

CHANGE NOTIFICATION



NOW PART OF



Analog Devices, Inc.
1630 McCarthy Blvd., Milpitas CA
(408) 432-1900

June 30, 2017

Dear Sir/Madam:

PCN#063017

Subject: Notification of Change to LT3797 Datasheet

Please be advised that Analog Devices, Inc. Milpitas, California has made a minor change to the LT3797 product datasheet to facilitate improvement in our manufacturing capability. The changes are shown on the attached pages of the marked up datasheet. There was no change in form, fit, function, quality or reliability of the product. The product shipped after August 30, 2017 will be tested to the new limits.

Should you have any questions or concerns please contact your local Analog Devices sales person or you may contact me at 408-432-1900 ext. 2077, or by e-mail at JASON.HU@ANALOG.COM. If I do not hear from you by August 30, 2017, 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 temperature range, otherwise specifications are at $T_A = 25^\circ\text{C}$. $V_{IN} = 24\text{V}$; $EN/UVLO = 24\text{V}$; $CTRL1$, $CTRL2$, $CTRL3$, $PWM1$, $PWM2$, $PWM3 = 2\text{V}$; $SENSE1$, $SENSE2$, $SENSE3 = 0\text{V}$, $OVLO = 0\text{V}$, unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
V_{IN} Minimum Operation Voltage		●		2.5	V	
V_{IN} Overvoltage Lockout	Rising V_{IN}	●	40	41	42.5	V
	Falling Hysteresis			1		V
V_{IN} Shutdown I_Q	$EN/UVLO = 0\text{V}$		0.1	1	μA	
	$EN/UVLO = 1.15\text{V}$			15	μA	
V_{IN} Operating I_Q (Not Switching)	$PWM1$, $PWM2$, $PWM3 = 0\text{V}$, $INTV_{CC} = 8\text{V}$		0.5	0.75	mA	
$INTV_{CC}$ Operating I_Q (Not Switching)	$PWM1$, $PWM2$, $PWM3 = 0\text{V}$, $INTV_{CC} = 8\text{V}$		2.4	3	mA	
V_{REF} Voltage	$0\mu\text{A} \leq I_{VREF} \leq 450\mu\text{A}$, $INTV_{CC} = 8\text{V}$	●	1.955	2.00	2.035 2.04V	
V_{REF} Line Regulation	$2.5\text{V} \leq V_{IN} \leq 40\text{V}$, $INTV_{CC} = 8\text{V}$		0.001		%/V	
SENSE1-SENSE1, SENSE2-SENSE2, SENSE2-SENSE2 Current Limit Threshold		●	100	110	120	mV
SENSE1, SENSE2, SENSE3 Input Bias Current	Current Out of Pin, SENSE1, SENSE2, SENSE3 = 0V			55	μA	
SENSE1, SENSE2, SENSE3 Input Bias Current	Current Out of Pin			210	μA	
Integrated $INTV_{CC}$ Power Supply (Note 7)						
$INTV_{CC}$ Regulation Voltage		●	7.15	7.5	7.75	V
$INTV_{CC}$ Undervoltage Lockout Threshold	Falling $INTV_{CC}$ Hysteresis		5.15	5.25	5.4	V
				0.4		V
$INTV_{CC}$ Line Regulation ($\Delta V_{INTV_{CC}}/\Delta V_{IN}$)	$2.5\text{V} < V_{IN} < 40\text{V}$		0.001	0.02	%	
Error Amplifiers						
LED Current Sense Threshold (ISP1-ISP1, ISP2-ISP2, ISP3-ISP3)	ISP1, ISP2, ISP3, FBH1, FBH2, FBH3 = 48V ISP1, ISP2, ISP3, FBH1, FBH2, FBH3 = 0V	●	243	250	257	mV
		●	238	250	272	mV
8/10th LED Current Sense Threshold (ISP1-ISP1, ISP2-ISP2, ISP3-ISP3)	CTRL1, CTRL2, CTRL3=1.1V, ISP1, ISP2, ISP3 = 48V CTRL1, CTRL2, CTRL3=1.1V, ISP1, ISP2, ISP3 = 0V	●	194.5	200	203.5	mV
		●	192	200	218	mV
1/10th LED Current Sense Threshold (ISP1-ISP1, ISP2-ISP2, ISP3-ISP3)	CTRL1, CTRL2, CTRL3=0.3V, ISP1, ISP2, ISP3 = 48V CTRL1, CTRL2, CTRL3=0.3V, ISP1, ISP2, ISP3 = 0V	●	17	25	29	mV
		●	15	25	34	mV
CTRL1, CTRL2, CTRL3 Range for Linear Current Sense Threshold Adjustment		●	0.2		1.2	V
CTRL1, CTRL2, CTRL3 Input Bias Current	Current Out of Pin, CTRL1, CTRL2, CTRL3 = 0.3V			50	100	nA
CTRL1, CTRL2, CTRL3 Idle Mode Threshold	Falling Hysteresis		135	150	170	mV
				20		mV
LED Current Sense Amplifier Input Common Mode Range (ISP1, ISP2, ISP3)		●	0		100	V
LED Overcurrent Protection Threshold (ISP1-ISP1, ISP2-ISP2, ISP3-ISP3)	ISP1, ISP2, ISP3, FBH1, FBH2, FBH3 = 48V 12V			1000		mV
ISP1, ISP2, ISP3 Input Bias Current (Active)	ISP1, ISP2, ISP3, ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 48V ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 0V			630		μA
				-100		nA
ISP1, ISP2, ISP3 Input Bias Current (Idle)	PWM1, PWM2, PWM3=0V, ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 48V PWM1, PWM2, PWM3, ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 0V			2		μA
				-40		nA
ISP1, ISP2, ISP3 Input Bias Current (Active)	ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 48V ISP1, ISP2, ISP3, ISP1, ISP2, ISP3 = 0V			20		μA
				-100		nA

