

## CHANGE NOTIFICATION



Linear Technology Corporation  
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March 09, 2017

Dear Sir/Madam:

PCN#030917

**Subject: Notification of Change to LT3761, LT3761-1 Datasheet**

Please be advised that Linear Technology Corporation has made a minor change to the LT3761, LT3761-1 product datasheet to facilitate improvement in our manufacturing yield. The changes are shown on the attached page of the marked up datasheet. There was no change in form, fit, function, quality or reliability of the product. The product shipped after May 09, 2017 will be tested to the new limits.

Should you have any concerns, please contact me before May 09, 2017, at which time we will consider this change to be approved. Should you have any 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](mailto:JASON.HU@LINEAR.COM).

Sincerely,

Jason Hu  
Quality Assurance Engineer

**ELECTRICAL CHARACTERISTICS** The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at  $T_A = 25^\circ\text{C}$ .  $V_{IN} = 24\text{V}$ ,  $EN/UVLO = 24\text{V}$ ,  $CTRL = 2\text{V}$ ,  $\text{PWM} = 5\text{V}$ , unless otherwise noted.

PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
<b>Error Amplifier</b>						
Full-Scale ISP/ISN Current Sense Threshold ( $V_{ISP-ISN}$ )	$CTRL \geq 1.2\text{V}$ , $ISP = 48\text{V}$ $CTRL \geq 1.2\text{V}$ , $ISN = 0\text{V}$	●	242	250	258	mV
		●	243	257	268	mV
1/10th Scale ISP/ISN Current Sense Threshold ( $V_{ISP-ISN}$ )	$CTRL = 0.2\text{V}$ , $ISP = 48\text{V}$ $CTRL = 0.2\text{V}$ , $ISN = 0\text{V}$	●	21	25	30	mV
		●	20	17	28	39
Mid-Scale ISP/ISN Current Sense Threshold ( $V_{ISP-ISN}$ )	$CTRL = 0.5\text{V}$ , $ISP = 48\text{V}$ $CTRL = 0.5\text{V}$ , $ISN = 0\text{V}$	●	96	100	104	mV
		●	95	105	115	mV
ISP/ISN Overcurrent Threshold				600		mV
ISP/ISN Current Sense Amplifier Input Common Mode Range ( $V_{ISN}$ )			0		80	V
ISP/ISN Input Bias Current High Side Sensing (Combined)	$\text{PWM} = 5\text{V}$ (Active), $ISP = ISN = 48\text{V}$ $\text{PWM} = 0\text{V}$ (Standby), $ISP = ISN = 48\text{V}$			100		$\mu\text{A}$
				0.1		$\mu\text{A}$
ISP/ISN Input Bias Current Low Side Sensing (Combined)	$\text{PWM} = 5\text{V}$ , $ISP = ISN = 0\text{V}$			-230		$\mu\text{A}$
ISP/ISN Current Sense Amplifier $g_m$ (High Side Sensing)	$V_{ISP-ISN} = 250\text{mV}$ , $ISP = 48\text{V}$			120		$\mu\text{S}$
ISP/ISN Current Sense Amplifier $g_m$ (Low Side Sensing)	$V_{ISP-ISN} = 250\text{mV}$ , $ISN = 0\text{V}$			70		$\mu\text{S}$
CTRL Pin Range for Linear Current Sense Threshold Adjustment		●	0		1.0	V
CTRL Input Bias Current	Current Out of Pin			50	100	nA
$V_C$ Output Impedance	$0.9\text{V} \leq V_C \leq 1.5\text{V}$			15		$\text{M}\Omega$
$V_C$ Standby Input Bias Current	$\text{PWM} = 0\text{V}$		-20		20	nA
FB Regulation Voltage ( $V_{FB}$ )	$ISP = ISN = 48\text{V}$ , $0\text{V}$	●	1.225	1.255	1.275	V
FB Amplifier $g_m$	$FB = V_{FB}$ , $ISP = ISN = 48\text{V}$			500		$\mu\text{S}$
FB Pin Input Bias Current	Current Out of Pin, $FB = V_{FB}$			40	100	nA
FB Open LED Threshold	OPENLED Falling, $ISP$ Tied to $ISN$ (LT3761 Only)	●	$V_{FB} - 65\text{mV}$	$V_{FB} - 50\text{mV}$	$V_{FB} - 40\text{mV}$	V
C/10 Inhibit for OPENLED Assertion ( $V_{ISP-ISN}$ )	$FB = V_{FB}$ , $ISN = 48\text{V}$ , $0\text{V}$ (LT3761 Only)		14	25	39	mV
FB Overvoltage Threshold	PWMOUT Falling		$V_{FB} + 50\text{mV}$	$V_{FB} + 60\text{mV}$	$V_{FB} + 70\text{mV}$	V
$V_C$ Current Mode Gain ( $\Delta V_C / \Delta V_{SENSE}$ )				4		V/V
<b>Oscillator</b>						
Switching Frequency	$R_T = 95.3\text{k}\Omega$ $R_T = 8.87\text{k}\Omega$	●	85	100	115	kHz
			925	1000	1050	kHz
GATE Minimum Off-Time	$C_{GATE} = 2200\text{pF}$			160		ns
GATE Minimum On-Time	$C_{GATE} = 2200\text{pF}$			180		ns
SYNC Pin Resistance to GND	3761-1 Only			30		$\text{k}\Omega$
SYNC Input High	3761-1 Only		1.5			V
SYNC Input Low	3761-1 Only				0.4	V
<b>Linear Regulator</b>						
INTV <sub>CC</sub> Regulation Voltage	$10\text{V} \leq V_{IN} \leq 60\text{V}$	●	7.6	7.85	8.05	V
INTV <sub>CC</sub> Maximum Operating Voltage			8.1			V
INTV <sub>CC</sub> Minimum Operating Voltage					4.5	V
Dropout ( $V_{IN} - \text{INTV}_{CC}$ )	$I_{\text{INTVCC}} = -10\text{mA}$ , $V_{IN} = 7\text{V}$			390		mV

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For more information [www.linear.com/LT3761](http://www.linear.com/LT3761)