3mil Cu	0.96mil Cu																			
<b>Group 3:</b>																					
	<b>TI Clark</b>	<b>TI CDAT</b>																			
Wire diam/type	1.3mil Cu	0.96mil Cu																			
<b>Group 4:</b>																					
	<b>UTL</b>	<b>TI CDAT</b>																			
Wire diam/type	1.3mil Cu	0.96mil Cu																			
Mount compound	PZ0031	4207123																			
Mold compound	CZ0142	4222198																			
The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.																					

<b>Changes from Revision F (November 2014) to Revision G (July 2024)</b>	<b>Page</b>
• Changed document title to reflect key features of the device. ....	1
• Updated several specifications to reflect the device characteristics.....	1
• Deleted all references to UCC27210 since device is obsolete.....	1
• Changed Features section: 1) Changed junction temperature range specification from -40°C to 140°C to -40°C to 150°C. 2) Changed peak currents to reflect specification, no change in actual drive strength (from 4A/4A to 3.7A/4.5A. 3) Deleted 0.9-Ω Pullup and Pulldown Resistance since it is not specified in the Electrical Characteristics. 4) Deleted Pseudo-CMOS Compatible Input which is not a feature of the UCC27211A device. 5) Changed typical specifications mentioned for delay matching and propagation delay to reflect the information in the Electrical Characteristics table: from 2-ns delay matching, 18-ns propagation delay to 4-ns delay matching, 20-ns propagation delay. ....	1
• Updated Applications section with list of top 5 typical applications.....	1
• Changed Description section: 1) Changed peak current to display typical pull-up/pull-down, no change in actual specification - from 4A/4A to 3.7A/4.5A. 2) Deleted pullup/pulldown resistance information since this is not an actual specification in the Electrical Characteristics table. 3) Changed HS transient tolerance to match the specification in the Absolute Maximum table - from -18V to -(VDD-24)V. 4) Changed delay matching to match specification in the Electrical Characteristics table - from 2ns to 4ns. ....	1
• Updated Absolute Maximum Ratings section to remove "Lead temperature (soldering, 10s)". ....	5
• Updated Recommended Operating Conditions: Operating Junction Temperature maximum changed from 140°C to 150°C.....	5
• Updated Thermal Information section to reflect device characteristics. ....	5
• Removed specifications with test condition "DDA only" since all specifications apply to all package variants..	5
• Removed specifications for UCC27210. ....	5
