



TPS23861 Product Brief

1 Features

- IEEE 802.3at Quad Port PSE Controller
 - Auto Detect, Classification
 - Auto Turn-On and Disconnect
 - Efficient 255-mΩ Sense Resistor
- Pin-Out Enables Two-Layer PCB
- Automatic Mode – As Shipped
 - No External Terminal Setting Required
 - No Initial I²C Communication Required
- Semi-Automatic Mode – Set by I²C Command
 - Continuous Identification and Classification
 - Always Meets IEEE 400-ms T_{PON} Specification
- Optional I²C Control and Monitoring
- –40°C to 125°C Temperature Range
- TSSOP28 Package 9.8 mm x 6.6 mm

2 Applications

- Ethernet Switches and Routers
- Surveillance NVR and DVRs
- Residential Gateways
- PoE Pass-Through Systems
- Wireless Backhaul
- Industrial Midspans

3 Description

The TPS23861 is an easy-to-use, flexible, IEEE802.3at PSE solution. As shipped, it automatically manages four 802.3at ports without the need for an external control.

The TPS23861 automatically detects Powered Devices (PDs) that have a valid signature, determines power requirements according to classification and applies power. Two-event classification is supported for type-2 PDs. The TPS23861 supports DC disconnection and the external FET architecture allows designers to balance size, efficiency and solution cost requirements.

The unique pin-out enables 2-layer PCB designs via logical grouping and clear upper and lower differentiation of I²C and power pins. This delivers best-in-class thermal performance, Kelvin accuracy and low-build cost.

In addition to automatic operation, the TPS23861 supports semi auto-mode via I²C control for precision monitoring and intelligent power management. Compliance with the 400-ms T_{PON} specification is ensured whether in semi-automatic or automatic mode.

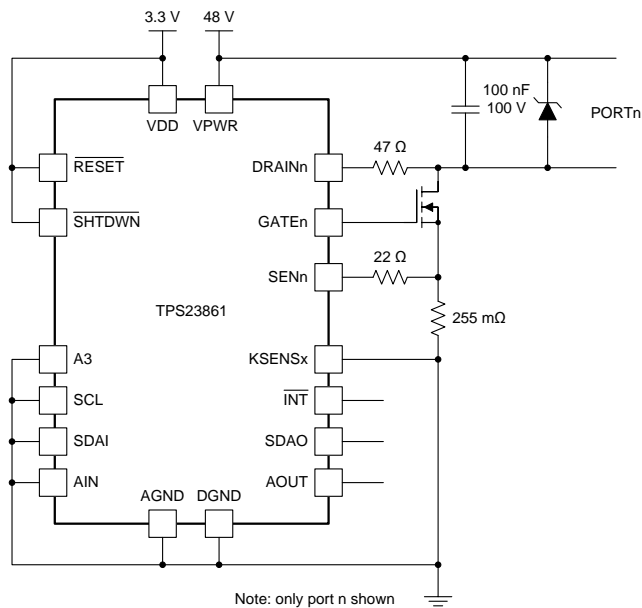
For the full datasheet, samples, or the EVM hardware and software please contact a TI representative at 100MEVM@list.ti.com.

Table 1. Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
TPS23861PW	TSSOP (28)	9.8 mm x 6.6 mm

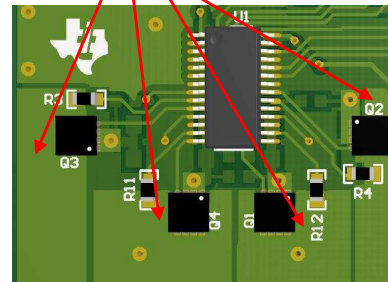


Figure 1. Simplified Schematic



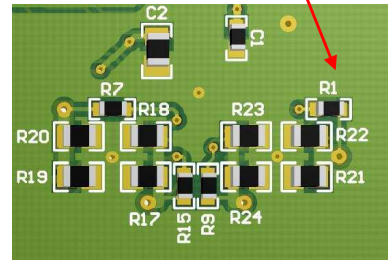
TOP CONDUCTORS

FETs Uniformly Spread Over Surface



BOTTOM GND AND PWR PLANES

Continuous, Robust Backside GND and PWR Planes



4 Device and Documentation Support

4.1 Trademarks

All trademarks are the property of their respective owners.

4.2 Electrostatic Discharge Caution



These devices have limited built-in ESD protection. The leads should be shorted together or the device placed in conductive foam during storage or handling to prevent electrostatic damage to the MOS gates.

4.3 Glossary

[SLYZ022](#) — *TI Glossary*.

This glossary lists and explains terms, acronyms and definitions.

5 Mechanical, Packaging, and Orderable Information

The following pages include mechanical, packaging, and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the left-hand navigation.

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