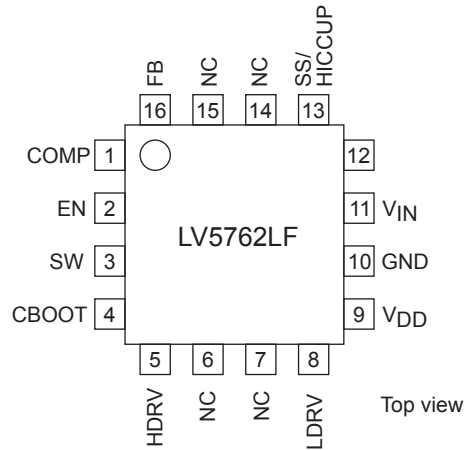


LV5762LF

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Triangular waveform oscillator block						
Oscillation frequency	f _{OSC}		870	1000	1130	kHz
Frequency variation	f _{OSC_DV}	V _{IN} =8 to 42V		1		%
Oscillatory frequency fold back detection voltage	V _{OSC_FB}	Detect IN voltage after the end of SS		0.5		V
Oscillatory frequency after fold back	f _{OSC_FB}		100	150	200	kHz
ON/OFF circuit block						
IC start-up voltage	V _{EN_on}	V _{IN} =8 to 42V		3.4	4.3	V
IC off voltage	V _{EN_off}	V _{IN} =8 to 42V	1.1	1.3		V
Soft start circuit block						
Soft start source current	I _{SS_SC}	EN > 5V, SS=0V	3.4	4.3	5.2	μA
Soft start sink current	I _{SS_SK}	EN > 1V, V _{DD} =5V, SS=1V		2		mA
Voltage to end the soft start function	V _{SS_END}		0.7	0.9	1.1	V
UVLO circuit block						
UVLO lock release voltage	V _{UVLO}		7.0	7.4	7.8	V
UVLO hysteresis	V _{UVLO_H}			0.6		V
Error amplifier						
Input bias current	I _{EA_IN}				100	μA
Error amplifier transconductance	GEA		1000	1400	1800	μA/V
Common mode input voltage range	V _{EA_R}	V _{IN} =8 to 42V	0.0		1.6	V
Sink output current	I _{EA_OSK}	FB=1.0V		-100		μA
Source output current	I _{EA_OSC}	FB=0V		100		μA
Current detection amplifier gain	GISNS			1.3		
Over current limiter circuit block						
Reference current	I _{LIM}		-10%	20	+10%	μA
Over current detection comparator offset voltage	V _{LIM_OFS}		-5		+5	mV
Over current detection comparator common mode input range			V _{IN} -0.45		V _{IN}	V
PWM comparator						
Input threshold voltage	V _{tmax}	Duty cycle=DMAX	0.95	1.1	1.25	V
	V _{t0}	Duty cycle=0%	0.35	0.45	0.55	V
Maximum ON duty	DMAX		75	80		%
Output block						
Output stage ON resistance(the upper side)	R _{ONH}			5		Ω
Output stage ON resistance(the under side)	R _{ONL}			5		Ω
Output stage ON current(the upper side)	I _{ONH}		240			mA
Output stage ON current(the under side)	I _{ONL}		240			mA
The whole device						
Standby current	I _{CCS}	EN < 1V			60	μA
Mean consumption current	I _{CCA}	EN > 5V		3.6		mA

Pin Assignment



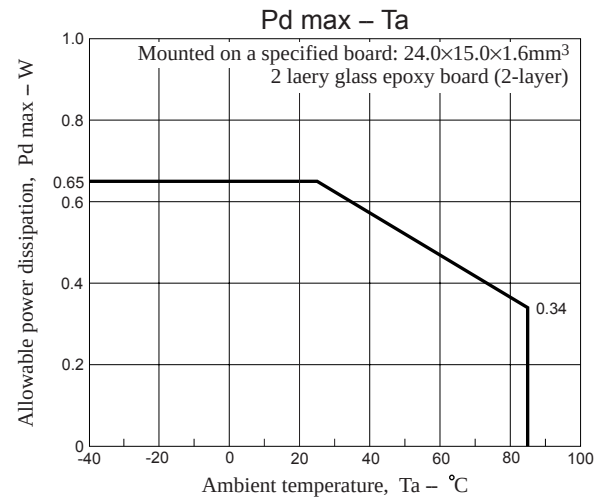
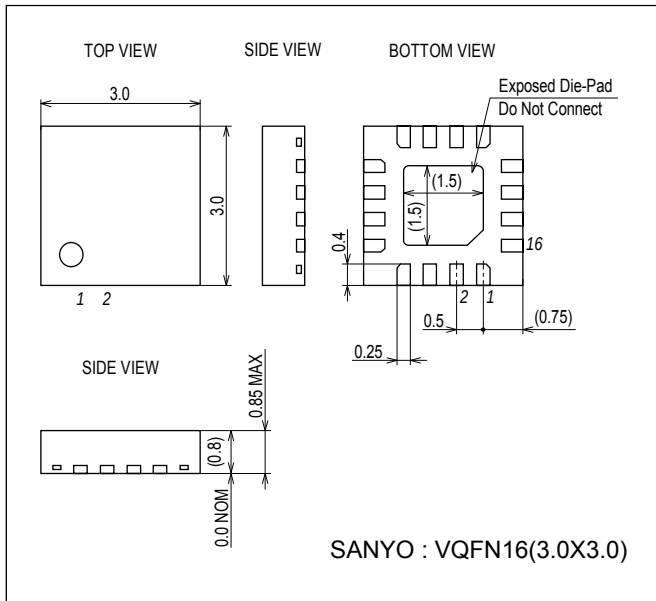
Pin Function

