12500 TI Boulevard, MS 8640, Dallas, Texas 75243

Notification# 20190626005.0
Datasheet for TMS320F2810, TMS320F2811, TMS320F2812

Information Only

Date: July 22, 2019
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

This is an information-only announcement of a change to the datasheet for a device that is currently offered by Texas Instruments.

The changes discussed within this notification are for your information only.

Any negotiated alternative change requirements will be provided via the customer's defined process. Customers with previously negotiated, special requirements will be handled separately. Any inquiries should be directed to your local Field Sales Representative.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

Information Only
Attachments

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
TMS320F2812PGFA	null
TMS320F2810PBKA	null
TMS320F2812PGFS	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20190626005.0	PCN Date:	July 22, 2019
Title:	Datasheet for TMS320F2810, TMS320F2811, TMS320F2812		
Customer Contact:	PCN Manager	Dept:	Quality Services

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☒	Data Sheet	☐	Wafer Bump Material
☐	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

Notification Details

Description of Change:

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.

Changes from May 31, 2012 to July 12, 2019 (from T Revision (May 2012) to U Revision) **Page**

- **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 $\overline{XRS}$. 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

TMS320F2810PBKQ	TMS320F2811PBKS	TMS320F2812PGFA	TMS320F2812ZHHA
TMS320F2810PBKQR	TMS320F2812GHHA	TMS320F2812PGFAG4	TMS320F2812ZHHAR
TMS320F2810PBKS	TMS320F2812GHHAR	TMS320F2812PGFQ	TMS320F2812ZHHS
TMS320F2811PBKA	TMS320F2812GHHQ		

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.