

TPS26743E-Q1 Automotive Single-port USB Type-C® PD Controller with 240W EPR and DisplayPort™ over USB Type-C®

1 Features

- AEC-Q100 test guidance with the following:
 - Device temperature grade 1: -40°C to 125°C ambient operating temperature range
 - Device HBM ESD classification level:
 - Level 2 and level 3A
 - Device CDM ESD classification level:
 - Level C2a and C2b
- TPS26743E-Q1 is a fully configurable single-port PD3.2 source controller.
 - Extended power range (EPR) support
 - 40V tolerant VBUS
 - 24V tolerant CC and DP/DM pins
 - GUI tool to easily configure for various applications
 - Programmable power supply (PPS) support (source)
- USB Type-C power delivery (PD) controller
 - USB PD R3.2 compliant
 - USB Type-C R2.4 compliant
 - DisplayPort alternate mode support
 - Sink mode support
 - 20 configurable GPIOs
 - Cable attach and orientation detection
 - Integrated VCONN switch. No external supply required to read eMarker
 - Physical layer and policy engine
 - Integrated LDO with input up to 40V
 - One I²C controller port (I2C2)
 - Two I²C target ports (I2C1, I2C3)
 - UART and LIN support
 - Closed-chassis debugging
- Integrated flash memory supporting updates via I²C gated by an authentication check
 - Closed-chassis flash updates via I2C4
- System power management
 - Across multiple ports and multiple devices
 - Thermal foldback
 - Power foldback
- Liquid detection and corrosion mitigation

2 Applications

- [Automotive USB charging](#)
- [Automotive media hub](#)
- [Automotive head unit](#)
- [Automotive display module](#)
- Sink-only applications

3 Description

The TPS26743E-Q1 is a stand-alone single-port USB Type-C and power delivery (PD) source controller for any automotive USB-C port application including extended power range (EPR) voltages. The TPS26743E-Q1 is capable of supporting all USB-PD power supply negotiation options for standard power range (SPR) and EPR. The TPS26743E-Q1 automatically identifies USB-C cable capabilities, and adjusts for the maximum current allowed by the cable, without requiring an external 5V supply for VCONN. The TPS26743E-Q1 supports DisplayPort over USB-C and legacy D+/D- charging.

The TPS26743E-Q1 controls a DC/DC via I²C or PWM to achieve a complete USB-C PD application. The TPS26743E-Q1 has SYNC outputs to keep external DC/DC switching out-of-phase for each port, with dual-random spread-spectrum (DRSS).

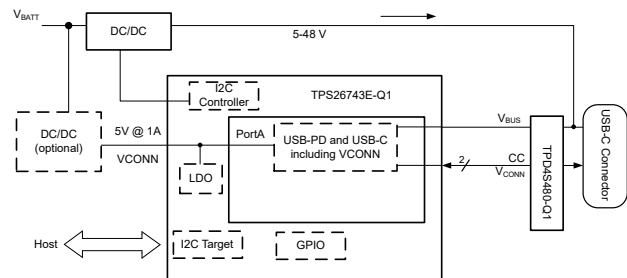
The TPS26743E-Q1 has integrated protections for thermal and input voltage monitoring for power foldback, VBUS high/low monitoring, and liquid detection along with corrosion mitigation.

The TPS26743E-Q1 also supports USB-C Alternate Modes such as DisplayPort. The TPS26743E-Q1 offers multiple interface options for the system including I²C and LIN support, along with configurable GPIOs.

Package Information

PART NUMBER	PACKAGE ⁽¹⁾	PACKAGE SIZE (NOM)
TPS26743E-Q1	32-QFN (RHB)	5mm x 5mm

(1) For all available packages, see the orderable addendum at the end of the datasheet.



4 Device and Documentation Support

TI offers an extensive line of development tools. Tools and software to evaluate the performance of the device, generate code, and develop applications are listed below.

4.1 Documentation Support

4.1.1 Related Documentation

- [USB-PD Specifications](#)
- [USB Power Delivery Specification](#)

4.2 Receiving Notification of Documentation Updates

To receive notification of documentation updates, navigate to the device product folder on ti.com. Click on *Notifications* to register and receive a weekly digest of any product information that has changed. For change details, review the revision history included in any revised document.

4.3 Support Resources

[TI E2E™ support forums](#) are an engineer's go-to source for fast, verified answers and design help — straight from the experts. Search existing answers or ask your own question to get the quick design help you need.

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4.4 Trademarks

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4.5 Electrostatic Discharge Caution



This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

4.6 Glossary

[TI Glossary](#) This glossary lists and explains terms, acronyms, and definitions.

5 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

DATE	REVISION	NOTES
May 2026	*	Initial release

6 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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