



LV5762QA

Bi-CMOS IC

Step-down Switching Regulator

ON Semiconductor®

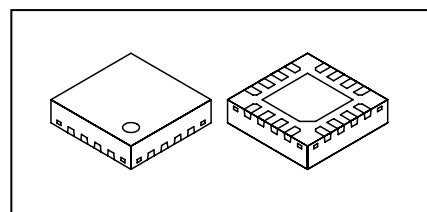
<http://onsemi.com>

Overview

LV5762QA is a 1ch step-down voltage switching regulator.

Function

- 1ch step-down switching regulator controller
 - Load-independent soft start circuit
 - Frequency fold back function
 - ON/OFF function
 - Built-in pulse-by-pulse OCP circuit.
- It is detected by using ON resistance of an external MOS.



VQFN16J (3.0 × 3.0)

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V _{IN} max		45	V
Allowable power dissipation	P _d max	*)	0.65	W
Operating temperature	T _{opr}		-40 to 85	°C
Storage temperature	T _{stg}		-55 to 150	°C

* Specified board: 24.0mm × 15.0mm × 1.6mm, glass epoxy board (2-layer).

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage range 1	V _{IN}		8 to 42	V
Error amplifier input voltage	V _{FB}		0 to 1.6	V

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

ORDERING INFORMATION

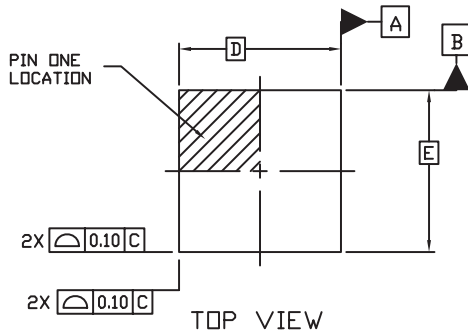
See detailed ordering and shipping information on page 6 of this data sheet.

LV5762QA

Package Dimensions

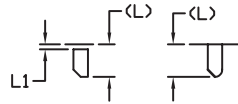
unit : mm

WQFN16 3x3, 0.5P / VQFN16J
CASE 510AX
ISSUE A



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 MM FROM THE TERMINAL TIP.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

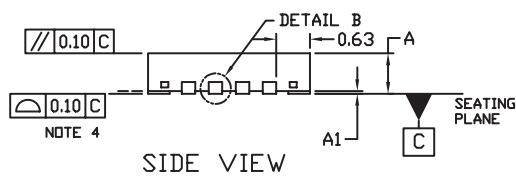


DETAIL A
ALTERNATE TERMINAL
CONSTRUCTIONS

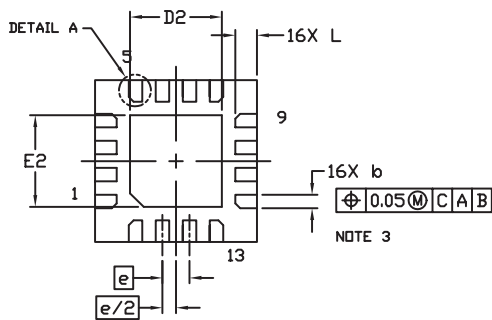


DETAIL B
ALTERNATE
CONSTRUCTION

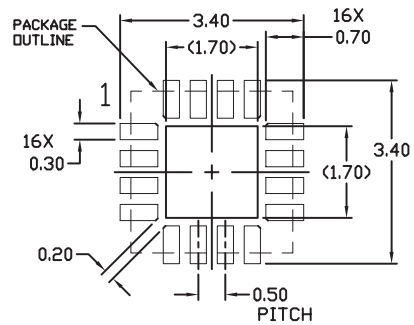
DIM	MILLIMETERS	
	MIN.	MAX.
A	---	0.80
A1	0.00	0.05
b	0.20	0.30
D	3.00	BSC
D2	1.70	REF
E	3.00	BSC
E2	1.70	REF
e	0.50	BSC
L	0.30	0.50
L1	0.00	0.15



