



**PRODUCT BULLETIN**  
Generic Copy

**ISSUE DATE:** 06-Mar-2013  
**NOTIFICATION:** 15543  
**TITLE:** KINETIS 100 MHZ ERRATA AND DATASHEET UPD  
**EFFECTIVE DATE:** 07-Mar-2013

**DEVICE(S)**

| MPN              |
|------------------|
| MK10DN512ZVLK10  |
| MK10DN512ZVLK10R |
| MK10DN512ZVLL10  |
| MK10DN512ZVLL10R |
| MK10DN512ZVLQ10  |
| MK10DN512ZVMC10  |
| MK10DN512ZVMC10R |
| MK10DN512ZVMD10  |
| MK10DX128ZVMD10  |
| MK10DX256ZVLQ10  |
| MK10DX256ZVLQ10R |
| MK10DX256ZVMD10  |
| MK20DN512ZAB10R  |
| MK20DN512ZCAB10R |
| MK20DN512ZVLK10  |
| MK20DN512ZVLL10  |
| MK20DN512ZVLQ10  |
| MK20DN512ZVLQ10R |
| MK20DN512ZVMC10  |
| MK20DN512ZVMC10R |
| MK20DN512ZVMD10  |
| MK20DX128ZVLQ10  |
| MK20DX256ZVLK10  |
| MK20DX256ZVLL10  |
| MK20DX256ZVLQ10  |
| MK20DX256ZVMC10  |
| MK20DX256ZVMD10  |
| MK30DN512ZVLK10  |

|                  |
|------------------|
| MK30DN512ZVLQ10  |
| MK30DN512ZVLQ10R |
| MK30DX256ZVLQ10  |
| MK40DN512ZVLL10  |
| MK40DN512ZVLQ10  |
| MK40DN512ZVMD10  |
| MK40DX128ZVLQ10  |
| MK40DX256ZVLQ10  |
| MK40DX256ZVMD10  |
| MK50DN512ZCLL10  |
| MK50DN512ZCLQ10  |
| MK50DX256ZCLL10  |
| MK50DX256ZCLQ10  |
| MK51DN256ZCMD10  |
| MK51DN512ZCLL10  |
| MK51DN512ZCLQ10  |
| MK51DN512ZCMC10  |
| MK51DX256ZCLL10  |
| MK51DX256ZCMC10  |
| MK52DN512ZCLQ10  |
| MK52DN512ZCMD10  |
| MK53DN512ZCLQ10  |
| MK53DN512ZCMD10  |
| MK53DX256ZCLQ10  |
| MK60DN256ZVLL10  |
| MK60DN256ZVLQ10  |
| MK60DN512ZAB10R  |
| MK60DN512ZCAB10R |
| MK60DN512ZVLL10  |
| MK60DN512ZVLQ10  |
| MK60DN512ZVLQ10R |
| MK60DN512ZVMC10  |
| MK60DN512ZVMD10  |
| MK60DX256ZVLL10  |
| MK60DX256ZVLQ10  |
| MK60DX256ZVMC10  |
| MK60DX256ZVMD10  |

## **AFFECTED CHANGE CATEGORIES**

- **DEVICE SPECIFICATION / ERRATA**

## **DESCRIPTION OF CHANGE**

The Kinetis 100 MHz devices (4N30D and 8N30D mask sets) errata documentation has been updated to include additional errata that have been identified. The updated version has been added to the freescale.com website at:

[http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS\\_4N30D.pdf](http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS_4N30D.pdf) and the initial release for 8N30D located here: [http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS\\_8N30D.pdf](http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS_8N30D.pdf).

