

# DESIGNER'S NOTEBOOK



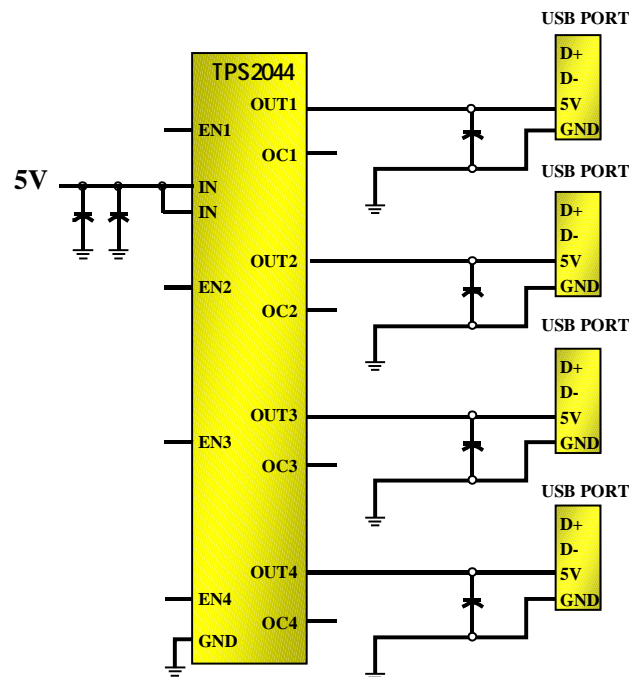
The TPS204X / 5X power distribution switch family meets the requirements for the Universal Serial Bus (USB) and many general applications.

## Key Features

- Maintenance free power distribution
- 125 mΩ(max) over full temperature.
- Truly independent switches
  - ◆ Independent thermal protection function
  - ◆ Separate enables
  - ◆ Separate over current pins
- 45 μsec response time for fault condition
- 2.7-V – 5-V Operating range
- Active Low and High enables, that are compatible with 3.3-V & 5-V logic.
- Controlled Rise time 4.0 mSec
- Short Circuit limit 0.9 A (Typ)
- Undervoltage lock-out
- Single, Dual and Quads available

## Description:

The TPS204X / 5X family of power distribution switches were designed to meet the growing need to switch power in USB applications with 1, 2 and 4 ports. This family of devices provides a cost effective means of switching power to USB ports in either ganged or independent configurations.



ADVANCE INFORMATION  
concerns new products that are in the  
sampling or pre-production phase of  
development. Characteristic data and  
other specifications are subject to  
change without notice

## TPS204X Benefits

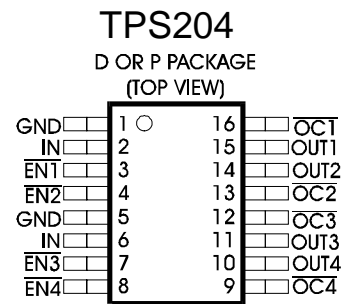
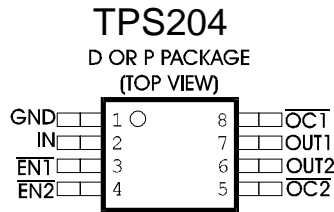
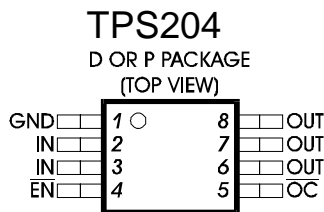
- These devices are offered with both active high (TPS204X) and low (TPS205X) logic level enables. This gives the designer flexibility to keep component count and cost down to a minimum.
- The dual and quad devices offer truly independent switches:
  - independent over current detection and response.
  - independent over temperature detection.
  - independent logic level enables.
- Maintenance free fault detection
  - 45  $\mu$ sec fault response time
  - auto resets when load is removed
  - 4 msec switch rise time.

Parts	Description
TPS2041	– Single 0.5 A Power Distribution Switch, active low EN
TPS2051	– Single 0.5 A Power Distribution Switch, active high EN
TPS2042	– Dual 0.5 A Power Distribution Switch, active low EN
TPS2052	– Dual 0.5 A Power Distribution Switch, active high EN
TPS2044	– Quad 0.5 A Power Distribution Switch, active low EN
TPS2054	– Quad 0.5 A Power Distribution Switch, active high EN

### Availability:

- Samples available **Now!**
- Release for Production 8/98

### Packages:



### For Additional Information:

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<http://www.ti.com/sc/power>

USB Forum Page

<http://www.usb.org/>

TI USB Page

<http://www.ti.com/sc/docs/usb/spec/spec1.htm>