


PCN Number:	20190809000	PCN Date:	Aug. 26, 2019
Title:	Datasheet for TMS320x		
Customer Contact:	PCN Manager	Dept:	Quality Services
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design
<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Data Sheet
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
Notification Details			
Description of Change:			
<p>Texas Instruments Incorporated is announcing an information only notification. The product datasheet(s) is being updated as summarized below. The following change history provides further details.</p>			
		<p>TMS320F2809, TMS320F2808, TMS320F2806, TMS320F2802, TMS320F2801 TMS320C2802, TMS320C2801, TMS320F28016, TMS320F28015</p>	
<small>SPRS2300 – OCTOBER 2003 – REVISED MARCH 2019</small>			

• Global: Restructured document.	1
• Global: Replaced "DSP/BIOS" with "SYS/BIOS".	1
• Global: Changed "CAN 2.0B" to "ISO11898-1 (CAN 2.0B)".	1
• Global: Removed references to the <i>Reliability Data for TMS320LF24xx and TMS320F28xx Devices Application Report</i> (SPRA963).	1
• Section 1 (Device Overview): Changed section title from "F280x, F2801x, C280x DSPs" to "Device Overview".	1
• Section 1.1 (Features): Removed "Dynamic PLL Ratio Changes Supported" feature.	1
• Section 1.1: Added "(AEC-Q100 Qualification for Automotive Applications)" to Q temperature option.	1
• Section 1.2 (Applications): Added section.	2
• Section 1.3 (Description): Added section.	2
• Section 1.4 (Functional Block Diagram): Added section.	3
• Section 3 (Device Comparison): Added section.	7
• Table 3-1 (Device Comparison (100-MHz Devices)): Changed title from "Hardware Features (100-MHz Devices)" to "Device Comparison (100-MHz Devices)".	7
• Table 3-1: Changed "PWM outputs" to "PWM channels".	7
• Table 3-1: Added "(AEC-Q100 Qualification)" after Q temperature range.	7
• Table 3-1: Removed "Product status" row.	7
• Table 3-2 (Device Comparison (60-MHz Devices)): Changed title from "Hardware Features (60-MHz Devices)" to "Device Comparison (60-MHz Devices)".	8
• Table 3-2: Changed "PWM outputs" to "PWM channels".	8
• Table 3-2: Added "(AEC-Q100 Qualification)" after Q temperature range.	8
• Table 3-2: Removed "Product status" row.	8
• Section 3.1 (Related Products): Added section.	9
• Section 4 (Terminal Configuration and Functions): Added section.	10
• Section 4.1 (Pin Diagrams): Changed section title from "Pin Assignments" to "Pin Diagrams".	10
• Table 4-1 (Signal Descriptions): Updated DESCRIPTION of XRS.	15
• Section 5.2 (ESD Ratings – Automotive): Added section.	22
• Section 5.3 (ESD Ratings – Commercial): Added section.	22
• Section 5.4 (Recommended Operating Conditions): Changed "Q version (Q100 Qualification)" to "Q version (AEC-Q100 Qualification)".	22
• Section 5.5 (Power Consumption Summary): Changed section title from "Current Consumption" to "Power Consumption Summary".	23
• Section 5.13 (Thermal Design Considerations): Added section.	33
• Section 5.14 (Timing and Switching Characteristics): Added section.	34
• Section 5.14.2 (Power Sequencing): Updated "No voltage larger than a diode drop ..." paragraph.	36
• Section 5.14.2: Removed "Power Management and Supervisory Circuit Solutions" section.	36
• Figure 5-12 (General-Purpose Input Timing): Changed XCLKOUT to SYSCLK.	44
• Figure 5-16 (PWM Hi-Z Characteristics): Changed XCLKOUT to SYSCLK.	48
• Table 5-24 (High-Resolution PWM Characteristics at SYSCLKOUT = 60–100 MHz): Updated footnote.	49
• Section 5.14.4.5.1 (SPI Master Mode Timing): Updated section.	52
• Section 5.14.4.5.2 (SPI Slave Mode Timing): Updated section.	55
• Table 5-39 (Flash Parameters at 100-MHz SYSCLKOUT): Added MAX Program Time values and MAX Erase Time values. Updated and added footnotes.	58
• Table 5-41 (Flash Data Retention Duration): Added table.	59
• Section 5.16.1 (Migration Issues): Added NOTE about ROM versions of F280x device not being accepted by TI anymore.	66
• Section 6 (Detailed Description): Changed section title from "Functional Overview" to "Detailed Description".	68
• Section 6.1.6 (ROM): Added NOTE.	69
• Section 6.2.6 (Enhanced Analog-to-Digital Converter (ADC) Module): Updated equations by which the digital value of the input analog voltage is derived.	85
• Section 6.2.9 (Serial Peripheral Interface (SPI) Modules (SPI-A, SPI-B, SPI-C, SPI-D)): Updated "Rising edge with phase delay" clocking scheme.	99
• Table 6-27 (Device Emulation Registers): Updated REVID: Added Silicon rev. A for F2809 only.	119
• Table 6-28 (PIE Peripheral Interrupts): Added footnote about ADCINT.	122
• Figure 6-30 (Watchdog Module): Updated figure.	130
• Section 7 (Applications, Implementation, and Layout): Added section.	132
• Section 8 (Device and Documentation Support): Added section.	133
• Figure 8-1 (Example of TMS320x280x/2801x Device Nomenclature): Changed "(Q100 qualification)" to "(AEC-Q100 qualification)".	135
• Section 8.3 (Tools and Software): Added section.	136
• Section 8.4 (Documentation Support): Updated section.	137
• Section 8.5 (Related Links): Added section.	139

The datasheet number will be changing.

Device Family	Change From:	Change To:
TMS320x	SPRS230N	SPRS2300

These changes may be reviewed at the datasheet links provided.

<http://www.ti.com/product/TMS320F2809>

Reason for Change:

To accurately reflect device characteristics.

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

No anticipated impact. This is a specification change announcement only. There are no changes to the actual device.

Changes to product identification resulting from this PCN:

None.

Product Affected:

TMS320F28015PZA	TMS320F2801PZS	TMS320F2806PZA	TMS320F2808PZS
TMS320F28015PZQ	TMS320F2801PZS-60	TMS320F2806PZQ	TMS320F2808ZGMA
TMS320F28015PZS	TMS320F2801ZGMA	TMS320F2806PZS	TMS320F2808ZGMS
TMS320F28015PZSR	TMS320F2802PZA	TMS320F2806ZGMA	TMS320F2809GGMA
TMS320F28015ZGMA	TMS320F2802PZA-60	TMS320F2806ZGMS	TMS320F2809GGMS
TMS320F28016PZA	TMS320F2802PZQ	TMS320F2808GGMA	TMS320F2809PZA
TMS320F28016PZQ	TMS320F2802PZS	TMS320F2808GGMS	TMS320F2809PZQ
TMS320F28016PZS	TMS320F2802PZS-60	TMS320F2808PZA	TMS320F2809PZS
TMS320F2801PZA	TMS320F2802ZGMA	TMS320F2808PZAR	TMS320F2809ZGMA
TMS320F2801PZA-60	TMS320F2802ZGMS	TMS320F2808PZQ	TMS320F2809ZGMS
TMS320F2801PZQ			

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