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| PCN Number: | 20190626005.0 | PCN Date: | July 22, 2019 |
| Title: | Datasheet for TMS320F2810, TMS320F2811, TMS320F2812 | | |
| 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"/> | Wafer Bump Site |
| | | <input type="checkbox"/> | Wafer Bump Material |
| | | <input type="checkbox"/> | Wafer Bump Process |
| | | <input type="checkbox"/> | Wafer Fab Site |
| | | <input type="checkbox"/> | Wafer Fab Materials |
| | | <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> | | | |
|  | | TMS320F2810, TMS320F2811, TMS320F2812 <small>SPRS174U – APRIL 2001 – REVISED JULY 2019</small> | |

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|---|--------------------|
| • Global: Removed ROM devices (TMS320C2810, TMS320C2811, TMS320C2812). Removed C281x/ROM data. | 1 |
| • Global: Restructured document. | 1 |
| • Global: Changed "Q100" to "AEC-Q100". | 1 |
| • Section 1.1 (Features): Updated "Clock and system control" feature. | 1 |
| • Section 1.1: Updated Q temperature option. Changed "[Q100 Qualification]" to "(AEC-Q100 qualification for automotive applications)". | 1 |
| • Section 1.2 (Applications): Added section. | 2 |
| • Section 1.3 (Description): Added Device Information table. | 2 |
| • Section 1.4 (Functional Block Diagram): Added section title. | 3 |
| • Figure 1-1 (Functional Block Diagram): Removed ROM. Updated footnotes. | 3 |
| • Section 3 (Device Comparison): Changed section title from "Device Summary" to "Device Comparison". | 7 |
| • Table 3-1 (Device Comparison): Changed table title from "Hardware Features" to "Device Comparison". | 7 |
| • Table 3-1: Removed C2810, C2811, and C2812 data. | 7 |
| • Table 3-1: Removed "Product Status" row and its associated footnote. | 7 |
| • Section 3.1 (Related Products): Added section. | 8 |
| • Section 4 (Terminal Configuration and Functions): Changed section title from "Introduction" to "Terminal Configuration and Functions". | 9 |
| • Section 4.1 (Pin Diagrams): Changed section title from "Pin Assignments" to "Pin Diagrams". | 9 |
| • Table 4-1 (Signal Descriptions): Updated DESCRIPTION of XRS. | 12 |
| • Table 4-1: Removed C281x/ROM data from DESCRIPTION of TEST1, TEST2, and V_{DD3VFL} | 12 |
| • Section 5 (Specifications): Changed section title from "Electrical Specifications" to "Specifications". | 21 |
| • Section 5.1 (Absolute Maximum Ratings): Updated "Long-term high-temperature storage ..." footnote. | 21 |
| • Section 5.2 (ESD Ratings – Commercial): Added section. | 22 |
| • Section 5.3 (ESD Ratings – Automotive): Added section. | 22 |
| • Section 5.5 (Power Consumption Summary): Changed section title from "Current Consumption" to "Power Consumption Summary". | 24 |
| • Table 5-2 (Typical Current Consumption by Various Peripherals (at 150 MHz): Added footnote about achieving power savings. | 26 |
| • Section 5.6 (Electrical Characteristics): Removed I_{IL} for C281x devices. | 27 |
| • Section 5.7 (Thermal Resistance Characteristics for 179-Ball ZHH Package): Added section. | 27 |
| • Section 5.8 (Thermal Resistance Characteristics for 179-Ball GHH): Added section. | 27 |
| • Section 5.9 (Thermal Resistance Characteristics for 176-Pin PGF Package): Added section. | 28 |
| • Section 5.10 (Thermal Resistance Characteristics for 128-Pin PBK Package): Added section. | 28 |
| • Section 5.11 (Thermal Design Considerations): Added section. | 28 |
| • Section 5.12.2 (Power Supply Sequencing): Changed section title from "Power Sequencing Requirements" to "Power Supply Sequencing". Updated section. Removed "Recommended "Low-Dropout Regulators"" table. Removed C281x data. | 31 |
| • Section 5.12.4 (Clock Specifications): Added section title. | 37 |
| • Section 5.12.5 (Peripherals): Added section title. | 40 |
| • Figure 5-14 (General-Purpose Input Timing): Replaced "XCLKOUT" with "SYSCLK". | 42 |
| • Section 5.12.5.5 (Serial Peripheral Interface (SPI) Master Mode Timing): Updated section. | 49 |
| • Section 5.12.5.6 (Serial Peripheral Interface (SPI) Slave Mode Timing): Updated section. | 51 |
| • Section 5.12.5.7.2 (Synchronous Mode (USEREADY = 1, READYMODE = 0)): Updated "XTIMING register configuration restrictions" table by changing XRDACTIVE value from "≥ 1" to "≥ 2" and XWRACTIVE value from "≥ 1" to "≥ 2". | 54 |
| • Section 5.12.5.7.2 (Synchronous Mode (USEREADY = 1, READYMODE = 0)): Updated "Examples of valid and invalid timing" table by changing Valid XRDACTIVE value from "1" to "2" and Valid XWRACTIVE value from "1" to "2". | 54 |
| • Section 5.12.5.7.3 (Asynchronous Mode (USEREADY = 1, READYMODE = 1)): Updated second "XTIMING register configuration restrictions" table by changing XRDACTIVE value from "≥ 1" to "≥ 2" and XWRACTIVE value from "≥ 1" to "≥ 2". | 55 |
| • Section 5.12.5.7.3 (Asynchronous Mode (USEREADY = 1, READYMODE = 1)): Updated "Examples of valid and invalid timing" table by changing Valid XRDACTIVE value from "1" to "2" and Valid XWRACTIVE value from "1" to "2". | 55 |
| • Table 5-40 (ADC Absolute Maximum Ratings Over Recommended Operating Conditions (Unless Otherwise Noted)): Updated table. | 70 |