SIDE VIEW

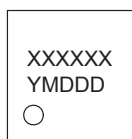


BOTTOM VIEW



RECOMMENDED
MOUNTING FOOTPRINT

**GENERIC
MARKING DIAGRAM***



XXXXXX = Specific Device Code

Y = Year

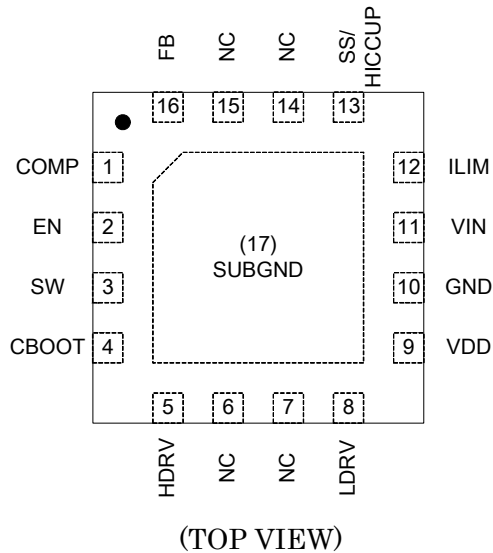
M = Month

DDD = Additional Traceability Data

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

LV5762QA

Pin Assignment

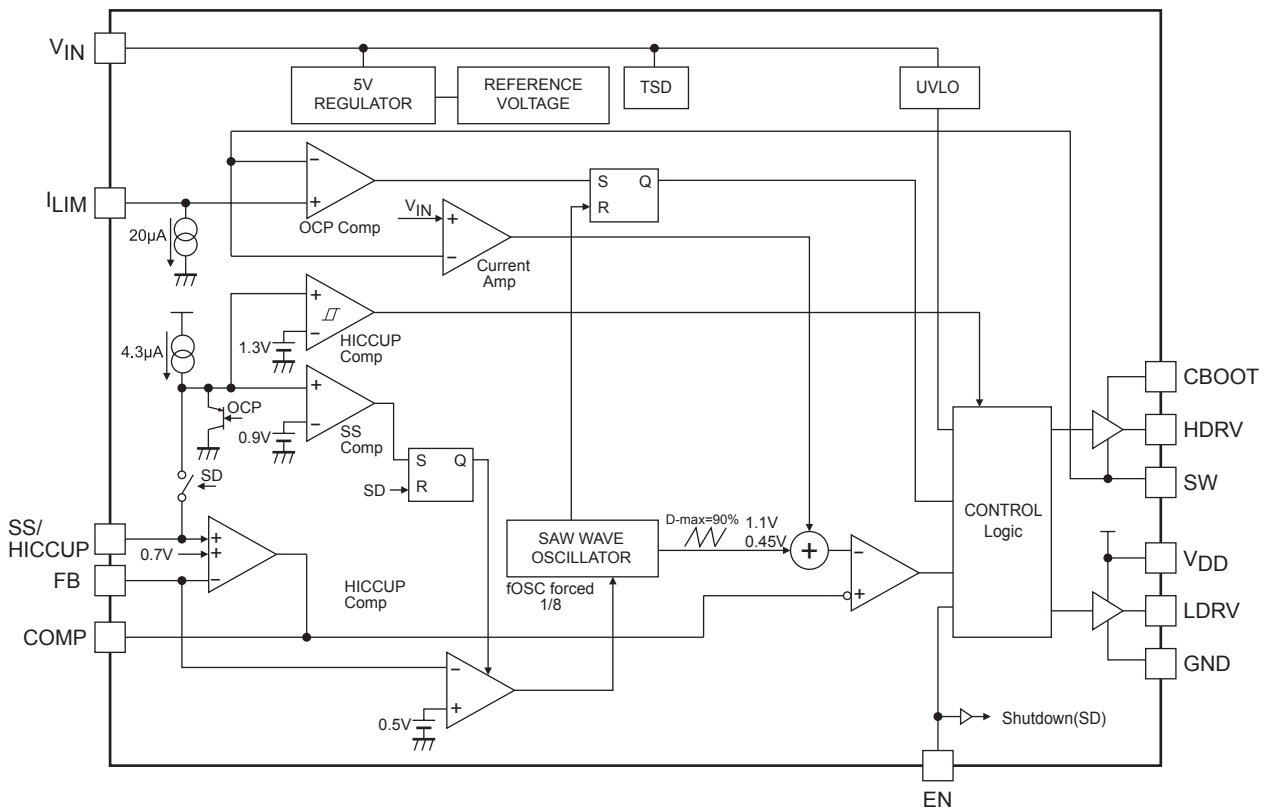


Pin Function

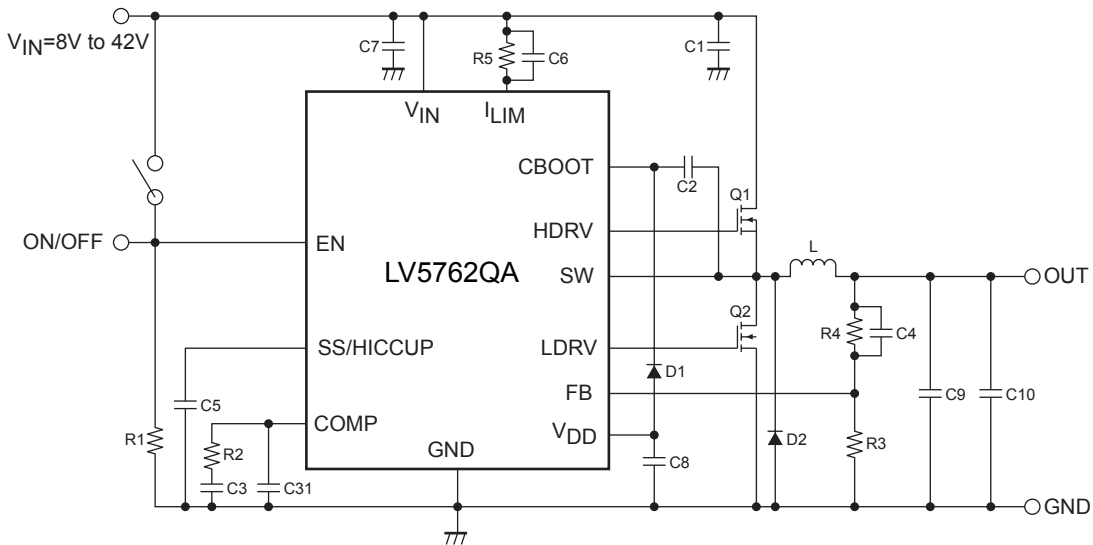
Pin No.	Pin name	Function
1	COMP	Error amplifier output pin. Connect a phase compensation circuit between this pin and GND.
2	EN	ON/OFF pin.
3	SW	Pin to connect with switching node. The source of Nch MOSFET connects to this pin.
4	CBOOT	Bootstrap capacity connection pin. This pin becomes a GATE drive power supply of an external Nch MOSFET. Connect a bypath capacitor between CBOOT and SW.
5	HDRVV	An external the upper MOSFET gate drive pin.
6	NC	No connection
7		
14		
15		
8	LDRVV	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.
17	SUBGND	Connect to GND

LV5762QA

Block Diagram



Sample Application Circuit



LV5762QA

ORDERING INFORMATION

Device	Package	Shipping (Qty / Packing)
LV5762QA-NH	VQFN16J (Pb-Free / Halogen Free)	2000 / Tape & Reel

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