



## TPS22949A Load Switch with LDO

### General Description:

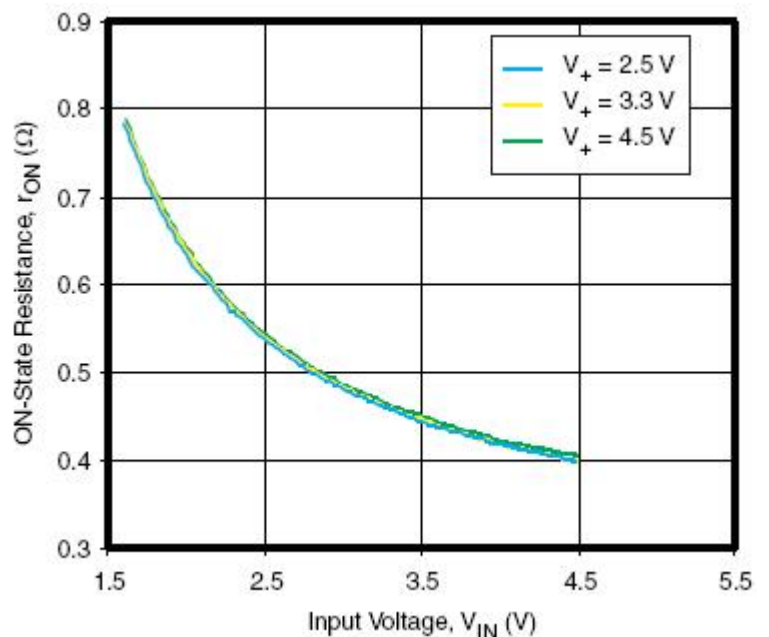
The TPS22949 and TPS22949A are devices that provides protection to systems and loads in high-current conditions. The device contains a 500-mA current-limited P-channel MOSFET that can operate over an input voltage range of 1.62 V to 4.5 V as well as a low-dropout (LDO) regulator with a fixed output voltage of 1.8 V.

The switch is controlled by an on/off input (EN1), which is capable of interfacing directly with low-voltage control signals. When the switch current reaches the maximum limit, the TPS22949/TPS22949A operates in a constant-current mode to prohibit excessive currents from causing damage. If the constant current condition still persists after 12 ms, these devices shut off the switch and pull the fault signal pin (OC) low.



### Key Features:

- Integrated Current Limiter
  - Input Voltage Range: 1.62 V to 4.5 V
  - Low ON-Resistance
    - $r_{ON} = 300\text{-m}\Omega$  at  $V_{IN} = 4.5\text{ V}$
    - $r_{ON} = 350\text{-m}\Omega$  at  $V_{IN} = 3.3\text{ V}$
    - $r_{ON} = 400\text{-m}\Omega$  at  $V_{IN} = 2.5\text{ V}$
    - $r_{ON} = 600\text{-m}\Omega$  at  $V_{IN} = 1.8\text{ V}$
- Integrated 100-mA Minimum Current Limit
- Undervoltage Lockout
- Fast-Current Limit Response Time
- Integrated Fault Blanking and Auto Restart
- Stable Without Current Limiter Output Capacitor (TPS22949A Only)
- Integrated Low-Noise RF LDO
  - Input Voltage Range: 1.62 V to 4.5 V
  - Low Noise: 50  $\mu\text{V}_{rms}$  (10 Hz to 100 kHz)
  - 80-dB  $V_{IN}$  PSRR (10 Hz to 10 kHz)
  - Fast Start-Up Time: 130  $\mu\text{s}$
  - Low Dropout 100 mV at  $I_{load} = 100\text{ mA}$



- Integrated Output Discharge
- Stable With 2.2- $\mu$ F Output Capacitor
- 1.8-V Compatible Control Input Threshold
- ESD Performance Tested Per JESD 22
  - 3500-V Human-Body Model (A114-B, Class II)
  - 1000-V Charged-Device Model(C101)
- ESD Performance Tested Per JESD 22
  - 6000-V Human-Body Model (A114-B, Class II)
- Tiny WCSP Package 1.4mm  $\times$  0.9 mm (YZP)

## Applications:

- Fingerprint Module Protection
- Portable Consumer Electronics
- Smart Phone
- Notebooks
- Control Access Systems

## Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
TPS22949ADRGR	1782840	51R1166	Load Switch with LDO
TPS22949YZPR	1701166	71P8447	Load Switch with LDO

