CHANGE NOTIFICATION

Linear Technology Corporation
1630 McCarthy Blvd., Milpitas, CA 95035-7417
(408) 432-1900

August 26, 2015

Dear Sir/Madam: PCN# 082615

Subject: Notification of Change to LTC3105 Datasheet

Please be advised that Linear Technology Corporation has made a minor change to the LTC3105 product datasheet to improve manufacturability. 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 October 26, 2015 will be tested to the new limits.

Should you have any further questions or concerns please contact your local Linear Technology Sales person or you may 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 26, 2015, we will consider this change to be 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_A = 25°C (Note 2). V_{AUX} = V_{OUT} = 3.3V, V_{LDO} = 2.2V, V_{IN} = 0.6V, unless otherwise noted.

PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Step-Up Converter						
Input Operating Voltage		●	0.225		5	V
Input Start-Up Voltage	(Note 5) T_J = 0°C to 85°C (Note 5)	●		0.25	0.4 0.36	V V
Output Voltage Adjust Range		●	~~1.5~~ 1.6		5.25	V
Feedback Voltage (FB Pin)		●	0.984	1.004	1.024	V
V_{OUT} I_Q in Operation	V_{FB} = 1.10V			24		µA
V_{OUT} I_Q in Shutdown	$\overline{SHDN}$ = 0V			10		µA
MPPC Pin Output Current	V_{MPPC} = 0.6V		9.72	10	10.28	µA
$\overline{SHDN}$ Input Logic High Voltage		●	1.1			V
$\overline{SHDN}$ Input Logic Low Voltage		●			0.3	V
N-Channel SW Pin Leakage Current	V_{IN} = V_{SW} = 5V, $V_{\overline{SHDN}}$ = 0V			1	10	µA
P-Channel SW Pin Leakage Current	V_{IN} = V_{SW} = 0V, V_{OUT} = V_{AUX} = 5.25V			1	10	µA
N-Channel On-Resistance: SW to GND				0.5		Ω
P-Channel On-Resistance: SW to V_{OUT}				0.5		Ω
Peak Current Limit	V_{FB} = 0.90V, V_{MPPC} = 0.4V (Note 3)		0.4	0.5		A
Valley Current Limit	V_{FB} = 0.90V, V_{MPPC} = 0.4V (Note 3)		0.275	0.35		A
PGOOD Threshold (% of Feedback Voltage)	V_{OUT} Falling		85	90	95	%
LDO Regulator						
LDO Output Adjust Range	External Feedback Network, V_{AUX} > V_{LDO}	●	1.4		5	V
LDO Output Voltage	V_{FBLDO} = 0V	●	2.148	2.2	2.236	V
Feedback Voltage (FBLDO Pin)	External Feedback Network	●	0.984	1.004	1.024	V
Load Regulation	I_{LDO} = 1mA to 6mA			0.40		%
Line Regulation	V_{AUX} = 2.5V to 5V			0.15		%
Dropout Voltage	I_{LDO} = 6mA, V_{OUT} = V_{AUX} = 2.2V			105		mV
LDO Current Limit	V_{LDO} 0.5V Below Regulation Voltage	●	6	12		mA
LDO Reverse-Blocking Leakage Current	V_{IN} = V_{AUX} = V_{OUT} = 0V, $V_{\overline{SHDN}}$ = 0V			1		µA

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 LTC3105 is tested under pulsed load conditions such that $T_J \approx T_A$. The LTC3105E is guaranteed to meet specifications from 0°C to 85°C junction temperature. Specifications over the –40°C to 85°C operating junction temperature range are assured by design, characterization and correlation with statistical process controls. 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 impedance and other environmental factors.

Note 3: Current measurements are performed when the LTC3105 is not switching. The current limit values measured in operation will be somewhat higher due to the propagation delay of the comparators.

Note 4: This IC includes over temperature 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.

Note 5: The LTC3105 has been optimized for use with high impedance power sources such as photovoltaic cells and thermoelectric generators. The input start-up voltage is measured using an input voltage source with a series resistance of approximately 200mΩ and MPPC enabled. Use of the LTC3105 with lower resistance voltage sources or with MPPC disabled may result in a higher input start-up voltage.