Pin No.	Pin name	Function
1	COMP	Error amplifier output pin. Connect a phase compensation circuit between this pin and GND.
2	EN	ON/OFF pin.
3	SW	Pin to connect with switching node. The source of Nch MOSFET connects to this pin.
4	CBOOT	Bootstrap capacity connection pin. This pin becomes a GATE drive power supply of an external Nch MOSFET. Connect a bypath capacitor between CBOOT and SW.
5	HDRV	An external the upper MOSFET gate drive pin.
6, 7 14, 15	NC	No connection
8	LDRV	An external the lower MOSFET gate drive pin.
9	V _{DD}	Power supply pin for an external the MOS-FET gate drive.
10	GND	Ground pin. Each reference voltage is based on the voltage of the ground pin.
11	V _{IN}	Power supply pin. This pin is monitored by UVLO function. When the voltage of this pin becomes 7.8V or more by UVLO function, The IC starts and the soft start function operates.
12	I _{LIM}	Reference current pin for current detection. The sink current of about 20μA flows to this pin. When a resistance is connected between this pin and V _{IN} outside and the voltage applied to the SW pin is lower than the voltage of the terminal side of the resistance, the upper Nch MOSFET is off by operating the current limiter comparator. This operation is reset with respect to each PWN pulse.
13	SS/HICCUP	Pin to connect a capacitor for soft start. A capacitor for soft start is charged by using the voltage of about 4.3μA. This pin ends the soft start period by using the voltage of about 0.9V and the frequency fold back function becomes active.
16	FB	Error amplifier reverse input pin. By operating the converter, the voltage of this pin becomes 0.7V. The voltage in which the output voltage is divided by an external resistance is applied to this pin. Also, the oscillation frequency become one-eighth when the voltage of this pin becomes 0.4V or less after soft start function.