• Updated Supply Currents specifications in the Electrical Characteristics table: 1) I <sub>DD</sub> minimum specification removed. 2) I <sub>DD</sub> typical changed (From: 0.085mA. To: 0.11mA). 3) I <sub>DDO</sub> typical changed (From: 2.5mA. To: 1.4mA). 4) I <sub>DDO</sub> maximum changed (From: 5.2mA. To: 3mA). 5) I <sub>HB</sub> minimum specification removed. 6) I <sub>HBO</sub> typical changed (From: 2.5mA. To: 1.3mA). 7) I <sub>HBO</sub> maximum changed (From: 5mA. To: 3mA). 8) I <sub>HBS</sub> test condition changed to match V <sub>HS</sub> maximum recommended operating conditions (From: 115V. To: 105V). 9) I <sub>HBSO</sub> typical changed (From: 0.07mA. To: 0.03mA). 10) I <sub>HBSO</sub> maximum changed (From: 1.2mA. To: 1mA). .	5
• Updated Input specifications in the Electrical Characteristics table: UCC27211 V <sub>LIT</sub> minimum changed (From: 1.3V. To: 1.2V). ....	5
• Updated Bootstrap diode specifications in the Electrical Characteristics table: 1) V <sub>F</sub> maximum changed (From: 0.8V. To: 0.85V). 2) V <sub>FI</sub> typical changed (From: 0.85V. To: 0.9V), and maximum changed (From: 0.95V. To: 1.05V). 3) R <sub>D</sub> test conditions changed (From: 100mA and 80mA. To: 180mA and 160mA). 4) R <sub>D</sub> typical changed (From: 0.5Ω. To: 0.55Ω). ....	5
• Updated LO/HO Gate Driver specifications in the Electrical Characteristics table: 1) Minimum specification removed for V <sub>LOL</sub> , V <sub>LOH</sub> , V <sub>HOL</sub> , V <sub>HOH</sub> . 2) V <sub>LOL</sub> and V <sub>HOL</sub> typical changed (From 0.09V. To 0.07V). 3) V <sub>LOH</sub> and V <sub>HOH</sub> typical changed (From: 0.16V. To: 0.11V).....	5
• Updated Switching Characteristics - Propagation Delays table: 1) Changed T <sub>DLFF</sub> and T <sub>DHFF</sub> typicals (From: 17ns. To: 19ns). 2) Changed T <sub>DLRR</sub> and T <sub>DHRR</sub> typicals (From: 18ns. To: 20ns). ....	5
• Updated Switching Characteristics - Delay Matching table: 1) Changed T <sub>MON</sub> and T <sub>MOFF</sub> typicals (From: 2ns. To: 4ns). 2) Changed T <sub>MON</sub> and T <sub>MOFF</sub> across temperature maximum (From: 14ns. To: 17ns).....	5
• Updated Switching Characteristis - Output Rise and Fall Time table: 1) t <sub>R</sub> typical changed (From: 0.36us. To: 0.27us). 2) t <sub>F</sub> typical changed (From: 0.15us. To: 0.16us). ....	5
• Updated Switching Characteristics - Miscellaneous table: t <sub>IN_PW</sub> maximum changed (From: 50ns. To: 40ns)..	5
• Updated all plots in Typical Characteristics section to reflect the typical specification of the device. ....	9
• Updated Input Stages section to match the input pulldown resistance typical specification in the Electrical Characteristics table, changed from 70kΩ to 68kΩ. Changed input capacitance from 2pF to 4pF. ....	13
• Changed application curves to display propagation delay and rise/fall time plots. ....	19



