

USB-C Power Supply + Power Sharing Hub



USB-C PD Power Hub Power Sharing



100W USB-C
PD Power Supply



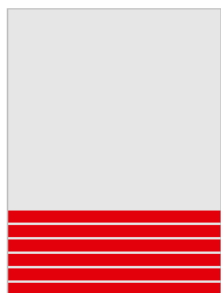
Demonstration & Monitoring Tool



100W Available

28.1W
Used

59.5W
Allocated



Port A - 15W

Connected

Type-C PD :
5V - 3A

5.0W used

Port B

Not connected

Port C - 4.5W

Connected

Type-C :
5V - 0.9A

3.1W used

Port D - 40W

Connected

Type-C PD :
20V - 2A

20.0W used

Contributing Partners

Wise-Integration Technology Innovator



Innovative GaN IC

- Integrated 650V half bridge GaN power device
- Integrated driver, level shifter, current & source sense, protections
- Large current capability from 1 to 30A
- Low specific on resistance: 3 mohms.cm²
- Zero reverse recovery loss
- High switching frequency capability (>10 MHz)

Innovative patented system architecture thanks to GaN IC

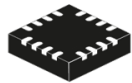
- New system architectures (e-dAB, e-DBSS) to get maximize performance offered by GaN power components
- Deliver high-frequency operation with integrated GaN components (GaN integrated circuits) for smaller electronic systems
- Minimize transformer losses with planar and new magnetic transformers
- Soft switching (ZVS, ZCS) to reduce energy losses
- State of the art energy efficiency: 98% vs. 94%
- Increase power densities with integrated GaN circuitry operating at high frequency (>1MHz)

ST Microelectronics USB Power Delivery ICs

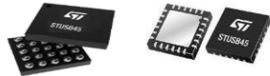


STUSB4761

(SOURCE)



- Optimized for AC/DC applications
- E-marked cable support for 100W
- Integrated CC/CV regulation
- Factory mode customization thru USB-C port
- Ambient temperature adaptive power
- QFN-16 3x3 mm² package



STUSB4500 (SINK)

- Automatic negotiation
- Optional MCU support
- SOURCE power budget identification
- Automatic error recovery and restart on fault
- Dead Battery Support
- Powered from VBUS
- QFN-24 EP or CSP-25 packages



Technology Innovation

Full execution of product innovation and design activities through to production

Expertise

- Prototyping / Proof of Concept
- System design, custom firmware/PC application
- Embedded MCU / FPGA
- Wired/Wireless communications systems
- USB Type-C / USB PD power management with power sharing
- Ultra-low power systems

Services

- Requirements analysis & specifications creation
- Feasibility studies
- Electronics design
- Microcontroller firmware
- Power conversion
- Sensors / Control
- Harsh environments/Ruggedization
- PC/Mobile applications



Würth Elektronik Electromechanical and Electronic Components

Würth Elektronik offers the complete product range from connectors, components for filtering of EMI noise, ESD surge protection as well as AC/DC to DC/DC power conversion for USB 3.1.

Portfolio

- USB licensed and TID listed Type-CTM Connectors **WE-COM**
- 60 W and 100 W **Vbus filter**
- Pulse stable chip bead ferrites **WE-MPSB** for hot-plug-in
- High current flat wire Power Inductor **WE-HCI** for DC/DC conversion
- High efficiency molded power inductors **WE-MAPI** for Vbus filter
- High speed, low noise data transmission filter with **WE-CNSW HF**
- Low parasitic capacitance **WE-TVS**
- Polymer Capacitors **WE-PSHP** with ultra-high permissible ripple current
- Other electronic, optoelectronic & electromechanical components

Technical & design-in support