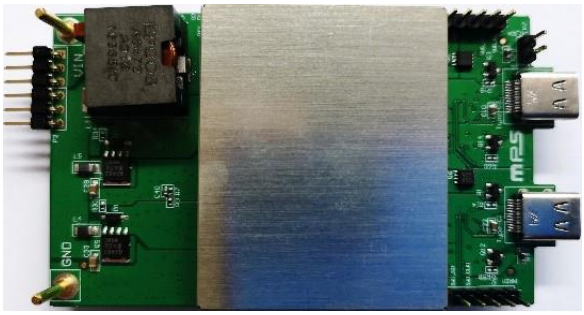
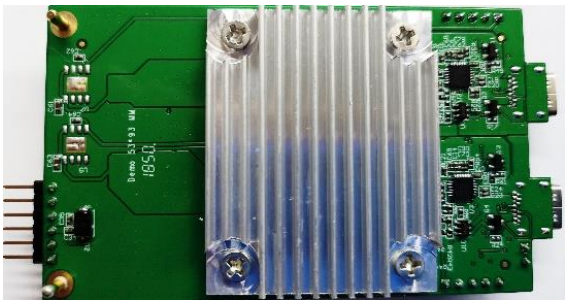
mEZS91603A

Dual 60W USB PD Charger Solution





120W USB Board

FEATURES

- Fully Compatible with USB-Type C and USB PD Specifications and Regulations
- Each Source Only Port Supports USB PD 3.0 (PPS):
  - 5V/9V/15V/20V at 3A
  - 3.3V to 16V at 3A
  - 3.3V to 21V at 3A
- DP/DM Pin Supports BC1.2 DCP, Apple Divider Mode, QC3.0, and AFC
- Selectable Switching Frequency: 250kHz, 350kHz, or 420kHz
- Optional Short-to-Battery Protection on DM, DP, CC Lines, or USB GNDs
- Optional Power-Sharing between Two Ports
- Optional V_{CONN} Support Up to 1.5W
- Optional V_{IN} Monitoring
- Input Voltage Reverse-Polarity Protection
- AEC-Q100 Grade Compliant

ORDERING INFORMATION

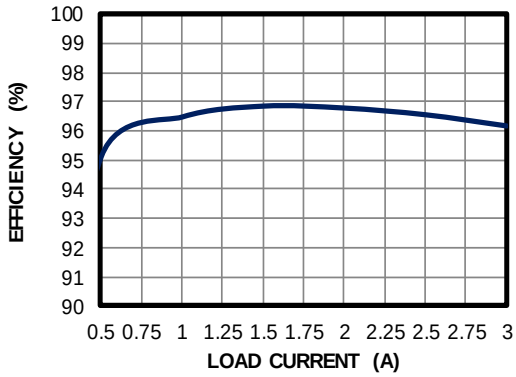
Part Number
mEZS91603A (1)

Note:

1) For IC and bill of materials (BOM) information, contact MPS.

Efficiency

V_{IN} = 12V, V_{OUT1} = V_{OUT2} = 20V, load on both channels



ELECTRICAL CHRACTERISTICS

Input Voltage	9V to 16V	
PDO List	V_{OUT} (V)	I_{OUT} (A)
1	5	3
2	9	3
3	15	3
4	20	3
5	3.3 to 16	3
6	3.3 to 21	3

