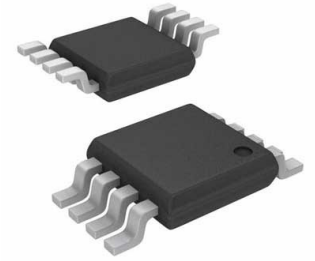


## USB Charging Port Controller Single 5.5V 0.25A to 2.7A Automotive 8-Pin HVSSOP EP T/R



Images are for reference only

[Inquiry](#)

**Manufacturer:** [Texas Instruments, Inc](#)

**Package/Case:** MSOP-8

**Product Type:** Switches

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

The TPS2511-Q1 is a USB dedicated charging port (DCP) controller and current limiting power switch. An auto-detect feature monitors USB data line voltage, and automatically provides the correct electrical signatures on the data lines to charge compliant devices among the following charging schemes: Divider DCP, required to apply 2.7 V on D+ and 2.0 V on D- or 2.0 V on D+ and 2.7 V on D-; BC1.2 DCP, required to short D+ to D-; 1.2 V on both D+ and D-.

The TPS2511-Q1 is a 80-mΩ power-distribution switch intended for applications where heavy capacitive loads and short-circuits are likely to be encountered. This device also provides hiccup mode when the output (OUT) voltage is less than 3.80 V typical or when an over-temperature protection occurs during an overload condition. Accurate and programmable current limit provides flexibility and convenience for applications. The TPS2511-Q1 provides a  $\overline{CS}$  pin for USB cable resistance compensation and a EN pin to turn on and turn off the device.

## Key Features

Qualified for Automotive Application

AEC-Q100 Qualified with the Following Results:

Device Temperature Grade 1:

-40°C to 125°C Ambient Operating Temperature Range

Device HMB ESD Classification Level H2

Device CDM ESD Classification Level C3B

Supports a DCP Shorting D+ to D-

Supports a DCP Applying 2.0 V on D+ and 2.7 V on D-  
(or 2.7 V on D+ and 2.0 V on D-)

Supports a DCP Applying 1.2 V on Data Lines

Automatically Switch D+ and D- Lines Connections  
for an Attached Device

Hiccup Mode for Short-Circuit Protection

Provides  $\overline{\text{CS}}$  Pin for USB Cable Compensation

Programmable Current Limit (ILIM\_SET Pin)

80-mΩ typical High-Side MOSFET

Accurate ±10% Current-Limit at 2.3 A typical

Meets USB Power Switch Requirements

Drop-In and List of materials Compatible with TPS2511

Operating Range: 4.5 V to 5.5 V

Available in MSOP, 8-Pin Package

UL Listed and CB File Number E169910

## Recommended For You

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### 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