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ON Semiconductor®

Energy Efficient Innovations

Product Overview

FUSB3307: USB Power Delivery 3.0 Adaptive Source Charging Controller

For complete documentation, see the data sheet.

FUSB3307 is a highly integrated USB Power Delivery (PD) power source controller that can control a DC-DC port power regulator or the opto-coupler in the secondary side of an AC-DC adapter. It implements the Source finite state machines of USB Power Delivery 3.0 (PD3.0) and Type-C™ which includes Programmable Power Supplies (PPS). In order to meet the PPS specification, FUSB3307 supports minimum 3.3 V and maximum 21 V output voltage control. It includes Constant Voltage (CV) and Constant Current Limit (CL) control blocks. The references are supported from internal D/A converters.
FUSB3307 supports various protections, 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_TOP 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.
FUSB3307 is capable of controlling a single or back-to-back N-Channel MOSFETs as a load switch, which results in a low cost and easier design.

Features

- PD 3.0 v1.2 and Type-C r1.4 Compliant
- Constant Voltage (CV) and Constant Current Limit (CL) Regulation
- Small Current Sensing Resistor (5 m) for High Efficiency
- Gate Driver for N-Channel MOSFET as a Load Switch
- CC1/CC2 Pin Protection up to 26 V
- Built-in Cable-Drop Compensation
- Selectable Resistor Divider or Battery Charging (BC1.2) Modes
- Built-in Output Capacitor Bleeding Function for Fast Discharge
- Adaptive UVP, Adaptive OVP, OTP and VBUS Fault Detection

Benefits

- Compliant to the latest USB PD standards
- Improved efficiency
- Integrated functionality
- Protection from erroneous stresses
- Improved performance
- Compatible with legacy standards
- Integrated functionality
- Flexible protection

Applications

- Battery Wall Chargers for Tablet PC’s and Laptops
- AC−DC PD3.0 Compliant Adapters
- DC−DC Car Chargers for Individual Port Power Control

End Products

- Travel Adapters
- Power Banks
- USB-C Hubs
- Automotive

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Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Mode Support	Power Delivery Communication Support	IC Features	Package Type
FUSB3307D45A0AFMNWTWG		Pb-free Halide free non AEC-Q and PPAP	ProductPreview	DFP (Source)	Yes	NA	QFNW20 4x4, 0.5P
FUSB3307D45A0AFMX		Pb-free Halide free non AEC-Q and PPAP	ProductPreview	DFP (Source)	Yes		SOIC-14 NB
FUSB3307D6A0BFMX		Pb-free Halide free non AEC-Q and PPAP	ProductPreview	DFP (Source)	Yes		SOIC-14 NB
FUSB3307D6MNWTWG	0.6667	Pb-free Halide free non AEC-Q and PPAP	NEW	DFP (Source)	Yes	NA	QFNW20 4x4, 0.5P
FUSB3307D6MX	0.6	Pb-free Halide free non AEC-Q and PPAP	Active	DFP (Source)	Yes		SOIC-14 NB
FUSB3307D6VMNWTWG	0.84	AEC Qualified PPAP Capable Pb-free Halide free	NEW	DFP (Source)	Yes	NA	QFNW20 4x4, 0.5P
FUSB3307D90B0AFMNWTWG		Pb-free Halide free non AEC-Q and PPAP	ProductPreview	DFP (Source)	Yes		QFNW20 4x4, 0.5P
FUSB3307P6A0BFMNWTWG		Pb-free Halide free non AEC-Q and PPAP	ProductPreview	DFP (Source)	Yes		QFNW20 4x4, 0.5P

For more information please contact your local sales support at www.onsemi.com.

Created on: 8/19/2021

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