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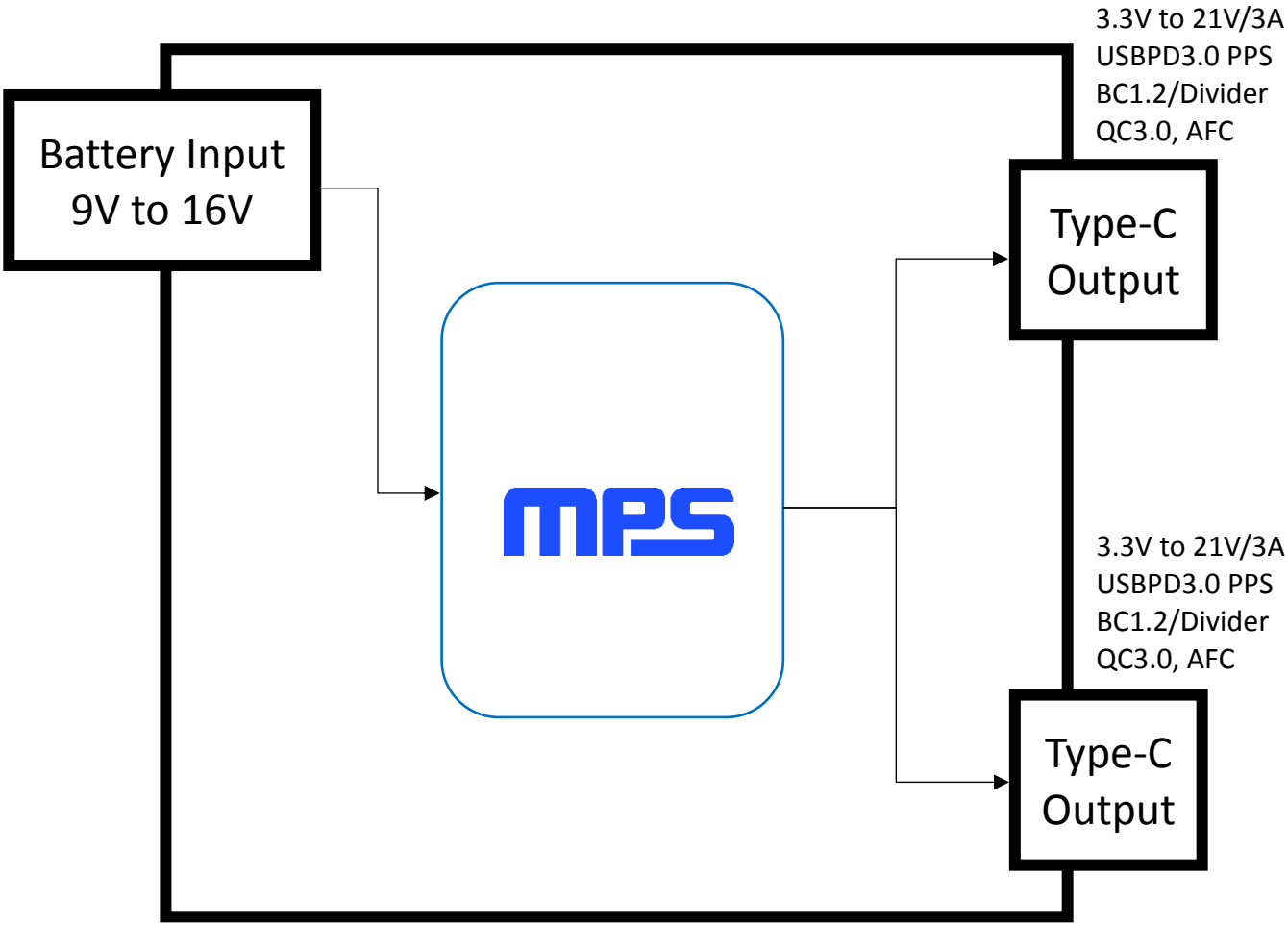
SYSTEM BLOCK DIAGRAM