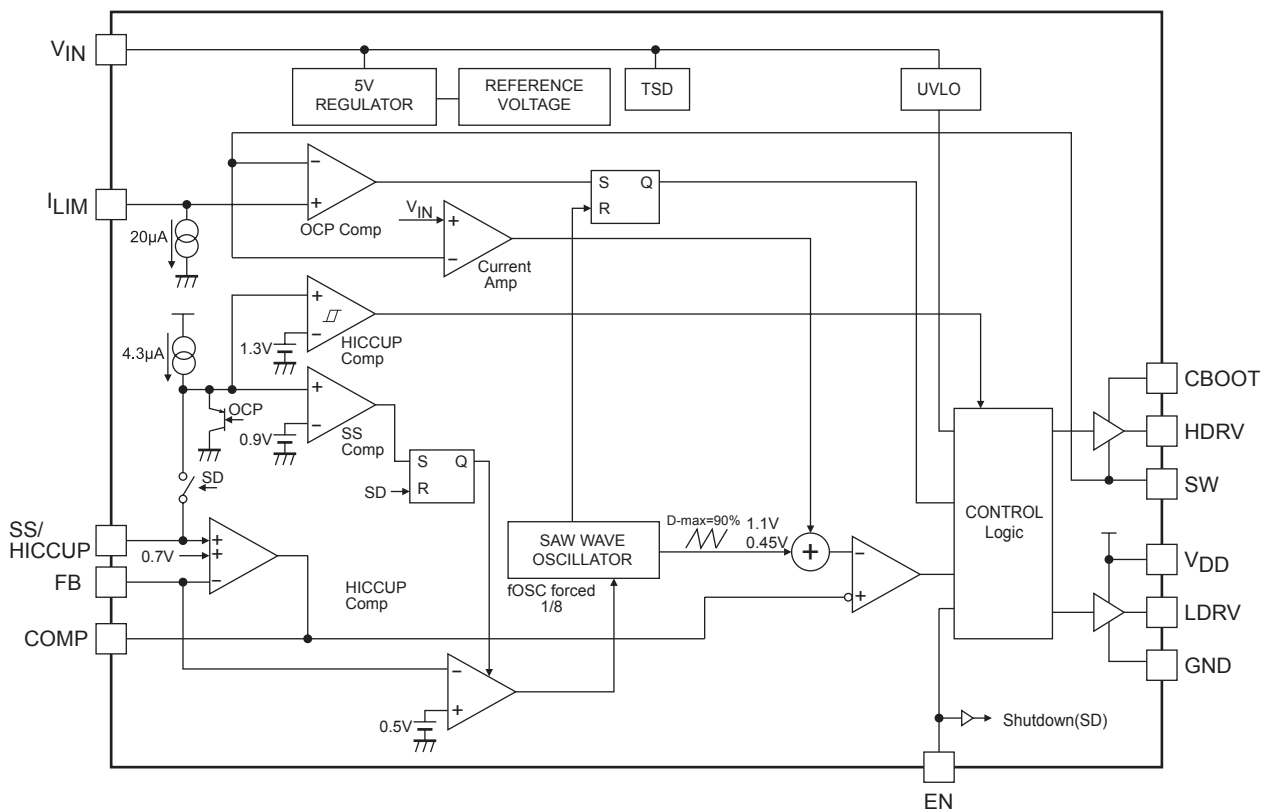
Package Dimensions

unit : mm (typ)

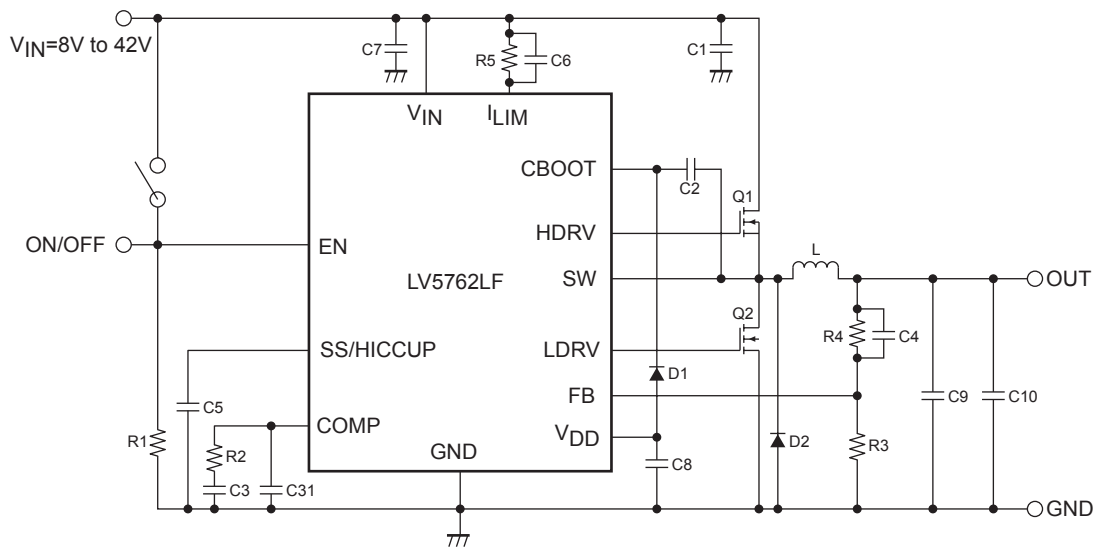
3394



Block Diagram



Sample Application Circuit



- SANYO Semiconductor Co.,Ltd. assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO Semiconductor Co.,Ltd. products described or contained herein.
- SANYO Semiconductor Co.,Ltd. strives to supply high-quality high-reliability products, however, any and all semiconductor products fail or malfunction with some probability. It is possible that these probabilistic failures or malfunction could give rise to accidents or events that could endanger human lives, trouble that could give rise to smoke or fire, or accidents that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO Semiconductor Co.,Ltd. products described or contained herein are controlled under any of applicable local export control laws and regulations, such products may require the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written consent of SANYO Semiconductor Co.,Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO Semiconductor Co.,Ltd. product that you intend to use.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production.
- Upon using the technical information or products described herein, neither warranty nor license shall be granted with regard to intellectual property rights or any other rights of SANYO Semiconductor Co.,Ltd. or any third party. SANYO Semiconductor Co.,Ltd. shall not be liable for any claim or suits with regard to a third party's intellectual property rights which has resulted from the use of the technical information and products mentioned above.

This catalog provides information as of June, 2010. Specifications and information herein are subject to change without notice.