

HL5095

Back-to-Back OVP with Adjustable Current Limit

Overview

The HL5095 is a slew-rate controlled, low $R_{ds(on)}$ over-voltage protection device. It is used in between a power source and a load to protect and isolate power source against unwanted abnormal voltage and current condition. Especially, in the OTG mode of smartphones, the HL5095 could be placed between OTG boost regulator and USB port. The HL5095 can protect boost regulator from over-voltage or over-current USB conditions in smartphones.

In order to be used at high voltage application (9V or above), the HL5095A and the HL5095B apply a high-voltage device power FET switch with a maximum input voltage of 13.5V. Its over-voltage protection level is set to 14.2V in HL5095A version, 10.4V in HL5095B, and 5.8V in HL5095C.

To prevent excessive input voltage or battery droop resulting from a large inrush current, the HL5095 also implements several protection functions, such as output over-voltage and input under-voltage protections, over-current protection with FLTB flag, and over-temperature protection.

The HL5095 is available in a 9-pin WLCSP package.

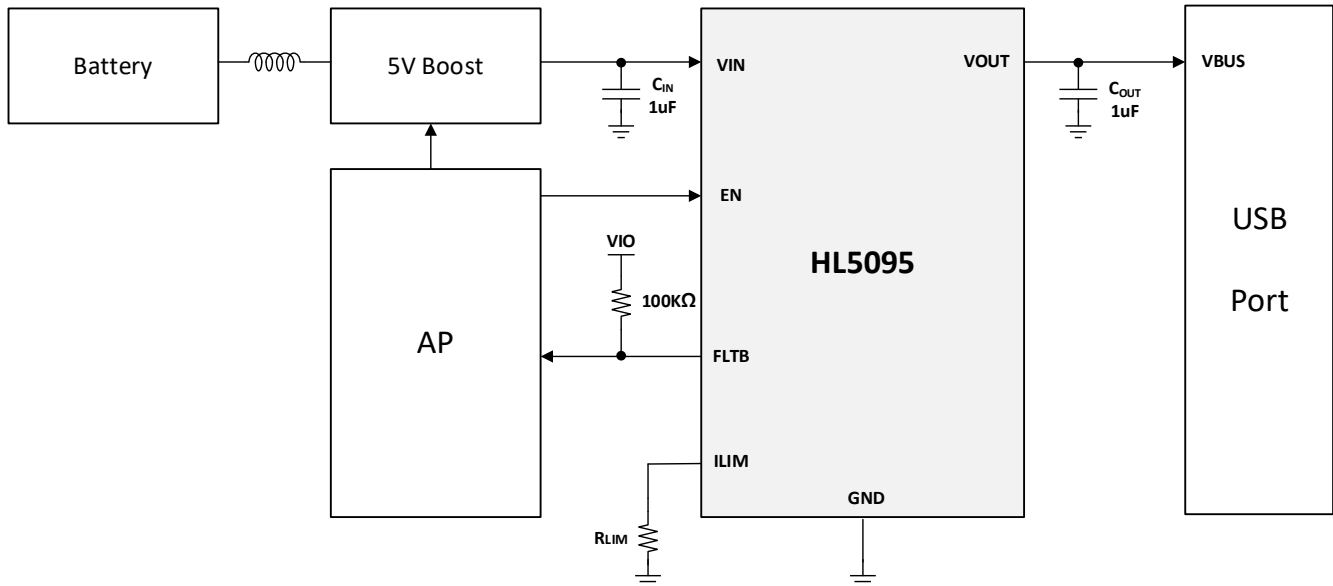
Features

- Input voltage range:
 - HL5095A: 2.5-13.5V
 - HL5095B: 2.5-10V
 - HL5095C: 2.5-5.5V
- 28V Absolute maximum voltage rating of VOUT
- Adjustable current limit with external resistor
- Integrated power FET switch with 53m Ω $R_{ds(on)}$ @ 5V/1A
- Built-in soft start to prevent inrush current
- Protections
 - Over-temperature protection (OTP)
 - Over-voltage protection (OVP):
 - HL5095A: 14.2V
 - HL5095B: 10.4V
 - HL5095C: 5.8V
 - Over-current protection
 - Reverse current protection
- Compliance to IEC61000-4-2 on VOUT
 - Contact discharge: ± 8 kV
 - Air gap discharge: ± 15 kV
- Package:
 - HL5095A, HL5095B, HL5095C: 9-bump WLCSP, 0.4mm pitch, 1.23mm x 1.23mm

Applications

- Smartphones
- Tablet PCs
- Notebooks
- Mobile IoT Devices

Simplified Application Diagram



Ordering Information

Part Number	VOUT OVP threshold	Package	Packing Method
HL5095AWL01 HL5095KAWL01 ⁽¹⁾	14.2V	WLCSP-9	Tape & Reel
HL5095BWL01 HL5095KBWL01 ⁽¹⁾	10.4V	WLCSP-9	Tape & Reel
HL5095CWL01 HL5095KCWL01 ⁽¹⁾	5.8V	WLCSP-9	Tape & Reel

Note

(1) HL5095KxWLxx is a second source foundry version part number.

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