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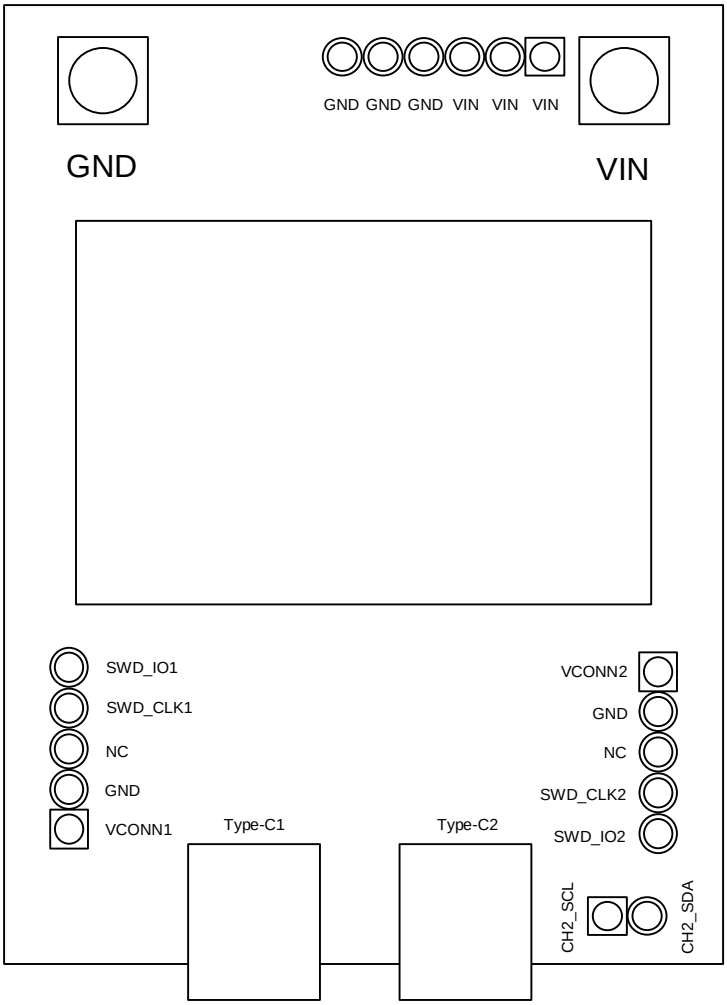
PIN DIAGRAM



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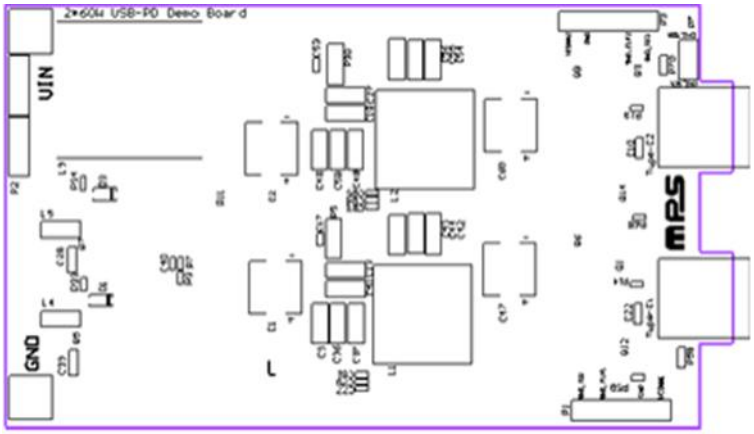
PRODUCT PACKAGE AND DIMENSIONS



(LxWxH): 8.9cmx5.4cmx1.8cm (2)

Note:

2) For more information, Gerber files, and PCB layout guidelines, contact mEZsupport@monolithispower.com.

QUICK START GUIDE

1. Preset the power supply output to 12V, and then turn off the power supply.
2. Connect power supply output to:
    a) Positive (+): VIN
    b) Negative (-): GND
3. Connect the PD protocol sniffer or mobile device to the USB Type-C port.
4. After power-on, the VBUS automatically starts up at the default voltage set by the PD protocol sniffer or mobile device. The PD protocol sniffer can select different PDO outputs.
5. For NTC functionality, the PDO list decreases to:
    a) 5V at 3A
    b) 9V at 3A
    c) 15V at 3A when the die temperature reaches 150°C (3)
6. Update the CCG3PA firmware using this board's mini-programmer.

Note:

3) If the die temperature drops to 100°C, the PDO lists recover to normal state. If the die temperature reaches 180°C, the part shuts down, then recovers when the temperature falls to 120°C. There are another two optional NTC resistors that can monitor inductor or Type-C port temperatures. Contact Cypress for a firmware update.

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