- [Table 5-41](#) (ADC Electrical Characteristics Over Recommended Operating Conditions (Unless Otherwise Noted)—AC Specifications): Changed table title from "AC Specifications" to "ADC Electrical Characteristics Over Recommended Operating Conditions (Unless Otherwise Noted)—AC Specifications". [70](#)
- [Table 5-42](#) (ADC Electrical Characteristics Over Recommended Operating Conditions (Unless Otherwise Noted)—DC Specifications): Changed table title from "DC Specifications" to "ADC Electrical Characteristics Over Recommended Operating Conditions (Unless Otherwise Noted)—DC Specifications". [71](#)
- [Table 5-42](#): Removed C281x data. [71](#)
- [Table 5-49](#) (McBSP as SPI Master or Slave Timing Requirements (CLKSTP = 10b, CLKXP = 0)): Updated footnotes. [80](#)
- [Table 5-50](#) (McBSP as SPI Master or Slave Switching Characteristics (CLKSTP = 10b, CLKXP = 0)): Updated footnote. [80](#)
- [Table 5-51](#) (McBSP as SPI Master or Slave Timing Requirements (CLKSTP = 11b, CLKXP = 0)): Updated footnotes. [81](#)
- [Table 5-52](#) (McBSP as SPI Master or Slave Switching Characteristics (CLKSTP = 11b, CLKXP = 0)): Updated footnote. [81](#)
- [Table 5-53](#) (McBSP as SPI Master or Slave Timing Requirements (CLKSTP = 10b, CLKXP = 1)): Updated footnotes. [82](#)
- [Table 5-54](#) (McBSP as SPI Master or Slave Switching Characteristics (CLKSTP = 10b, CLKXP = 1)): Updated footnote. [82](#)
- [Table 5-55](#) (McBSP as SPI Master or Slave Timing Requirements (CLKSTP = 11b, CLKXP = 1)): Updated footnotes. [83](#)
- [Table 5-56](#) (McBSP as SPI Master or Slave Switching Characteristics (CLKSTP = 11b, CLKXP = 1)): Updated footnote. [83](#)
- [Table 5-61](#) (Flash Parameters at 150-MHz SYSCLKOUT): Updated "Typical parameters as seen at room temperature ..." footnote. [86](#)
- [Table 5-63](#) (Flash Data Retention Duration): Added table. [87](#)
- [Section 6](#) (Detailed Description): Changed section title from "Functional Overview" to "Detailed Description". [88](#)
- [Section 6.1.21](#) (Serial Port Peripherals): Updated description of eCAN. [94](#)
- [Section 6.2.3](#) (Enhanced Analog-to-Digital Converter (ADC) Module): Updated equations by which the digital value of the input analog voltage is derived. [103](#)
- [Section 6.2.4](#) (Enhanced Controller Area Network (eCAN) Module): Updated feature about CAN 2.0B. [108](#)
- [Section 6.2.7](#) (Serial Peripheral Interface (SPI) Module): Updated "Rising edge with phase delay" clocking scheme. [120](#)
- [Figure 6-22](#) (Watchdog Module): Updated figure. [145](#)
- [Section 7](#) (Applications, Implementation, and Layout): Added section. [147](#)
- [Section 8](#) (Device and Documentation Support): Changed title from "Development Support" to "Device and Documentation Support". [148](#)
- [Section 8.1](#) (Getting Started): Updated section. [148](#)
- [Figure 8-1](#) (TMS320F281x Device Nomenclature): Updated description of Q temperature range. [149](#)
- [Section 8.3](#) (Tools and Software): Added section. [149](#)
- [Section 8.4](#) (Documentation Support): Updated section. [150](#)
- [Section 8.5](#) (Related Links): Added section. [152](#)
- [Section 9](#) (Mechanical, Packaging, and Orderable Information): Replaced "Mechanical Data" section with "Mechanical, Packaging, and Orderable Information" section. [153](#)

The datasheet number will be changing.

| Device Family | Change From: | Change To: |
|---------------------------------------|--------------|------------|
| TMS320F2810, TMS320F2811, TMS320F2812 | SPRS174T | SPRS174U |

These changes may be reviewed at the datasheet links provided.

<http://www.ti.com/product/TMS320F2810>

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:

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| TMS320F2810PBKA | TMS320F2811PBKQ | TMS320F2812GHHS | TMS320F2812PGFS |
|-----------------|-----------------|-----------------|-----------------|

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|------------------|-----------------|-------------------|-----------------|
| TMS320F2810PBKQ | TMS320F2811PBKS | TMS320F2812PGFA | TMS320F2812ZHHA |
| TMS320F2810PBKQR | TMS320F2812GHHA | TMS320F2812PGFAG4 | TMS320F2812ZHHR |
| TMS320F2810PBKS | TMS320F2812GHHR | TMS320F2812PGFQ | TMS320F2812ZHHS |
| TMS320F2811PBKA | TMS320F2812GHHQ | | |

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