## Changes from Revision A (April 2018) to Revision B (July 2024)

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• Changed document title to reflect the device's key features. ....	1
• Changed several specifications to reflect the device characteristics.....	1
• Changed Features section: 1) Changed sink/source current to use exact typical specification, no change in actual device specification (From: 4-A/4-A To: 3.7-A/4.5-A). 2) Changed $T_J$ to match improved device specification (From: Specified from $-40^{\circ}\text{C}$ to $+140^{\circ}\text{C}$ . To: Specified from $-40^{\circ}\text{C}$ to $+150^{\circ}\text{C}$ junction temperature range). ....	1
• Updated Applications section with list of top 5 typical applications.....	1
• Changed Description section: 1) Changed peak currents (From: 4-A source and 4-A sink. To: 3.7A source and 4.5A sink). 2) Changed 5-V turn-off UVLO (From: 5-V UVLO. To: 5-V turn-off UVLO). 3) Changed format for package name from WSON (10) to DPR (WSON, 10). 4) Changed HS pin tolerance to reflect specification in Electrical Characteristics table (From: $-18\text{V}$ . To: $-(24\text{V}-\text{VDD})$ ). 5) Updated propagation delay plot. ....	1
• Updated Pin Functions table to remove DDA and DRM packages, since UCC27212 is only available in DPR package.....	3
• Updated Recommended Operating Conditions: Operating Junction Temperature maximum changed from $140^{\circ}\text{C}$ to $150^{\circ}\text{C}$ .....	4
• Updated Thermal Information section to reflect device characteristics. ....	4
• Updated Electrical Characteristics and Switching Characteristics tables to remove specifications for 6.8V VDD, leaving the specifications for 12V VDD test condition, as typically done in gate driver datasheets. ....	4
• Updated Supply Currents specifications in the Electrical Characteristics table: 1) Minimum specification removed for $I_{DD}$ , $I_{DDO}$ , $I_{HB}$ and $I_{HBO}$ . 2) $I_{DD}$ typical changed (From: $0.085\text{mA}$ . To: $0.11\text{mA}$ ). 3) $I_{DDO}$ typical changed (From: $2.5\text{mA}$ . To: $1.4\text{mA}$ ). 4) $I_{DDO}$ maximum changed (From: $6.5\text{mA}$ . To: $3\text{mA}$ ). 5) $I_{HBO}$ typical changed (From: $2.5\text{mA}$ . To: $1.3\text{mA}$ ). 6) $I_{HBO}$ maximum changed (From: $5.1\text{mA}$ . To: $3\text{mA}$ ). 8) $I_{HBS}$ test condition changed to match $V_{HS}$ maximum recommended operating conditions (From: $115\text{V}$ . To: $100\text{V}$ ). 9) $I_{HBSO}$ typical changed (From: $0.07\text{mA}$ . To: $0.03\text{mA}$ ). 10) $I_{HBSO}$ maximum changed (From: $1.2\text{mA}$ . To: $1\text{mA}$ ). .	4
