### PRODUCT BULLETIN Generic Copy

ISSUE DATE:	08-Apr-2013
NOTIFICATION:	15588
TITLE:	KINETIS K SERIES 72 MHZ ERRATA UPDATE
EFFECTIVE DATE:	09-Apr-2013

# DEVICE(S)

MPN	
K10DX128VLH7	
K10DX128VLK7	
K10DX128VLK7R	
K10DX128VLL7	
K10DX128VMC7	
K10DX256VLH7	
K10DX256VLK7	
K10DX256VLK7R	
K10DX256VLL7	
K10DX256VMC7	
K10DX64VLH7	
K10DX64VLK7	
K10DX64VLK7R	
K10DX64VMC7	
K20DX128VLH7	
K20DX128VLK7	
K20DX128VLL7	
K20DX128VMC7	
K20DX256VLH7	
K20DX256VLK7	
K20DX256VLL7	
K20DX256VMC7	
K20DX64VLH7	
K20DX64VLK7	
K20DX64VMC7	
K30DX128VLH7	
K30DX128VLK7	
K30DX128VLL7	

MK30DX256VLK7       MK30DX256VLL7       MK30DX256VLC7       MK30DX84VLH7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLK7       MK40DX128VLK7       MK40DX128VLL7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX26VLF7       MK40DX26VLF7       MK40DX26VLF7       MK40DX26VLF7       MK40DX26VLF7       MK40DX26VLF7       MK40DX64VLF7       MK40DX64VLF7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLK7       MK50DX128CLK7       MK50DX256CLK7       MK50DX256CLT       MK50DX128CLH7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7	MK30DX128VMC7	
MK30DX256VLL7       MK30DX256VMC7       MK30DX64VLH7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7       MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX256VLH7       MK40DX256VLH7       MK40DX256VLH7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX26VLT7       MK40DX26VLT7       MK40DX64VLT7       MK40DX64VLT7       MK40DX64VLT7       MK40DX64VLT7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX256CLL7       MK50DX256CLL7       MK51DX128CLH7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7 <tr< td=""><td>MK30DX256VLH7</td><td></td></tr<>	MK30DX256VLH7	
MK30DX256VMC7       MK30DX64VLK7       MK30DX64VLK7       MK30DX64VLK7R       MK30DX64VMC7       MK40DX128VLH7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX256VLH7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX64VLK7       MK40DX64VLK7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLK7       MK50DX256CLK7       MK51DX128CLH7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7	MK30DX256VLK7	
MK30DX64VLH7       MK30DX64VLK7       MK30DX64VLK7R       MK30DX64VMC7       MK40DX128VLH7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLC7       MK40DX256VLH7       MK40DX256VLH7       MK40DX256VLK7       MK40DX256VLK7       MK40DX256VLT7       MK40DX256VLT7       MK40DX64VLK7       MK40DX64VLK7       MK40DX64VLK7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLK7       MK50DX128CLK7       MK50DX128CLK7       MK50DX256CLL7       MK50DX128CLH7       MK50DX128CLK7       MK50DX128CLK7       MK50DX128CLK7       MK51DX128CLK7	MK30DX256VLL7	
MK30DX64VLK7       MK30DX64VLK7R       MK40DX128VLH7       MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLK7       MK40DX128VLL7       MK40DX128VLL7       MK40DX128VLL7       MK40DX256VLH7       MK40DX256VLT7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX64VLH7       MK40DX64VLK7       MK40DX64VLK7       MK40DX64VLK7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLK7       MK50DX128CLK7       MK50DX256CLL7       MK50DX256CLL7       MK50DX256CLL7       MK51DX128CMC7       MK51DX128CMC7       MK51DX128CMC7       MK51DX128CMC7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7	MK30DX256VMC7	
MK30DX64VLK7R       MK30DX64VMC7       MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLK7       MK40DX128VLL7       MK40DX128VMC7       MK40DX128VMC7       MK40DX128VMC7       MK40DX256VLH7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX256VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK40DX64VLF7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX256CLC7       MK50DX256CLF7       MK50DX256CLF7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX256CLK7       MK51DX256CLL7	MK30DX64VLH7	
MK30DX64VMC7       MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLL7       MK40DX128VMC7       MK40DX256VLH7       MK40DX256VLF7       MK40DX256VLK7       MK40DX256VLK7       MK40DX256VLT9       MK40DX256VLC7       MK40DX266VMC7       MK40DX64VLH7       MK40DX64VLK7       MK50DX128CLH7R       MK50DX128CLH7R       MK50DX128CLL7       MK50DX256CLK7       MK50DX256CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX256CLL7	MK30DX64VLK7	
