

Silanna Semiconductor Unveils High-Density Evaluation Board for 65 W Multi-Port Fast Chargers

Multi-port sharing platform speeds development of 3-port, 2C1A USB-PD and QC applications

SAN DIEGO, CALIFORNIA, USA, September 6, 2023 /EINPresswire.com/ -- Silanna Semiconductor, The Power Density Leader, has unveiled an evaluation board that simplifies the design, testing and prototyping of 65 W multi-port USB-PD and QC fast charging applications.

Designed to deliver a real-life implementation when used with a front-end AC/DC converter, the SZPL3002AA-EVB03 integrates three Silanna SZPL3002A DC/DC converter ICs, which are the world's first integrated buck converters to offer intelligent power sharing capabilities. Two USB-C female connectors and one USB-A connector are provided, while screw terminals are located at the input for connection to a DC supply (typically 24 V).

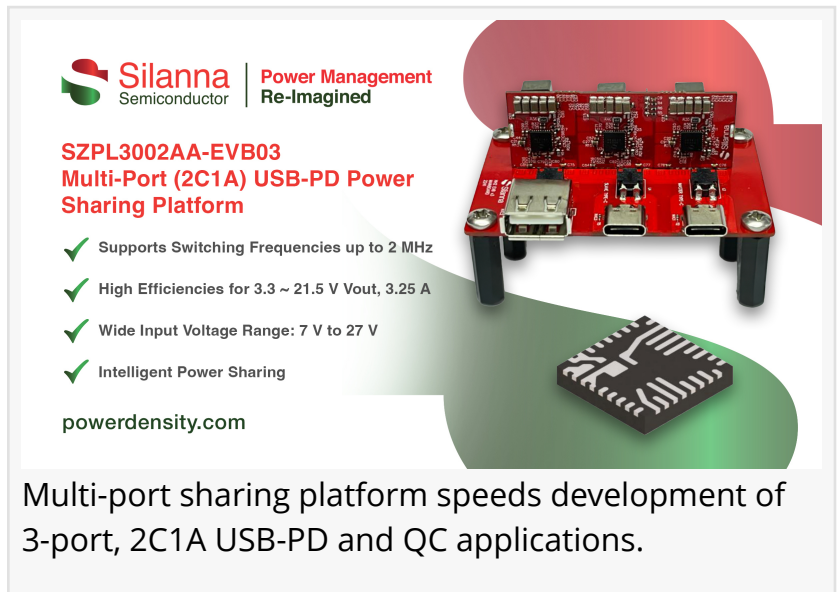
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This new evaluation board will dramatically simplify the evaluation of advanced multi-port USB-PD and QC designs featuring intelligent power sharing between ports”

Hubie Noto, Silanna Semiconductor's Director of Marketing.

The board is preconfigured from the factory with contract configurations for two 65 W Type-C PD ports and an 18 W QC Type-A port. Total power delivered by the EVB is limited to 65 W and is constantly monitored and re-allocated between ports by the firmware. The switching frequency is set to 667 kHz with 8 ms of soft-start time. An I2C bus interface allows for inter-IC communication among the SZPL3002A devices for advanced applications in shared power, multiple output charging ports. The bus also facilitates programming on-board OTP memories.

“This new evaluation board will dramatically simplify the evaluation of advanced multi-port USB-



Silanna Semiconductor | Power Management Re-Imagined

SZPL3002AA-EVB03
Multi-Port (2C1A) USB-PD Power Sharing Platform

- ✓ Supports Switching Frequencies up to 2 MHz
- ✓ High Efficiencies for 3.3 ~ 21.5 V Vout, 3.25 A
- ✓ Wide Input Voltage Range: 7 V to 27 V
- ✓ Intelligent Power Sharing

powerdensity.com

Multi-port sharing platform speeds development of 3-port, 2C1A USB-PD and QC applications.

PD and QC designs featuring intelligent power sharing between ports,” says Hubie Noto, Silanna Semiconductor’s Director of Marketing. “As a result, OEMs can deliver ultra-high-density solutions that dynamically adapt to real-life device power needs to optimize charging across a variety of use cases.”

Incorporating a built-in USB PD/FC port controller and operating with efficiencies to 98%, the Silanna SZPL3002 DC/DC converter is supplied in a QFN 5 mm x 5 mm thermally enhanced package and significantly reduces the number of components needed to implement 65 W fast charger and adapter applications. These include AC/DC chargers, multiple output USB-PD charging strips and USB-PD outputs in displays, televisions, docking stations and laptops. The integrated port controller offers full support for USB PD V3.0 Type C interfaces and QC2.0/3.0/4.0/5.0 support for Type A/C connections. Facilitating power sharing and port power re-balancing functionality across two or three ports, the controller ensures that port power adapts to the needs of a particular device, irrespective of when connections are made.

SZPL3002AA-EVB03 Features

- Supports switching frequencies up to 2 MHz
- High efficiencies for 3.3 ~ 21.5 V Vout, 3.25 A
- Selectable power contract configurations –reduces required programming
- Full support for multi-port shared power across type C and type A ports
- Temperature triggered power throttling
- Wide input voltage range: 7 V to 27 V
- Integrated USB-PD controller supporting USB-PD R3.1, PPS, BC1.2, QC 2.0/3.0/4.0/4.0+/5.0
- Integrated 100 mW VCONN power generation for eMarked cables
- UVLO/OCP/OVP/UVP/OTP protections

Applications

- AC/DC Chargers with USB-PD Support
- Multiple Output USB-PD Charging Strips
- USB-PD Outputs in Displays and TVs
- Docking Stations and Laptops

Availability:□

Information is available at <https://powerdensity.com/reference-design/> or by contacting sales@silanna.com.

About Silanna Semiconductor

The Power Density Leader. Delivering on the ultimate Power Management challenge of best-in-class power density and efficiency performance that delights customers with unprecedented BoM savings. Silanna Semiconductor’s AC/DC and DC/DC power converter ICs are driving key innovations in Travel Adapters, Laptop Adapters, Appliance Power, Smart Metering, Computing,

Lighting, Industrial Power, and Display Power utilizing the latest digital and analog control and device technologies. In addition to our global engineering sales force, customers are supported by regional design centers and online tools. 'Power Density Hero' is an online design tool where customers input their power needs and instantly receive a complete design, schematic, and 'Bill of Materials' (BOM). The Asian Center of Excellence (ACE) has a dedicated team of power system engineers to support our customers in their application specific design needs.

Silanna Semiconductor, with its family of CO2 Smart Power™ ICs, offers technologies that will benefit the planet and the people on it by delivering best-in-class power density and efficiency.

Silanna Semiconductor, headquartered in San Diego, CA, is a privately-held semiconductor company, and has global facilities supporting customers with design centers and offices in North America, Europe, Asia, and Australia.

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