• Updated Bootstrap diode specifications in the Electrical Characteristics table: 1) $V_F$ maximum changed (From: $0.8\text{V}$ . To: $0.85\text{V}$ ). 2) $V_{FI}$ typical changed (From: $0.85\text{V}$ . To: $0.9\text{V}$ ), and maximum changed (From: $0.95\text{V}$ . To: $1.05\text{V}$ ). 3) $R_D$ test conditions changed (From: $100\text{mA}$ and $80\text{mA}$ . To: $180\text{mA}$ and $160\text{mA}$ ). 4) $R_D$ typical changed (From: $0.5\Omega$ . To: $0.55\Omega$ ). ....	4
• Updated LO/HO Gate Driver specifications in the Electrical Characteristics table: 1) Minimum specification removed for $V_{LOL}$ , $V_{LOH}$ , $V_{HOL}$ , $V_{HOH}$ . 2) $V_{LOL}$ and $V_{HOL}$ typical changed (From $0.1\text{V}$ . To $0.07\text{V}$ ). 3) $V_{LOH}$ and $V_{HOH}$ typical changed (From: $0.16\text{V}$ . To: $0.11\text{V}$ ).....	4
• Updated Propagation Delays specifications in the Switching Characteristics table: 1) Changed $T_{DLFF}$ and $T_{DHFF}$ typicals (From: $16\text{ns}$ . To: $19\text{ns}$ ). Updated Output Rise and Fall Time specifications in the Switching Characteristics table: 1) $t_R$ with $1000\text{pF}$ $C_{LOAD}$ changed (From: $7.8\text{ns}$ typical. To: $7.2\text{ns}$ typical). 2) $t_F$ with $1000\text{pF}$ $C_{LOAD}$ changed (From: $6\text{ns}$ typical. To: $5.5\text{ns}$ typical). 3) $t_R$ with $1\mu\text{F}$ $C_{LOAD}$ changed (From: $0.36\mu\text{s}$ typical. To: $0.27\mu\text{s}$ typical). 4) $t_F$ with $0.1\mu\text{F}$ $C_{LOAD}$ changed (From: $0.20\mu\text{s}$ typical. To: $0.16\mu\text{s}$ typical). ....	4
• Updated Miscellaneous specifications in the Switching Characteristics table: $t_{IN\_PW}$ maximum changed (From: $100\text{ns}$ . To: $40\text{ns}$ ).....	4
• Updated all plots in Typical Characteristics section to reflect the typical specification of the device. ....	8
• Changed typical specifications mentioned in the Overview section to match the device specifications in the Electrical Characteristics table.....	11
• Changed Input Stages section to match the input pulldown resistance typical specification in the electrical characteristics table (From: $70\text{k}\Omega$ . To: $68\text{k}\Omega$ ). ....	12
• Changed Undervoltage Lockout (UVLO) section to VHB UVLO hysteresis to match electrical characteristics table (From: $0.4\text{V}$ . To: $0.3\text{V}$ ).....	12
• Changed application curves to display propagation delay and rise/fall time plots. ....	17