MK40DX128VLH7       MK40DX128VLK7       MK40DX128VLL7       MK40DX128VMC7       MK40DX256VLH7       MK40DX256VLH7       MK40DX256VLK7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLL7       MK40DX256VLT       MK40DX256VLT       MK40DX256VLT       MK40DX256VLT       MK40DX256VLT       MK40DX256VLT       MK40DX256VLT       MK40DX64VLT       MK40DX64VLT       MK40DX64VLT       MK40DX64VLT       MK40DX28CLL7       MK50DX128CLH7       MK50DX128CLL7       MK50DX128CLL7       MK50DX256CLK7       MK50DX256CLL7       MK50DX256CLL7       MK51DX128CLF       MK51DX128CLF       MK51DX128CLF       MK51DX128CLF       MK51DX128CLF       MK51DX128CLF       MK51DX128CLF       MK51DX128CLL7	MK30DX64VLK7R	
MK40DX128VLK7       MK40DX128VLL7       MK40DX128VMC7       MK40DX256VLH7       MK40DX256VLK7       MK40DX256VLL7       MK40DX256VLC7       MK40DX256VLT7       MK40DX256VLT7       MK40DX256VLT7       MK40DX256VLT7       MK40DX256VLT7       MK40DX256VLT7       MK40DX256VMC7       MK40DX64VLH7       MK40DX64VLK7       MK40DX64VLK7       MK40DX28CLH7       MK50DX128CLH7R       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX256CLL7       MK50DX256CLL7       MK50DX256CLL7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX128CLF7       MK51DX256CLF7	MK30DX64VMC7	
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MK40DX128VMC7     MK40DX256VLH7     MK40DX256VLK7     MK40DX256VLL7     MK40DX256VMC7     MK40DX256VMC7     MK40DX64VLH7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX226CLK7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX226CLK7     MK51DX226CLL7	MK40DX128VLK7	
MK40DX256VLH7       MK40DX256VLK7       MK40DX256VLL7       MK40DX256VMC7       MK40DX64VLH7       MK40DX64VLK7       MK40DX64VLK7       MK40DX64VLK7       MK40DX64VLR7       MK40DX64VLR7       MK40DX64VLR7       MK50DX128CLH7       MK50DX128CLH7       MK50DX128CLL7       MK50DX128CLL7       MK50DX128CLL7       MK50DX256CLK7       MK50DX256CLK7       MK50DX256CLK7       MK51DX128CLH7       MK51DX128CLH7       MK51DX128CLH7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX128CLK7       MK51DX256CLK7       MK51DX256CLK7       MK51DX256CLK7       MK51DX256CLL7	MK40DX128VLL7	
MK40DX256VLK7     MK40DX256VLL7     MK40DX256VMC7     MK40DX64VLH7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VLK7     MK50DX128CLH7     MK50DX128CLH7     MK50DX128CLH7     MK50DX128CLF7     MK50DX128CLL7     MK50DX128CLC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLL7	MK40DX128VMC7	
MK40DX256VLL7     MK40DX256VMC7     MK40DX64VLH7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VLK7     MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLK7     MK51DX256CLK7	MK40DX256VLH7	
MK40DX256VMC7     MK40DX64VLH7     MK40DX64VLK7     MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLC     MK50DX128CLL7     MK50DX128CLC     MK50DX128CLL7     MK50DX128CLL7     MK50DX256CLK7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLK7     MK51DX256CLL7	MK40DX256VLK7	
MK40DX64VLH7     MK40DX64VLK7     MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CMC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLK7	MK40DX256VLL7	
MK40DX64VLK7     MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CLC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK50DX256CLL7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLK7     MK51DX256CLK7     MK51DX256CLK7	MK40DX256VMC7	
MK40DX64VMC7     MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLL7     MK50DX128CLC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLK7     MK51DX256CLK7	MK40DX64VLH7	
MK50DX128CLH7     MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CMC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLK7     MK51DX256CLK7	MK40DX64VLK7	
MK50DX128CLH7R     MK50DX128CLK7     MK50DX128CLL7     MK50DX128CMC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CLL7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLL7	MK40DX64VMC7	
MK50DX128CLK7     MK50DX128CLL7     MK50DX128CMC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CMC7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX256CLK7     MK51DX256CLK7	MK50DX128CLH7	
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MK50DX128CMC7     MK50DX256CLK7     MK50DX256CLL7     MK50DX256CMC7     MK51DX128CLH7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7     MK51DX128CLK7	MK50DX128CLK7	
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MK50DX256CMC7 MK51DX128CLH7 MK51DX128CLK7 MK51DX128CMC7 MK51DX256CLK7 MK51DX256CLL7	MK50DX256CLK7	
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MK51DX256CLL7	MK51DX128CMC7	
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MK51DX256CMC7	MK51DX256CLL7	
	MK51DX256CMC7	

