







HTTUSB-C 應用簡要對比



HTT DC-DC 外置FET



	HT3328	HT6329	HT6122
IC内含兩個DC-DC	✓	✓	✓
I ² C 可編程,數位控制	√	×	×
可合併兩個輸出頻道	×	✓	×
内置QC3.0/BC1.2 協議	×	×	√

HTT協議芯片 HT5350



HT5350 (Preliminary)

USB Type-C and PD Source Controller

1. FEATURES

- USB PD3.0 and Type-C 1.3
- · Support up to Five FPDOs
 - Typical 5V, 9V, 12V, 15V and 20V FPDOs
- Support up to three APDOs
 - Support 5V-Prog, 9V-Prog, 15V-Prog and 3. GENERAL DESCRIPTION 20V-Prog
 - 20mV LSB Voltage Regulation and 50mA LSB for Current Regulation
 - Constant power limit
- Support QC2.0/QC3.0, BC1.2 DCP protocols
- Apple 5V, 2.4A mode
- BC1.2 DCP mode
- OC2.0 5V/9V/12V and 20V
- QC3.0 3.6V~20V continuous model voltage mode with 200mV step adjustment
- Support Fast Charging Protocol, FCP
- Support Adaptive Fast Charging, AFC
- · Constant Voltage (CV) and Constant Current Limit (CC) Regulation
 - Integrated secondary side compensation circuit, such as TL431
- Built-in VIN and VBUS pins fast discharge scheme
- Small Current Sensing Resistor (5mΩ) for High Efficiency application
- CC1/CC2 Pin Protection up to 28V
- Support cable drop compensation with 0, 50m, 100m/200mΩ selection
- · Support Smart Power Derating function at two ports USB application (USB-C or USB-A)
- Integrated VCONN power and eMarker detection
- · Built-in adaptive UVP, adaptive OVP, I OTP, E OTP, CC OVP and VCONN OCP Fault Detections

2. APPLICATIONS

- AC-DC PD Compliant power adapters
- DC-DC Car chargers
- USB-PD converter

The HT5350 is a highly integrated PD source controller that support USB PD3.0, PD2.0, PPS, QC2.0/3.0, FCP, AFC, BC1.2 DCP etc.

The HT5350 incorporates various protections, such as Under Voltage Protection (UVP), Over Voltage Protection (OVP), Over Current Protection (OCP), CC1 and CC2 Over Voltage Protection (CC_OVP), VCONN Over Current Protection (VCONN OCP), and internal and external Over Temperature protection (I_OTP and E OTP). With a 10-bit A/D converter, output voltage, output current, IC internal temperature and external temperature via an NTC resistor can be monitored. The HT5350 provides the smart power derating function for dual-port charger application.

The HT5350 is designed to operate with general ACDC, DCDC controller or I2C interface ACDC, DCDC controller.

4. PART NUMBER INFORMATION

PART NO.	PACKAGE	
HT5350	QFN16	

5. TYPICAL APPLICATION



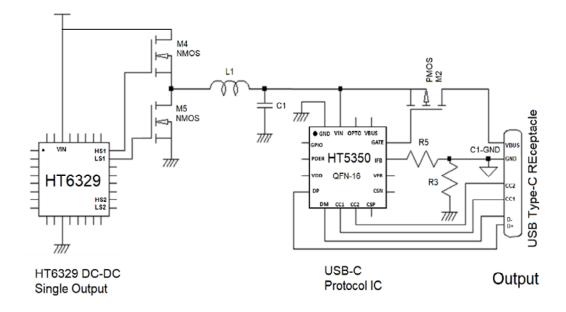


Figure 1. Typical Application Circuit of HT5350

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車用充電方案

HTT **充電模塊**





HTT DC充電模塊



	HTT	
	充電模塊 ^[1]	
IC內DC-DC數量	<u>2</u>	
DC-DC類型	降壓	
輸入電壓範圍[2]	5V to 36V	
輸出電壓範圍	V _{in} (當前輸入電壓) - 1V	
輸出電流範圍	max 5A	
開關頻率範圍(KHz)	150/250/350	
最大輸出功率[3]	100W	

	HTT
	充電模塊 ^[1]
2個輸出頻道	✓
AEC-Q100 認證 ^[4]	✓
快充	✓
輸入電流電壓保護	✓
輸出電壓電流保護	✓

- [1]. HTT 充電模塊的資料在原理圖中會有更詳細的解釋。
- [2]. 建議輸入電壓為21V到24V之間,相比9~16V輸入電壓,高電壓(20V)輸出時的效率就可以提高3~5%。
- [3]. HTT 的充電模組只有降壓功能。故當輸入電壓為15V一下的時候,無法給到全功率的充電速度,以此類推。使用建議輸入電壓供電可*全功率輸出*。
- [4]. HTT的IC正在AEC-Q100認證過程中。

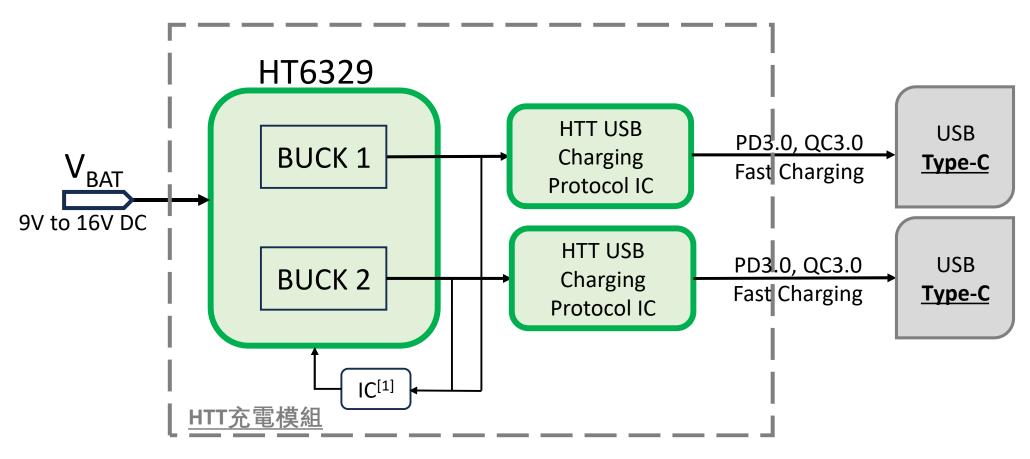
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HTT 充電模塊——雙USB Type-C





[1]. 可使用IC在輕負載下提供高效率性能。

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HTT DC-DC 充電模組總結



• HTT的供電模組:

- 1. 我們的芯片同時擁有兩個輸出頻道。「雙機雙快充,生活更輕鬆」
- 2. 在充電頭只有一個Type-C輸出通道的時候,我們平均每輸出通道的價格,比CH-25模組,優惠20%。
- 3. 當充電頭有兩個Type-C輸出的時候,HTT充電模組的價格比CH-25模組優惠30-40%。
- 4. 使用較少的空間就可同時對兩個電子產品充電 ② 、供電 ✔ 。
- 5. *提供100W*(例如65W+35W)的輸出功率,使用家可以享受雙通道快充。
- 7. 建議客戶使用21~24V的電源供電,
 - 1. 對notebook 應用,尤為有優勢
 - 2. 用電時更爲穩定,效率也更高(一般高3~5%)
- 8. 同時也可以提供出更大的power,如100W。

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- 10. 對輸入和輸出的電流、電壓作出保護,對溫度進行控制。





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聯絡我們 Contact Us (Hong Kong Office)

Tel: (852) 36195375 Address: Unit 713, 7/F, 12W, 12 Science Park West Avenue,

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