

HT5534: USB-C PD 3.2 High-Voltage Low-Power RISC-V 140W Sink (Power Taker) Controller

APPLICATIONS

- USB-C cables (with E-marker)
- USB PD sink devices
- Lithium battery appliances
- Wireless charger

GENERAL DESCRIPTION

HT5534 is a highly integrated, low power consumption USB PD sink controller designed for products with USB-C PD 3.2 SINK that supports Adjustable Voltage Source (AVS) at both EPR & SPR rating profiles.

HT5534 can be configured to supports multiple PDOs from source devices with programmable voltage and current for different applications. All of PDOs are fully compliant with PD3.2 Rev.1.0.

HT5534 also supports most legacy DPDM charging protocols, such as Apple 2.4A mode and BC 1.2 DCP mode by configuring the DP and DM pins which provides excellent compatibility for the legacy devices.

HT5534 integrates a GATE driver to enable the VBUS to charging devices such as Lithium battery to protect the devices connected with Type-C connector.

The high voltage tolerance and protections at CC1, CC2, DP and DM pins provide more reliability for the system.

HT5534 incorporates various protections, such as VBUS's Under Voltage Protection (UVP), Over Voltage Protection (OVP), Over Current Protection (OCP), CC1 and CC2 pins Over Voltage Protection (CC_OVP), and Over Temperature protection (I_OTP)

FEATURES

- 32-bit, RISC-V microcontroller
- USB-C PD 3.2 and Type-C 1.3
- Supports to sink PDO configurable profiles (up to 28V, 5A)
- Supports EPR AVS: 15V – 28V 5A profiles
- Supports SPR AVS: 9V - 20V 5A profiles
- Supports Legacy charging sink at DPDM protocols
 - Apple 5V, 2.4A mode
 - BC1.2 DCP detection
- Embeds protection schemes on VBUS, such as Under Voltage Protection (UVP), Over Voltage Protection (OVP), Over Current Protection (OCP)
- Supports Over Temperature protection (I_OTP) from NTC resistor
- CC1 and CC2 pins Over Voltage Protection (CC_OVP) and rating up to 28V
- Operating Voltage Range: 3.3V to 30V
- Supports Dead Battery Mode
- Supports Sleep Mode
- Low Power Consumption

DEVICE INFORMATION

Part Number	Package	Dimensions (mm)
HT5534	QFN16	4.0 x 4.0 x 0.75

TYPICAL APPLICATION

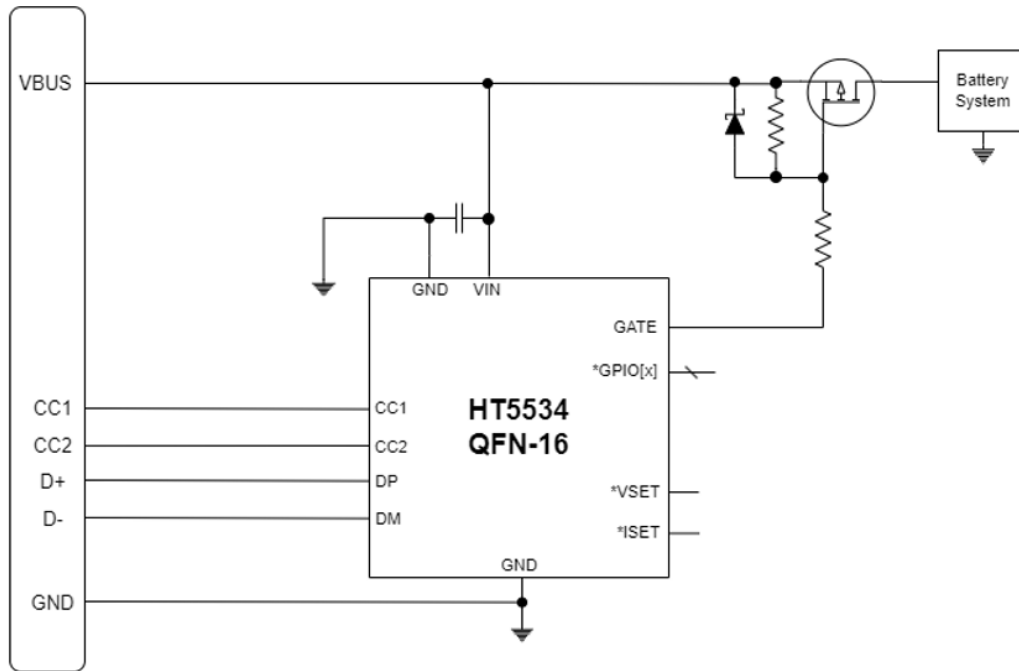


Figure 1. Typical Application Circuit of HT5534

Remarks

* Pins (GPIO[x], VSET, ISET) can be re-configured to the specific pins upon further requested and discussed