Updates to the 4N30D mask set include the addition of 8 new errata. Workarounds are available on the Errata Report:

- 6358 ENET: Write to Transmit Descriptor Active Register (ENET\_TDAR) is ignored
- 6189 FTL: ERSSRC (Erase Sector) command does not change the Swap System status from UPDATE to UPDATE-ERASED on devices in this product family with 256KB of total P-Flash
- 5751 FTFx: Launching the Read 1's Section command (RD1SEC) on an entire flash block results in access error (ACCER)
- 5706 FTFx: MCU security is inadvertently enabled (secured) if a mass erase is executed when the flash blocks/halves are swapped. This issue only affects applications that use the flash swap feature.
- 6328 PMC: Incorrect exit from VLLSx modes
- 5708 SLCD: LCD waveforms can exceed voltage specification for 3V or 5V glass
- 5704 UART: TC bit in UARTx\_S1 register is set before the last character is sent out in ISO7816 T=0 mode
- 5928 USBOTG: USBx\_USBTRC0[USBRESET] bit does not operate as expected in all cases

Updates to the 4N30D mask set include the removal of the following due to updates to the datasheet :

- 3863 ADC: In 16-bit differential mode, ADC may result in a conversion error when positive input is near upper rail reference voltage

The following errata that apply to 4N30D have been fixed and qualified on the new 8N30D mask set :

- 6189 FTL: ERSSRC (Erase Sector) command does not change the Swap System status from UPDATE to UPDATE-ERASED on devices in this product family with 256KB of total P-Flash
- 5751 FTFx: Launching the Read 1's Section command (RD1SEC) on an entire flash block results in access error (ACCER)
- 5706 FTFx: MCU security is inadvertently enabled (secured) if a mass erase is executed when the flash blocks/halves are swapped. This issue only affects applications that use the flash swap feature.
- 4482 PMC: STOP mode recovery unstable
- 4949 Reset and Boot: Device may not exit the power on reset (POR) event correctly with fast ramp-up slew rates.

The Kinetis K Series 100MHz Family datasheets have been updated to revision 7, with the following changes:

- In "ESD handling ratings", added a note for ILAT.
- Updated "Voltage and current operating requirements".
- Updated "Voltage and current operating behaviors".
- Updated "Power mode transition operating behaviors".
- Updated "EMC radiated emissions operating behaviors" to add MAPBGA data.
- In "MCG specifications", updated the description of fints\_t.
- In "16-bit ADC operating conditions", updated the max spec of VADIN.
- In "16-bit ADC electrical characteristics", updated the temp sensor slope and voltage specs.
- Updated "I2C switching specifications".
- In "SDHC specifications", removed the operating voltage limits and updated the SD1 and SD6 specs.
- In "I2S switching specifications", added separate specification tables for the full operating voltage range.

See attached document for corresponding links to affected datasheets.

All Kinetis K Series datasheets can be found at [http://www.freescale.com/webapp/sps/site/overview.jsp?code=KINETIS\\_K\\_SERIES](http://www.freescale.com/webapp/sps/site/overview.jsp?code=KINETIS_K_SERIES)

## **REASON FOR CHANGE**

The errata documentation for the Kinetis 100 MHz devices has been updated and the Kinetis K Series datasheets have been updated to correct errors and provide additional technical clarification on some device features.

## **ANTICIPATED IMPACT OF PRODUCT CHANGE(FORM, FIT, FUNCTION, OR RELIABILITY)**

There have been no changes made to the current production device. The errata describe existing conditions identified on current production devices. There is one new mask set available with fixes in place. (See PCN 15387) There are potential software and/or hardware implications to customers.

---

**NOTE:**  
THE CHANGE(S) SPECIFIED IN THIS NOTIFICATION WILL BE IMPLEMENTED ON THE EFFECTIVE DATE LISTED ABOVE. To request further data or inquire about the notification, please enter a [Service Request](#)

For sample inquiries - please go to [www.freescale.com](http://www.freescale.com)

---

**QUAL DATA AVAILABILITY DATE:** 20-Feb-2013

**QUALIFICATION STATUS:** N/A

**QUALIFICATION PLAN:**

N/A

**RELIABILITY DATA SUMMARY:**

N/A

**ELECTRICAL CHARACTERISTIC SUMMARY:**

N/A

---

**CHANGED PART IDENTIFICATION:**

N/A

---

**ATTACHMENT(S):**

External attachment(s) FOR this notification can be viewed AT:

[15543\\_KINETIS\\_4N30D\\_prelim2.pdf](#)

[15543\\_KINETIS\\_8N30D\\_prelim2.pdf](#)

---