# AFFECTED CHANGE CATEGORIES

• DEVICE SPECIFICATION / ERRATA

## **DESCRIPTION OF CHANGE**

The Kinetis K Series 72 MHz (1N36B and 2N36B mask sets) errata documentation has been updated to include additional errata that have been identified and remove errata that have been fixed.

On the freescale.com website, the errata document for the 1N36B mask set will be updated at:

http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS72MHZ\_1N36B.pdf

and a new errata document for the 2N36B mask set will be located at:

http://cache.freescale.com/files/microcontrollers/doc/errata/KINETIS72MHZ\_2N36B.pdf

#### New Errata

Updates to the 1N36B mask set include the addition of eight new errata. Workarounds are available in the Errata Report. These new errata include:

e5751: FTFx: Launching the Read 1's Section command (RD1SEC) on an entire flash block results in access error (ACCER)

e4710: FTM: FTMx\_PWMLOAD register does not support 8-/16-bit accesses

e5666: PMC: Maximum current consumption in VLPR, VLPW, VLPS, LLS and VLLS modes may be higher than data sheet specification

e5667: PMC: When used as an input to ADC or CMP modules, the PMC bandgap 1-V voltage reference is not available in VLPx or VLLSx modes

e5130: SAI: Under certain conditions, the CPU cannot reenter STOP mode via an asynchronous interrupt wakeup event

e5952: SMC: Wakeup via the LLWU from LLS/VLLS to RUN to VLPR incorrectly triggers an immediate wakeup from the next low power mode entry

e5704: UART: TC bit in UARTx\_S1 register is set before the last character is sent out in ISO7816 T=0 mode

e5928: USBOTG: USBx\_USBTRC0[USBRESET] bit does not operate as expected in all cases

#### Fixed Errata

The following errata that apply to 1N36B have been fixed and qualified on the new 2N36B mask set:

e2793: I2C: MCU does not wake as expected from STOP or VLPS mode on subsequent address matches if previous address is mismatched

e4482: PMC: STOP mode recovery unstable

e4638: PMC: VLLSx mode current draw at cold can exceed maximum specification at cold

e4949: Reset and Boot: Device may not exit the power on reset (POR) event correctly with fast ramp-up slew rates

e3964: When debug is active a wakeup from STOP or VLPS with interrupt causes a hard fault interrupt

#### **Modified Errata**

The following errata e4647 on the 1N36B maskset:

e4647: UART: Flow control timing issue can result in loss of characters if FIFO is not enabled

has been rewritten and its errata number changed to e2582 on the 2N36B mask set:

e2582: UART: Flow control timing issue can result in loss of characters

### **REASON FOR CHANGE**

The errata documentation for Kinetis K Series 72 MHz devices has been updated.

### 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 are potential hardware and/or software 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 <u>Service</u> <u>Request</u>

For sample inquiries - please go to www.freescale.com

### QUAL DATA AVAILABILITY DATE: 22-Mar-2013

**QUALIFICATION STATUS:** COMPLETED

### **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: <u>15588\_KINETIS72MHZ\_1N36B.pdf</u> <u>15588\_KINETIS72MHZ\_2N36B.pdf</u>