

Enhanced single channel power switches

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: SOT23-5

Product Type: Switches

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

TPS2065CDBVR Image

Images are for reference only

[Inquiry](#)

General Description

The TPS206x power-distribution switches are intended for applications where heavy capacitive loads and short-circuits are likely to be encountered. This device incorporates 70-m N-channel MOSFET power switches for power-distribution systems that require multiple power switches in a single package. Each switch is controlled by a logic enable input. Gate drive is provided by an internal charge pump designed to control the power-switch rise times and fall times to minimize current surges during switching. The charge pump requires no external components and allows operation from supplies as low as 2.7 V.

When the output load exceeds the current-limit threshold or a short is present, the device limits the output current to a safe level by switching into a constant-current mode, pulling the overcurrent (OCx) logic output low. When continuous heavy overloads and short-circuits increase the power dissipation in the switch, causing the junction temperature to rise, a thermal protection circuit shuts off the switch to prevent damage. Recovery from a thermal shutdown is automatic once the device has cooled sufficiently. Internal circuitry ensures that the switch remains off until valid input voltage is present. This power-distribution switch is designed to set current limit at 1.5 A typically.

Key Features

Single Power Switch Family

Pin-for-Pin With Existing TI Switch Portfolio

Rated Currents of 0.5 A, 1 A, 1.5 A, 2 A

±20% Accurate, Fixed, Constant Current Limit

Fast Overcurrent Response: 2 μ s

Deglitched Fault Reporting

Selected Parts With (TPS20xxC) and Without (TPS20xxC-2) Output Discharge

Reverse Current Blocking

Built-In Soft Start

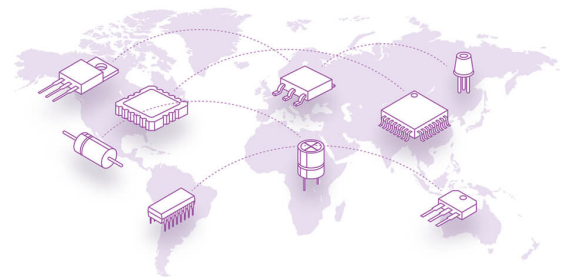
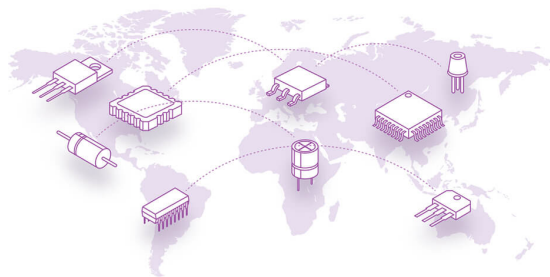
Ambient Temperature Range: -40°C to 85°C

UL Listed and CB-File No. E169910

Description

The TPS20xxC and TPS20xxC-2 power-distribution switch family is intended for applications, such as USB, where heavy capacitive loads and short circuits are likely to be encountered. This family offers multiple devices with fixed current-limit thresholds for applications from 0.5 A to 2 A.

The TPS20xxC and TPS20xxC-2 family limits the output current to a safe level by operating in a constant-current mode when the output load exceeds the current limit threshold. This provides a predictable fault current under all conditions. The fast overload response time eases the burden on the main 5-V supply to provide regulated power when the output is shorted. The power-switch rise and fall times are controlled to minimize current surges during turnon and turnoff.



Recommended For You

TPD3S014DBVR

Texas Instruments, Inc
SOT23-6

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

TPS65150QPWRQ1

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

TPS51716RUKR

Texas Instruments, Inc
WQFN20