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For more information www.linear.com/LT3797

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PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ISN1, ISN2, ISN3 Input Bias Current (Idle)	PWM1, PWM2, PWM3=0V, ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 48V		0	1	μA
	PWM1, PWM2, PWM3, ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 0V		-20		nA
LED Current Sense Amplifier g_m	ISP1-ISN1, ISP2-ISN2, ISP3-ISN3 = 250mV		250		μS
FBH1, FBH2, FBH3 Regulation Voltage "FBH(REG)" (ISP1-FBH1, ISP2-FBH2, ISP3-FBH3)	ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 48V	● 1.225	1.250	1.275 1.280	V
FBH1, FBH2, FBH3 Pin Input Bias Current	ISP1-FBH1, ISP2-FBH2, ISP3-FBH3 = 1.25V		40	100	nA
	ISP1-FBH1, ISP2-FBH2, ISP3-FBH3 = -1.25V	2	2.4	3	μA
FBH1, FBH2, FBH3 Amplifier g_m	ISP1-FBH1 , ISP2-FBH2 , ISP3-FBH3 = 1.25V		480		μS
FBH1, FBH2, FBH3 Open-LED Threshold (ISP1-FBH1 , ISP2-FBH2 , ISP3-FBH3) Voltage	Rising (Note 4) ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 48V	FBH(REG) -0.07	FBH(REG) -0.05	FBH(REG) -0.04	V
	Hysteresis		20		mV
FBH1, FBH2, FBH3 Overvoltage Threshold (ISP1-FBH1 , ISP2-FBH2 , ISP3-FBH3) Voltage	Rising (Note 4) ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 48V	FBH(REG) +0.05	FBH(REG) +0.06	FBH(REG) +0.085	V
	Hysteresis		25		mV
VC1, VC2, VC3 Output Impedance			10		$\text{M}\Omega$
VC1, VC2, VC3 Standby Input Bias Current	PWM1, PWM2, PWM3 = 0V CTRL1, CTRL2, CTRL3 = 0V	-20		20	nA
		-20		20	nA
VC1, VC2, VC3 Current Mode Gain $-\Delta V_{\text{VC}}/\Delta V_{\text{SENSE}}$			4		V/V
VC1, VC2, VC3 Source Current	ISP1, ISP2, ISP3, ISN1, ISN2, ISN3, FBH1, FBH2, FBH3 = 48V, Current Out of Pin		10.5		μA
VC1, VC2, VC3 Sink Current	ISP1, ISP2, ISP3, FBH1, FBH2, FBH3 = 48V, ISN1, ISN2, ISN3 = 47.7V		12		μA
	ISP1, ISP2, ISP3, ISN1, ISN2, ISN3 = 48V, FBH1, FBH2, FBH3 = 46.7V		32		μA
Oscillator					
Switching Frequency	$R_T = 154\text{k}\Omega$	● 95	100	107	kHz
	$R_T = 35.7\text{k}\Omega$	● 375	400	425	kHz
	$R_T = 12.4\text{k}\Omega$	● 950	1000	1050	kHz
RT Voltage			1.05		V
GATE1, GATE2, GATE3 Minimum Off-Time	$C_{\text{GATE}} = 3300\text{pF}$		200	270	ns
GATE1, GATE2, GATE3 Minimum On-Time	$C_{\text{GATE}} = 3300\text{pF}$		220	300	ns
SYNC Input Low		●		0.4	V
SYNC Input High		● 1.5			V
SYNC Resistance to GND			200		$\text{k}\Omega$
Logic Inputs/Outputs					
EN/UVLO Threshold Voltage Falling		● 1.180	1.220	1.250	V
EN/UVLO Rising Hysteresis			20		mV
EN/UVLO Input Low Voltage	I_{VIN} Drops Below $1\mu\text{A}$			0.4	V
EN/UVLO Pin Bias Current Low	EN/UVLO = 1.15V	● 1.5	2	2.6	μA
EN/UVLO Pin Bias Current High	EN/UVLO = 1.33V		40	100	nA
OVLO Pin Input Bias Current			20	100	nA
OVLO Threshold Voltage	Rising	● 1.225	1.250	1.275	V
	Hysteresis		125	1.280	mV

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