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Bulletin Date: 7/3/2014	Bulletin Effective Date: 7/3/2014	
Title: EFM32TG Datasheet Revision Notification		
Originator: Ted Batey	Phone: 512-532-5279	Dept: Marketing
Customer Contact: Kathy Haggar	Phone: 512-532-5261	Dept: Sales
Bulletin Details		

Description:
Silicon Labs is pleased to announce that version 1.30 of the EFM32TG (Tiny Gecko family) datasheets and version 1.20 of the EFM32TG reference manual are now available. The affected datasheets are: EFM32TG108, EFM32TG110, EFM32TG210, EFM32TG222, EFM32TG225, EFM32TG230, EFM32TG232, EFM32TG822, EFM32TG825, EFM32TG840, EFM32TG842. The affected reference manual is: EFM32TG-RM.

The revision includes a number of key changes to existing Min/Max/Typ values that more accurately reflect the performance of the part. These changes are summarized in Table 1 at the end of this document. In addition, Table 3.12 HFRCO has a new Footnote 3, ensuring frequency bands above 7MHz will always have some overlap across supply voltage and temperature.

In addition, new min/max data has been added and other minor updates have been made as follows:
- Updated Current Consumption information
- Updated Power Management information
- Updated GPIO information
- Updated LFXO information
- Updated HFXO information
- Updated HFRCO information
- Updated ULFRCO information
- Updated ACMP information

See Table 1 at the end of this document for additional details.

The reference manual has also been changed to reflect the updated operating voltage range and current consumption information.

Reason:
Updated specifications based on the results of additional silicon characterization. There are no physical or software changes to the devices.

Product Identification:

Affected Part Numbers
EFM32TG108F4-QFN24
EFM32TG108F8-QFN24
EFM32TG108F16-QFN24
EFM32TG108F32-QFN24
EFM32TG110F4-QFN24
EFM32TG110F8-QFN24
EFM32TG110F16-QFN24
EFM32TG110F32-QFN24
EFM32TG210F8-QFN32
EFM32TG210F16-QFN32
EFM32TG210F32-QFN32

Affected Part Numbers
EFM32TG222F8-QFP48
EFM32TG222F16-QFP48
EFM32TG222F32-QFP48
EFM32TG225F8-BGA48
EFM32TG225F16-BGA48
EFM32TG225F32-BGA48
EFM32TG230F8-QFN64
EFM32TG230F16-QFN64
EFM32TG230F32-QFN64
EFM32TG232F8-QFP64
EFM32TG232F16-QFP64
EFM32TG232F32-QFP64

Affected Part Numbers
EFM32TG822F8-QFP48
EFM32TG822F16-QFP48
EFM32TG822F32-QFP48
EFM32TG825F8-BGA48
EFM32TG825F16-BGA48
EFM32TG825F32-BGA48
EFM32TG840F8-QFN64
EFM32TG840F16-QFN64
EFM32TG840F32-QFN64
EFM32TG842F8-QFP64
EFM32TG842F16-QFP64
EFM32TG842F32-QFP64

This change is considered a minor change which does not affect form, fit, function, quality, or reliability. The information is being provided as a customer courtesy.

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Customer Actions Needed:
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Table 1: EFM32TGxxx Datasheet Rev 1.30 - Summary of Key Changes

Table*	Symbol	Parameter	Condition	Datasheet Rev 1.21 Min	Typ	Max	Datasheet Rev 1.30 Min	Typ	Max	Unit
3.2 General Operating Conditions	V_{DDOP}	Operating Supply Voltage		1.85		3.8	1.98		3.8	V
3.6 Power Management	$V_{BODextthr-}$	BOD threshold, falling external supply		1.82		1.85	1.74		1.96	V
3.7 Flash	V_{FLASH}	Flash erase/write supply voltage		1.8		3.8	1.98		3.8	V
3.8 GPIO	V_{IOOH}	Output high voltage	Sourcing 6 mA, V_{DD} = 1.98V	$0.75V_{DD}$			$0.75V_{DD}$			V
			Sourcing 6 mA, V_{DD} = 3.0V	$0.95V_{DD}$			$0.85V_{DD}$			V
			Sourcing 20 mA, V_{DD} = 1.98V	$0.7V_{DD}$			$0.6V_{DD}$			V
			Sourcing 20 mA, V_{DD} = 3.0V	$0.9V_{DD}$			$0.8V_{DD}$			V
	V_{IOOL}	Output low voltage	Sinking 6 mA, V_{DD} = 1.98V			$0.25V_{DD}$			$0.3V_{DD}$	V
			Sinking 6 mA, V_{DD} = 3.0V			$0.05V_{DD}$			$0.2V_{DD}$	V
			Sinking 20 mA, V_{DD} = 1.98V			$0.3V_{DD}$			$0.35V_{DD}$	V
			Sinking 20 mA, V_{DD} = 3.0V			$0.1V_{DD}$			$0.2V_{DD}$	V
	I_{IOLEAK}	Input leakage current				±25		±0.1	±100	nA
3.13 ULFRCO	f_{ULFRCO}	Oscillation frequency		0.8		1.5	0.7		1.75	kHz
3.17 ACMP	$V_{ACMPOFFSET}$	Offset voltage			10			0		mV

* Note: Table numbers may vary by datasheet. Numbers listed refer to EFM32TG842.