UCC27200, UCC27201

SLUS746D – DECEMBER 2006 – REVISED JULY 2024



## Changes from Revision C (April 2016) to Revision D (July 2024)

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• Changed document title to reflect the device's key features. Updated several specifications to reflect the device characteristics. ....	1
• Updated the numbering format for tables, figures, and cross-references throughout the document.....	1
• Changed Features section: 1) Changed junction temperature range specification From: -40°C to 140°C. To: -40°C to 150°C. 2) Changed typical propagation delay From: 20ns. To: 22ns. 3) Deleted Greater than 1 MHz of Operation since the switching frequency is not a specified parameter. 4) Changed typical bootstrap diode resistance From: 0.6Ω. To: 0.65Ω.....	1
• Updated Applications section with list of top 5 typical applications.....	1
• Updated Absolute Maximum Ratings section to remove "Power dissipation at TA = 25°C" and "Lead temperature (soldering, 10s)". Power dissipation can be calculated with thermal metrics in "Thermal Information" table.....	4
• Updated Recommended Operating Conditions: Operating Junction Temperature maximum changed from 140°C to 150°C.....	4
• Updated Thermal Information section to reflect device characteristics. ....	4
• Updated Supply Currents specifications in the Electrical Characteristics table: 1) I <sub>DD</sub> typical changed (From: 0.4mA. To: 0.11mA). 2) I <sub>DDO</sub> typical changed (From: 2.5mA for UCC27200 and 3.8mA for UCC27201. To: 1mA for both). 3) I <sub>DDO</sub> maximum changed (From: 4mA for UC27200 and 5.5mA for UCC27201. To: 3mA for both). 4) I <sub>HB</sub> typical changed (From: 0.4mA. To: 0.065mA). 5) I <sub>HBO</sub> typical changed (From: 2.5mA. To: 0.9mA). 6) I <sub>HBO</sub> maximum changed (From: 4mA. To: 3mA). 7) I <sub>HBS</sub> test condition changed to match V <sub>HS</sub> maximum recommended operating conditions (From: 110V. To: 105V). 8) I <sub>HBSO</sub> typical changed (From: 0.1mA. To: 0.03mA).....	4
• Updated Input specifications in the Electrical Characteristics table: 1) UCC27200 V <sub>HIT</sub> typical changed (From: 5.8V. To: 6V). 2) UCC27200 V <sub>LIT</sub> typical changed (From: 5.4V. To: 5.6V). 3) UCC27201 V <sub>HIT</sub> specifications changed (From: 1.7V typical, 2.5V maximum. To: 1.9V minimum, 2.3V typical, 2.7V maximum). 4) UCC27201 V <sub>LIT</sub> specifications changed (From: 0.8V minimum, 1.6V typical. To: 1.3V minimum, 1.6V typical, 1.9V maximum). 5) UCC27201 V <sub>IHYS</sub> typical changed (From: 100mV. To: 700mV). 6) UCC27201 R <sub>IN</sub> specifications changed from (100kΩ minimum, 200kΩ typical, 350kΩ maximum. To: 68kΩ typical). ....	4
• Updated Bootstrap diode specifications in the Electrical Characteristics table: 1) R <sub>D</sub> test conditions changed (From: 100mA and 80mA. To: 120mA and 100mA). 2) R <sub>D</sub> typical changed (From: 0.6Ω. To: 0.65Ω). ....	4
• Updated LO/HO Gate Driver specifications in the Electrical Characteristics table: 1) V <sub>LOL</sub> typical changed (From 0.18V. To 0.1V). 2) V <sub>LOH</sub> typical changed (From: 0.25V. To: 0.13V). ....	4
• Removed specifications with test conditions "-40°C to 125°C T <sub>J</sub> ", since all parameters are specified from -40°C to 150°C T <sub>J</sub> (unless otherwise noted). ....	4
• Changed Propagation Delays typical specification (From: 20ns. To: 22ns).....	4
• Updated Output Rise and Fall Time specifications: 1) t <sub>R</sub> typical changed (From: 0.35us. To: 0.26us). 2) t <sub>F</sub> typical changed (From: 0.3us. To: 0.22us). ....	4
• Updated all plots in Typical Characteristics section to reflect the device's typical specification. ....	8
• Updated Input Stages section. 1) Changed UCC27201A input pulldown resistance typical to match the specification in the electrical characteristics table (From: 70kΩ. To: 68kΩ). 2) Changed input capacitance From: 2pF To: 4pF. 3) Changed UCC27200A input thresholds to 6V and 5.6V to reflect the specification in the electrical characteristics table (From: 48% and 45% of VDD. To: 6V and 5.6V).....	11
• Updated Typical Application section to display a different application diagram and detailed design procedure since information in legacy datasheet had an outdated circuit with obsolete part numbers. ....	13
• Changed application curves to display propagation delay and rise/fall time plots. ....	17
• Updated Power Supply Recommendations section to fix 3 typos.....	18



