CHANGE NOTIFICATION

Linear Technology Corporation
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March 16, 2015

Dear Sir/Madam: PCN# 031615

Subject: Notification of Change to LT8620 Datasheet

Please be advised that Linear Technology Corporation has made a minor change to the LT8620 product datasheet to improve the product performance. The change is 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 May 16, 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 May 16, 2015, we will consider this change to be approved by your company.

Sincerely,

Jason Hu
Quality Assurance Engineer

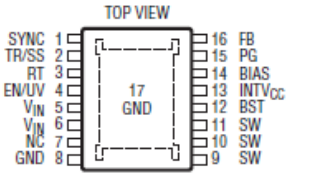
ABSOLUTE MAXIMUM RATINGS (Note 1)

V_{IN}, EN/UV 65V
PG 42V
BIAS 25V
BST Pin Above SW Pin 4V
FB, TR/SS, RT, $INTV_{CC}$ 4V

SYNC Voltage 6V
Operating Junction Temperature Range (Note 2)
LT8620E ..... –40 to 125°C
LT8620I ..... –40 to 125°C
Storage Temperature Range ..... –65 to 150°C

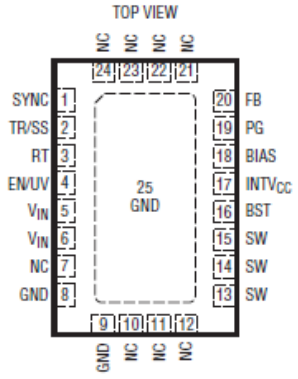
LT8620H.....-40 to 150°C
LT8620MP.....-55 to 150°C

PIN CONFIGURATION



MSE PACKAGE
16-LEAD PLASTIC MSOP

θ_{JA} = 40°C/W, $\theta_{JC(PAD)}$ = 10°C/W
EXPOSED PAD (PIN 17) IS GND, MUST BE SOLDERED TO PCB



UDD PACKAGE
24-LEAD (3mm × 5mm) PLASTIC QFN

θ_{JA} = 46°C/W, $\theta_{JC(PAD)}$ = 5°C/W
EXPOSED PAD (PIN 25) IS GND, MUST BE SOLDERED TO PCB

ORDER INFORMATION

LEAD FREE FINISH	TAPE AND REEL	PART MARKING*	PACKAGE DESCRIPTION	TEMPERATURE RANGE
LT8620EMSE#PBF	LT8620EMSE#TRPBF	8620	16-Lead Plastic MSOP	–40°C to 125°C
LT8620IMSE#PBF	LT8620IMSE#TRPBF	8620	16-Lead Plastic MSOP	–40°C to 125°C
LT8620EUDD#PBF	LT8620EUDD#TRPBF	LGGV	24-Lead (3mm × 5mm) Plastic QFN	–40°C to 125°C
LT8620IUDD#PBF	LT8620IUDD#TRPBF	LGGV	24-Lead (3mm × 5mm) Plastic QFN	–40°C to 125°C

Consult LTC Marketing for parts specified with wider operating temperature ranges. *The temperature grade is identified by a label on the shipping container.
Consult LTC Marketing for information on non-standard lead based finish parts.

For more information on lead free part marking, go to: http://www.linear.com/leadfree/
For more information on tape and reel specifications, go to: http://www.linear.com/tapeandreel/

LT8620HMSE#PBF	LT8620HMSE#TRPBF	8620	16-Lead Plastic MSOP	–40°C to 150°C
LT8620MPMSE#PBF	LT8620MPMSE#TRPBF	8620	16-Lead Plastic MSOP	–55°C to 150°C

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C.

PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Minimum Input Voltage		●		2.9	3.4	V
V_{IN} Quiescent Current	$V_{EN/UV}$ = 0V, V_{SYNC} = 0V			1.0	3	µA
		●		1.0	8	µA
	$V_{EN/UV}$ = 2V, Not Switching, V_{SYNC} = 0V			1.7	4	µA
		●		1.7	10	µA
	$V_{EN/UV}$ = 2V, Not Switching, V_{SYNC} = 2V			0.28	0.5	mA
V_{IN} Current in Regulation	V_{OUT} = 0.97V, V_{IN} = 6V, Output Load = 100µA	●		20	50	µA
	V_{OUT} = 0.97V, V_{IN} = 6V, Output Load = 1mA	●		200	350	µA
Feedback Reference Voltage	V_{IN} = 6V, I_{LOAD} = 0.5A		0.964	0.970	0.976	V
	V_{IN} = 6V, I_{LOAD} = 0.5A	●	0.958	0.970	0.982	V
Feedback Voltage Line Regulation	V_{IN} = 4.0V to 42V, I_{LOAD} = 0.5A	●		0.004	0.02	%/V
Feedback Pin Input Current	V_{FB} = 1V		–20		20	nA
$INTV_{CC}$ Voltage	I_{LOAD} = 0mA, V_{BIAS} = 0V		3.23	3.4	3.57	V
	I_{LOAD} = 0mA, V_{BIAS} = 3.3V		3.25	3.29	3.35	V
$INTV_{CC}$ Undervoltage Lockout			2.5	2.6	2.7	V
BIAS Pin Current Consumption	V_{BIAS} = 3.3V, I_{LOAD} = 1A, 2MHz			7.2		mA
Minimum On-Time	I_{LOAD} = 1A, SYNC = 0V	●		30	45	ns
	I_{LOAD} = 1A, SYNC = 3.3V	●		30	45	ns
Minimum Off-Time				90	130	ns
Oscillator Frequency	R_T = 221k, I_{LOAD} = 1A	●	180	210	240	kHz
	R_T = 60.4k, I_{LOAD} = 1A	●	665	700	735	kHz
	R_T = 18.2k, I_{LOAD} = 1A	●	1.85	2.00	2.15	MHz
Top Power NMOS On-Resistance	I_{SW} = 1A			175		mΩ
Top Power NMOS Current Limit		●	2.8	~~3.8~~ 4.1	~~4.6~~ 4.9	A
Bottom Power NMOS On-Resistance	V_{INTVCC} = 3.4V, I_{SW} = 1A			85		mΩ
Bottom Power NMOS Current Limit	V_{INTVCC} = 3.4V		2.9	~~3.6~~ 3.9	~~4.3~~ 4.7	A
SW Leakage Current	V_{IN} = 42V, V_{SW} = 0V, 42V		–1.5		1.5	µA
EN/UV Pin Threshold	EN/UV Rising	●	0.94	1.0	1.06	V
EN/UV Pin Hysteresis				40		mV
EN/UV Pin Current	$V_{EN/UV}$ = 2V		–20		20	nA
PG Upper Threshold Offset from V_{FB}	V_{FB} Falling	●	6	9.0	12	%
PG Lower Threshold Offset from V_{FB}	V_{FB} Rising	●	–6	–9.0	–12	%
PG Hysteresis				1.3		%
PG Leakage	V_{PG} = 3.3V		–40		40	nA
PG Pull-Down Resistance	V_{PG} = 0.1V	●		680	2000	Ω
SYNC Threshold	SYNC Falling		0.8	1.0	1.2	V
	SYNC Rising		1.1	1.3	1.5	V
SYNC Pin Current	V_{SYNC} = 6V		~~–40~~ -100		~~40~~ 100	nA
TR/SS Source Current		●	1.2	~~1.9~~ 2	~~2.6~~ 2.7	µA
TR/SS Pull-Down Resistance	Fault Condition, TR/SS = 0.1V			220		Ω

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 LT8620E is guaranteed to meet performance specifications from 0°C to 125°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 LT8620I is guaranteed over the full –40°C to 125°C operating junction temperature range. High junction temperatures degrade operating lifetimes. Operating lifetime is derated at junction temperatures greater than 125°C.

Note 3: This IC includes overtemperature protection that is intended to protect the device during overload conditions. Junction temperature will exceed 150°C when overtemperature protection is active. Continuous operation above the specified maximum operating junction temperature will reduce lifetime.

LT8620H is guaranteed over the full –40°C to 150°C operating junction temperature range. The LT8620MP is 100% tested and guaranteed over the full –55°C to 150°C operating junction temperature range.