CHANGE NOTIFICATION

Linear Technology Corporation
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August 01, 2013

Dear Sir/Madam: PCN# 080113

Subject: Notification of Change to LTC3565 Datasheet

Please be advised that Linear Technology Corporation has made a minor change to the LTC3565 product datasheet to better center the parametric distribution within the specification range. The change is shown on the attached page of the marked up datasheet. There was no change made to the die. The product shipped after 10/02/2013 will be tested to the new limits.

Should you have any further questions, please feel free to contact me at 408-432-1900 ext. 2077, or by e-mail at JASON.HU@linear.com. If I do not hear from you by October 1st, 2013, we will consider this change approved by your company.

Sincerely,

Jason Hu
Quality Assurance Engineer

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating junction temperature range, otherwise specifications are at T_J = 25°C. V_{IN} = 3.6V, R_T = 125k unless otherwise specified. (Note 2)

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
I_S	Input DC Supply Current (Note 4) Active Mode Sleep Mode Shutdown	 $V_{SYNC/MODE}$ = 3.6V, V_{FB} = 0.55V $V_{SYNC/MODE}$ = 3.6V, V_{FB} = 0.8V V_{RUN} = 0V	 		 330 40 0.1	 450 60 1	 µA µA µA
f_{OSC}	Oscillator Frequency	RT = 125k (Note 7)		1.3	1.5	1.7 4	MHz MHz
f_{SYNC}	Synchronization Frequency	(Note 7)		0.4		4	MHz
I_{LIM}	Peak Switch Current Limit	V_{IN} = 3V, V_{FB} = 0.5V		1.5	2.1	2.5	A
$R_{DS(ON)}$	Top Switch On-Resistance	MSE Package DD Package (Note 6)	 		0.15 0.15	0.2 	Ω Ω
	Bottom Switch On-Resistance	MSE Package DD Package (Note 6)	 		0.13 0.13	0.18 	Ω Ω
$I_{SW(LKG)}$	Switch Leakage Current	V_{IN} = 5.5V, V_{RUN} = 0V, V_{FB} = 0V			0.01	1	µA
V_{RUN}	RUN Threshold		●	0.3	0.8	1.5	V
I_{RUN}	RUN Leakage Current		●		±0.01	±1	µA
V_{UVLO}	Undervoltage Lockout Threshold	V_{IN} Ramping Down			1.9	2.2	V
PGOOD	Power Good Threshold	V_{FB} Ramping Up from 0.45V to 0.6V V_{FB} Ramping Down from 0.69V to 0.6V			–7 7	 	% %
R_{PGOOD}	Power Good Pull-Down On-Resistance				15	20	Ω
PGOOD Blanking		V_{FB} Step from 0V to 0.6V V_{FB} Step from 0.6V to 0V			40 105	 	µs µs
$V_{SYNC-MODE}$	Pulse Skip Force Continuous Burst	VIN = 2.5V to 5.5V VIN = 2.5V to 5.5V VIN = 2.5V to 5.5V		1.2 V_{IN} – ~~0.75~~	0.6 ~~1.1~~ 0.6	~~0.62~~ V_{IN} – ~~1.05~~ 	V V V
$t_{SOFT-START}$		10% to 90% of Regulation		0.6	0.9	1.2	ms

Note 1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

Note 2: The LTC3565 is tested under pulsed load conditions such that $T_J \approx T_A$. The LTC3565E is guaranteed to meet performance specifications from 0°C to 85°C junction temperature. Specifications over the –40°C to 125°C operating junction temperature range are assured by design, characterization and correlation with statistical process controls. The LTC3565I is guaranteed over the full –40°C to 125°C operating junction temperature range. Note that the maximum ambient temperature consistent with these specifications is determined by specific operating conditions in conjunction with board layout, the rated package thermal resistance and other environmental factors.

Note 3: The LTC3565 is tested in a feedback loop which servos V_{FB} to the midpoint for the error amplifier (V_{ITH} = 0.7V).

Note 4: Dynamic supply current is higher due to the internal gate charge being delivered at the switching frequency.

Note 5: T_J is calculated from the ambient T_A and power dissipation P_D according to the following formulas:

LTC3565EDD: $T_J = T_A + (P_D \bullet 43°C/W)$

LTC3565EMSE: $T_J = T_A + (P_D \bullet 40°C/W)$

Note 6: Switch on-resistance is guaranteed by correlation to wafer level measurements and assured by design characterization and correlation with statistical process controls.

Note 7: 4MHz operation is guaranteed by design but not production tested and is subject to duty cycle limitations (see Applications Information).

Note 8: This IC includes overtemperature protection that is intended to protect the device during momentary overload conditions. Junction temperature will exceed 125°C when overtemperature protection is active. Continuous operation above the specified maximum operating junction temperature may impair device reliability.