UCC27200A, UCC27201A  
SLUSAF9C – FEBRUARY 2011 – REVISED JULY 2024



**Changes from Revision B (August 2015) to Revision C (July 2024)****Page**

• Changed document title to reflect key features of the device. ....	1
• Updated several specifications to reflect device characteristics. ....	1
• Updated Features section: 1) Changed junction temperature range specification from -40°C to 140°C to -40°C to 150°C. 2) Changed typical propagation delay from 20ns to 22ns. 3) Deleted Greater than 1MHz of Operation since the switching frequency is not a specified parameter. 4) Changed typical bootstrap diode resistance from 0.6Ω to 0.65Ω.....	1
• Updated Applications section with list of top 5 typical applications.....	1
• Deleted any reference to UCC27200A in DRC package in this data sheet since this package variant is obsolete. ....	1
• Updated Pin Configuration and Functions section pin diagrams and pin description to indicate that the PowerPAD is internally connected to the VSS pin on the DRC package only. ....	3
• Updated Absolute Maximum Ratings section to remove "Power dissipation at TA = 25°C" and "Lead temperature (soldering, 10s)". Power dissipation can be calculated with thermal metrics in "Thermal Information" table.....	5
• Updated Recommended Operating Conditions: Operating Junction Temperature maximum changed from 140°C to 150°C.....	5
• Updated Thermal Information section to reflect device characteristics. ....	5
• Updated Supply Currents specifications in the Electrical Characteristics table: 1) I <sub>DD</sub> typical changed (From: 0.4mA. To: 0.11mA). 2) I <sub>DDO</sub> typical changed (From: 2.5mA for UCC27200 and 3.8mA for UCC27201. To: 1mA for both). 3) I <sub>DDO</sub> maximum changed (From: 4mA for UC27200 and 5.5mA for UCC27201. To: 3mA for both). 4) I <sub>HB</sub> typical changed (From: 0.4mA. To: 0.065mA). 5) I <sub>HBO</sub> typical changed (From: 2.5mA. To: 0.9mA). 6) I <sub>HBO</sub> maximum changed (From: 4mA. To: 3mA). 7) I <sub>HBS</sub> test condition changed to match V <sub>HS</sub> maximum recommended operating conditions (From: 110V. To: 105V). 8) I <sub>HBSO</sub> typical changed (From: 0.1mA. To: 0.03mA).....	5
• Updated Input specifications in the Electrical Characteristics table: 1) UCC27200 V <sub>HIT</sub> typical changed (From: 5.8V. To: 6V). 2) UCC27200 V <sub>LIT</sub> typical changed (From: 5.4V. To: 5.6V). 3) UCC27201 V <sub>HIT</sub> specifications changed (From: 1.7V typical, 2.5V maximum. To: 1.9V minimum, 2.3V typical, 2.7V maximum). 4) UCC27201 V <sub>LIT</sub> specifications changed (From: 0.8V minimum, 1.6V typical. To: 1.3V minimum, 1.6V typical, 1.9V maximum). 5) UCC27201 V <sub>IHYS</sub> typical changed (From: 100mV. To: 700mV). 6) UCC27201 R <sub>IN</sub> specifications changed from (100kΩ minimum, 200kΩ typical, 350kΩ maximum. To: 68kΩ typical). ....	5
• Updated Bootstrap diode specifications in the Electrical Characteristics table: 1) R <sub>D</sub> test conditions changed (From: 100mA and 80mA. To: 120mA and 100mA). 2) R <sub>D</sub> typical changed (From: 0.6Ω. To: 0.65Ω). ....	5
• Updated LO/HO Gate Driver specifications in the Electrical Characteristics table: 1) V <sub>LOL</sub> typical changed (From 0.18V. To 0.1V). 2) V <sub>LOH</sub> typical changed (From: 0.25V. To: 0.13V). ....	5
• Removed specifications with test conditions "-40°C to 125°C T <sub>J</sub> ", since all parameters are specified from -40°C to 150°C T <sub>J</sub> (unless otherwise noted). ....	5
• Changed Propagation Delays typical specification (From: 20ns. To: 22ns).....	5
• Updated all plots in Typical Characteristics section to reflect the device's typical specification. ....	9
• Updated Input Stages section: 1) Changed UCC27201A input pulldown resistance typical to match the specification in the Electrical Characteristics table from 70kΩ to 68kΩ. 2) Changed input capacitance from 2pF to 4pF. 3) Changed UCC27200A input thresholds from 48% and 45% of VDD to 6V and 5.6V to reflect the specification in the Electrical Characteristics table.....	12
• Updated Typical Application section to display a different application diagram and Detailed Design Procedure section since information in legacy data sheet had an outdated circuit with obsolete part numbers. ....	14
• Changed application curves to display propagation delay and rise/fall time plots. ....	17

