

TMS320F2801, TMS320F2806, TMS320F2808
Digital Signal Processor
Silicon Errata

SPRZ171
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1 Introduction

This document describes the silicon updates to the functional specifications for the TMS320F2801, TMS320F2806, and TMS320F2808 digital signal processors. The updates are applicable to:

- 100-ball MicroStar BGA™, GGM and ZGM suffix
- 100-pin thin quad flatpack, PZ suffix

1.1 Device and Development Tool Support Nomenclature

To designate the stages in the product development cycle, TI assigns prefixes to the part numbers of all TMS320™ DSP devices and support tools. Each TMS320™ DSP commercial family member has one of three prefixes: TMX, TMP, or TMS. Texas Instruments recommends two of three possible prefix designators for support tools: TMDX and TMDS. These prefixes represent evolutionary stages of product development from engineering prototypes (TMDX) through fully qualified production devices/tools (TMDS).

Device development evolutionary flow:

TMX	Experimental device that is not necessarily representative of the final device's electrical specifications
TMP	Final silicon die that conforms to the device's electrical specifications but has not completed quality and reliability verification
TMS	Fully qualified production device

Support tool development evolutionary flow:

TMDX	Development-support product that has not yet completed Texas Instruments internal qualification testing.
TMDS	Fully qualified development-support product

TMX and TMP devices and TMDX development-support tools are shipped against the following disclaimer:

"Developmental product is intended for internal evaluation purposes."

TMS devices and TMDS development-support tools have been characterized fully, and the quality and reliability of the device have been demonstrated fully. TI's standard warranty applies.

Predictions show that prototype devices (TMX or TMP) have a greater failure rate than the standard production devices. Texas Instruments recommends that these devices not be used in any production system because their expected end-use failure rate still is undefined. Only qualified production devices are to be used.

1.2 Device Markings

Figure 1 provides an example of the TMS320F28x device markings and defines each of the markings. The device revision can be determined by the symbols marked on the top of the package as shown in Figure 1. Some prototype devices may have markings different from those illustrated.

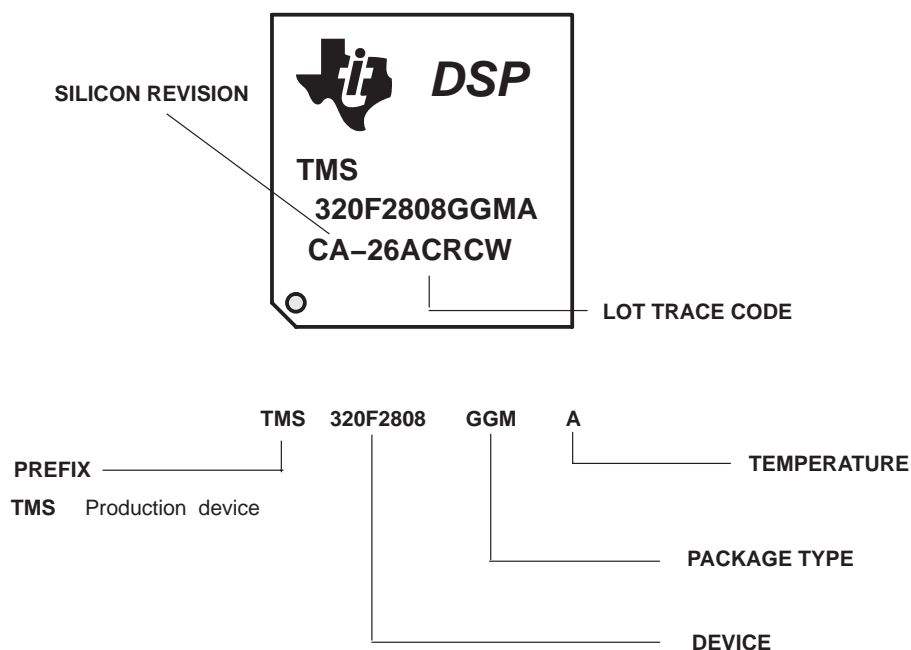


Figure 1. Example Markings for 280x Packages

Table 1. Determining Silicon Revision From Lot Trace Code (280x)

Second Letter in Prefix of Lot Trace Code	Silicon Revision	Revision ID (0x0883)	Comments
Blank (no second letter in prefix)	Indicates Revision 0	0x0000	This silicon revision is available as TMX only.

2 Known Design Marginality/Exceptions to Functional Specifications

Advisory

Boot ROM

Revision(s) Affected: 0

Details: In the input configuration, all GPIO pins come up synchronized to SYSCLKOUT. This is different compared to the TMS320x281x.

Workaround: This will be fixed in the next revision of the silicon. The boot ROM will configure the peripheral pins used for asynchronous mode operation.

Advisory

eCAN-A Boot Mode in Boot ROM

Revision(s) Affected: 0

Details: The eCAN-A boot mode in boot ROM does not work as intended. This is because the IDE and AME bits of the MSGID1 register are not initialized by the boot loader code. Since these bits can come up as 0 or a 1, frames transmitted by the host may not be received on the 2808.

Workaround: This will be fixed in the next revision of the silicon. If the existing bootloader is to be used for developing an application, be certain that the IDE and AME bits are 0 before proceeding to use the eCAN-A mode of the bootloader to be sure that a standard identifier frame with an ID of 1 is received by the eCAN-A module.

Advisory

ADC Initial Conversion Latency

Revision(s) Affected: 0

Details: When the ADC conversions are initiated by any source of trigger, the first two samples may not be correct conversion results.

- Workaround(s):**
1. If the ADC is set to convert at 1 Mega Sample Per Second (MSPS) or higher, discard the first two samples.

For instance, if the sequencer is set to sample channel A0/A1/A2 in that order, then load the sequencer with A0/A0/A0/A1/A2 and only use the last three conversions.
 2. If the ADC is set at a conversion rates below 1 MSPS, the conversion latency will give the ADC appropriate time to settle and the first conversion should be valid. Each application should validate this as acceptable in their application.

This will be fixed in the next revision of the silicon.

3 Documentation Support

For device-specific data sheets and related documentation, visit the TI web site at: <http://www.ti.com>

To access documentation on the web site:

3. Go to <http://www.ti.com>
4. Click on **DSP Product Tree**
5. Click on the **C2000** platform
6. Click on **C28x DSPs**
7. Click on a device name and then click on the documentation type you prefer.

For further information regarding the 280x DSPs, please see the *TMS320F2808*, *TMS320F2806*, and *TMS320F2801 Digital Signal Processors* data manual (literature number SPRS230).

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