

**Conv DC-DC 4.5V to 60V Step Down Single-Out 0.8V to 58.8V 5A
Automotive 10-Pin WSON EP T/R**

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|----------------------|--|---------------------------------------|
| Manufacturer: | Texas Instruments, Inc | TPS54561QDPRRQ1 Image |
| Package/Case: | WSON10 | Images are for reference only |
| Product Type: | Power Management ICs | Inquiry |
| RoHS: | RoHS Compliant/Lead free  | |
| Lifecycle: | Active | |

General Description

The TPS54561-Q1 device is a 60-V, 5-A, step-down regulator with an integrated high-side MOSFET. The device survives load dump pulses up to 65 V per ISO7637. Current-mode control provides simple external compensation and flexible component selection. A low-ripple pulse-skip mode and 152- μ A supply current enables high efficiency at light loads. Pulling the enable pin low reduces shutdown supply current to 2 μ A.

Undervoltage lockout has an internal 4.3-V setting. Use of an external resistor divider at the EN pin can increase the setting. The soft-start pin controls the output-voltage start-up ramp and also configures sequencing or tracking. An open-drain power-good signal indicates the output is within 93% to 106% of its nominal voltage.

A wide adjustable switching-frequency range allows optimization for either efficiency or external component size. Cycle-by-cycle current limit, frequency foldback, and thermal shutdown protect the device during an overload condition.

The TPS54561-Q1 is available in a 10-pin, 4-mm \times 4-mm WSON package.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:

Device Temperature Grade 1: -40°C to 125°C Ambient Operating Temperature Range

Device HBM ESD Classification H1C

Device CDM ESD Classification C5

High Efficiency at Light Loads With Pulse-Skipping Eco-mode? Control

87-mΩ High-Side MOSFET

152-μA Operating Quiescent Current and 2-μA Shutdown Current

100-kHz to 2.5-MHz Switching Frequency

Synchronizes to External Clock

Low-Dropout Operation at Light Loads With Integrated BOOT Recharge FET

Adjustable UVLO Voltage and Hysteresis

Power-Good Output Monitor for Undervoltage and Overvoltage

Adjustable Soft-Start and Sequencing

0.8-V 1% Internal Voltage Reference

10-Pin WSON With Thermal Pad Package

-40°C to 150°C TJ Operating Range

Create a Custom Design using the TPS54561-Q1 with the WEBENCH? Power Designer

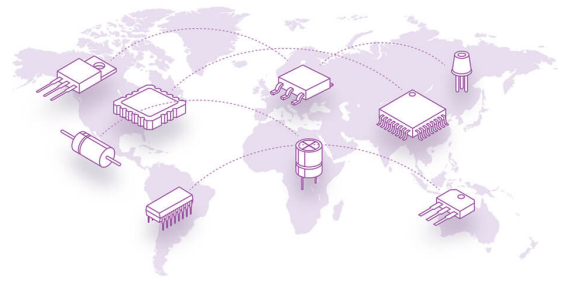
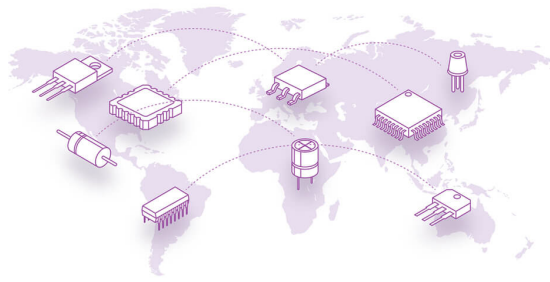
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Recommended For You

TPD3S014DBVR

Texas Instruments, Inc

SOT23-6

TPS2065CDBVR

Texas Instruments, Inc

SOT23-5

TPS2557DRBT

Texas Instruments, Inc

SON8

TPS2042BDR

Texas Instruments, Inc

SOP8

TPS2051BDR

Texas Instruments, Inc

SOP8

TPL7407LPWR

Texas Instruments, Inc

TSSOP16

TPS23753APWR

Texas Instruments, Inc

TSSOP14

TPS2116DRLR

Texas Instruments, Inc

SOT5X3-8

TPS259460ARPWR

Texas Instruments, Inc

VQFN-10

TPS23751PWPR

Texas Instruments, Inc

HTSSOP16

TPS65150QPWPRQ1

Texas Instruments, Inc

HTSSOP-24

TPS2410PWR

Texas Instruments, Inc

TSSOP-14

TPS22914BYFPR

Texas Instruments, Inc

DSBGA4

TPS2115ADRBR

Texas Instruments, Inc

VSON8

TPS2113ADRBR

Texas Instruments, Inc

SON8