**UCC27211A**

SLUSBL4D – AUGUST 2013 – REVISED JULY 2024



## Changes from Revision C (October 2015) to Revision D (July 2024)

Page

- Changed document title to reflect the device's key features. .... 1
- Changed several specifications to reflect the device characteristics..... 1
- Removed 8-pin SOIC and 10-pin SON packages from the data sheet ..... 1
- Changed Features section: 1) Changed junction temperature range specification (From: -40°C to 140°C. To: -40°C to 150°C). 2) Deleted HBM and CDM classification levels, no change in ratings in the ESD table. 3) Changed peak currents to reflect specification, no change in actual drive strength (From: 4A/4A. To: 3.7A/4.5A). 4) Deleted 0.9-Ω Pullup and Pulldown Resistance since it is not specified in the Electrical Characteristics. 5) Deleted Pseudo-CMOS Compatible Input which is not a feature of UCC27211A device.... 1
- Updated Applications section with list of top 5 typical applications..... 1
- Changed in Description section: 1) Added new D (SOIC, 8) package variant. 2) Changed peak current to display typical pull-up/pull-down, no change in actual specification (From: 4A4/A. To: 3.7A/4.5A). 3) Deleted pullup/pulldown resistance information since this is not an actual specification in the electrical characteristics table. 4) Updated propagation delay plot with new data. 5) Changed HS transient tolerance to match the specification in the Absolute Maximum table (From: -18V. To: -(24-VDD)V. .... 1
- Changed the VSON pinout view from top to bottom ..... 3
- Updated Recommended Operating Conditions: Operating Junction Temperature maximum changed from 140°C to 150°C..... 4
- Updated Thermal Information section to reflect device characteristics. .... 4
- Updated Supply Currents specifications in the Electrical Characteristics table: 1) Minimum specification removed for  $I_{DD}$ ,  $I_{DDO}$ ,  $I_{HB}$  and  $I_{HBO}$ . 2)  $I_{DD}$  typical changed (From: 0.085mA. To: 0.11mA). 3)  $I_{DDO}$  typical changed (From: 2.6mA. To: 1.4mA). 4)  $I_{DDO}$  maximum changed (From: 6.5mA. To: 3mA). 5)  $I_{HBO}$  typical changed (From: 2.5mA. To: 1.3mA). 6)  $I_{HBO}$  maximum changed (From: 5.1mA. To: 3mA). 8)  $I_{HBS}$  test condition changed to match  $V_{HS}$  maximum recommended operating conditions (From: 115V. To: 105V). 9)  $I_{HBSO}$  typical changed (From: 0.07mA. To: 0.03mA). 10)  $I_{HBSO}$  maximum changed (From: 1.2mA. To: 1mA). . 4
- Updated Input specifications in the Electrical Characteristics table: 1)  $V_{HIT}$  minimum changed (From: 1.9V. To: 1.7V). 2)  $V_{LIT}$  minimum changed (From: 1.3V. To: 1.2V). .... 4
- Updated Bootstrap diode specifications in the Electrical Characteristics table: 1)  $V_F$  maximum changed (From: 0.8V. To: 0.85V). 2)  $V_{FI}$  typical changed (From: 0.85V. To: 0.9V), and maximum changed (From: 0.95V. To: 1.05V). 3)  $R_D$  test conditions changed (From: 100mA and 80mA. To: 180mA and 160mA). 4)  $R_D$  typical changed (From: 0.5Ω. To: 0.55Ω). .... 4
- Updated LO/HO Gate Driver specifications in the Electrical Characteristics table: 1) Minimum specification removed for  $V_{LOL}$ ,  $V_{LOH}$ ,  $V_{HOL}$ ,  $V_{HOH}$ . 2)  $V_{LOL}$  and  $V_{HOL}$  typical changed (From 0.1V. To 0.07V). 3)  $V_{LOH}$  and  $V_{HOH}$  typical changed (From: 0.16V. To: 0.11V)..... 4
- Updated Switching Characteristics - Propagation Delays table: 1) Changed  $T_{DLFF}$  and  $T_{DHFF}$  typicals (From: 16ns. To: 19ns). .... 4
- Updated Switching Characteristics - Output Rise and Fall Time table: 1)  $t_R$  typical changed (From: 0.36us. To: 0.27us). 2)  $t_F$  typical changed (From: 0.15us. To: 0.16us). .... 4
- Updated Switching Characteristics - Miscellaneous table:  $t_{IN\_PW}$  maximum changed (From: 50ns. To: 40ns).. 4
- Updated all plots in Typical Characteristics section to reflect the typical specification of the device. .... 8
- Changed typical specifications listed in the Overview section to match the device specifications in the Electrical Characteristics table..... 11
- Changed Input Stages section to match the input pulldown resistance typical specification in the electrical characteristics table (From: 70kΩ. To: 68kΩ). .... 12
- Changed application curves to display propagation delay and rise/fall time plots. .... 18

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
UCC27211	SLUSAT7F	<b>SLUSAT7G</b>	<a href="http://www.ti.com/product/UCC27211">http://www.ti.com/product/UCC27211</a>
UCC27212	SLUSCO1A	<b>SLUSCO1B</b>	<a href="http://www.ti.com/product/UCC27212">http://www.ti.com/product/UCC27212</a>
UCC2720x	SLUS746C	<b>SLUS746D</b>	<a href="http://www.ti.com/product/UCC27200">http://www.ti.com/product/UCC27200</a>
UCC2720xA	SLUSAF9B	<b>SLUSAF9C</b>	<a href="http://www.ti.com/product/UCC27200A">http://www.ti.com/product/UCC27200A</a>
UCC27211A	SLUSBL4C	<b>SLUSBL4D</b>	<a href="http://www.ti.com/product/UCC27211A">http://www.ti.com/product/UCC27211A</a>

Qual details are provided in the Qual Data Section.

### Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

### Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

### Impact on Environmental Ratings:

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change

### Changes to product identification resulting from this PCN:

#### Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DL-LIN	DLN	USA	Dallas
<b>AIZU</b>	<b>CU2</b>	<b>JPN</b>	<b>Aizuwakamatsu-shi</b>

#### Die Rev:

##### Current

##### New

Die Rev [2P]	Die Rev [2P]
A, C, D	<b>A</b>

#### Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
UTL	NSE	THA	Bangkok
TI CLARK	QAB	PHL	Angeles City, Pampanga
ASESH	ASH	CHN	Shanghai
<b>TI Mexico</b>	<b>MEX</b>	<b>MEX</b>	<b>Aguascalientes</b>
<b>CDAT</b>	<b>CDA</b>	<b>CHN</b>	<b>Chengdu</b>

Sample product shipping label (not actual product label):

TEXAS  
INSTRUMENTS  
MADE IN: Malaysia  
2DC: 20:  
MSL '2 /260C/1 YEAR SEAL DT  
MSL 1 /235C/UNLIM 03/29/04  
OPT:  
ITEM: 39  
LBL: 5A (L)T0:1750



(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CC0: USA  
(22L) AS0: MLA (23L) AC0: MYS

**Product Affected:****Group 1 Device List:**

UCC27200ADDAR	UCC27201ADDAR	UCC27201DDAR	UCC27211DDAR
UCC27200DDAR			

**Group 2 Device List:**

UCC27200ADR	UCC27201ADR	UCC27201DR	UCC27211DR
UCC27200DR			

**Group 3 Device List:**

UCC27201ADRCR	UCC27201ADPRR	UCC27211DPRR	UCC27212DPRR
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**Group 4 Device List:**

UCC27200ADRM	UCC27201ADRM	UCC27211ADRM
UCC27200DRM	UCC27201DRM	UCC27211DRM

For alternate parts with similar or improved performance, please visit the product page on [TI.com](http://www.ti.com)

**Qualification Results**

Data Displayed as: Number of lots / Total sample size / Total failed

Type	#	Test Name	Condition	Duration	Qual Device: UCC27301ADR	QBS Reference: UCC27301AQDDARQ1	QBS Reference: TCAN1043ADRQ1
HAST	A3	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0
TC	A4	Temp Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0
HTSL	A4	High Temp Storage	150C	1000 Hours	-	3/135/0	3/135/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	1/77/0

Type	#	Test Name	Condition	Duration	Qual Device: UCC27301ADR	QBS Reference: UCC27301AQDDARQ1	QBS Reference: TCAN1043ADRQ1
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	3/2400/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	3/30/0
ESD	E2	ESD CDM	-	500 Volts	-	1/3/0	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/6/0	1/6/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	3/90/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

TI Qualification ID: R-NPD-2403-170



## Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	#	Test Name	Condition	Duration	Qual Device: UCC27301AQDRCRQ1	Qual Device: UCC27311AQDRCRQ1	QBS Reference: TLC69601QRTWRQ1	QBS Reference: UCC27301AQDDARQ1	QBS Reference: LP8868ZQDMTRQ1	QBS Reference: LM5149QRGYRQ1	QBS Reference: LM5149RGYR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	1/77/0	1/77/0	3/231/0
UHA	A3	Autoclave	121C/15psig	96 Hours	1/77/0	-	-	3/231/0	-	-	-
UHA	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	1/77/0	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	-	3/231/0	3/231/0	1/77/0	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	3/135/0	1/45/0	-	3/135/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	1/77/0	-	1/77/0	-	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	3/231/0	-	1/77/0	3/231/0
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	-	-	3/2400/0	-	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/-15 minutes)	-	-	-	-	1/15/0	-	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	1/10/0	-	3/30/0	3/30/0	1/10/0	-	3/30/0
ESD	E2	ESD CDM	-	500 Volts	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0

Type	#	Test Name	Condition	Duration	Qual Device: UCC27301AQDRCRQ1	Qual Device: UCC27311AQDRCRQ1	QBS Reference: TLC69601QRTWRQ1	QBS Reference: UCC27301AQDDARQ1	QBS Reference: LP8868ZQDMTRQ1	QBS Reference: LM5149QRGYRQ1	QBS Reference: LM5149RGYR
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/6/0	1/6/0	1/6/0	1/6/0	1/6/0	1/6/0	1/6/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	-	3/90/0	3/90/0	1/30/0	3/90/0	3/90/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

TI Qualification ID: R-NPD-2303-050

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

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