



36V Over-Voltage, Over-Current Protection Load Switch with Adjustable Current-Limit Control

■ General Description

The OCP9227 advanced load-management switch targets application requiring a highly integrated solution. It disconnects loads powered from the DC power rail (<6V) with stringent off-state current targets and high load capacitances (<100 μ F). The OCP9227 consists of a slew-rate controlled low-impedance MOSFET switch (35m Ω typical) and integrated analog features. The slew-rate controlled turn-on characteristic prevents inrush current and the resulting excessive voltage drop on power rails. OCP9227 has over-voltage protection and over-temperature protection.

The OCP9227 has a True Reverse-Current Blocking (TRCB) function that obstructs unwanted reverse current from V_{OUT} to V_{IN} during ON and OFF states. The exceptionally low off-state current drain (<2 μ A maximum) facilitate compliance with standby power requirements. The input voltage range operates from 2.5 V to 5.5 VDC to support a wide range of applications in consumer power management.

Switch control is managed by a logic input (active HIGH) capable of interfacing directly with low-voltage control signal /General-Purpose Input/ Output (GPIO) without an external pull-down resistor.

The OCP9227 is available in a fully "green" compliant 1.3mm * 1.8mm WLCSP-12B Package.

■ Features

- V_{IN}: 2.5 V~5.5V
- 36 V Absolute Ratings at V_{OUT}
- Current Capability 4A
Typ 0.1A~3.5A with 10% Accuracy
- Ron: 27m Ω (Typ.), 50 m Ω (Max) at 5V_{IN} and 1A I_{OUT}
- Output Over-Voltage Protection 5.8V(Typ)
- Open-Drain OCP on FLAGB
- Thermal Shutdown
- True Reverse-Current Blocking
- ESD Protect
 - HBM: >2KV
 - CDM: >1KV
 - IEC61000-4-2 Air Discharge: >15KV
 - IEC61000-4-2 Contact Discharge > 8KV

■ Applications

- Type C Power Source Switch
- Mobile Handsets
- Tablet PCs and Laptops/Net books

■ Pin Configuration

WLCSP-12B(Top View):

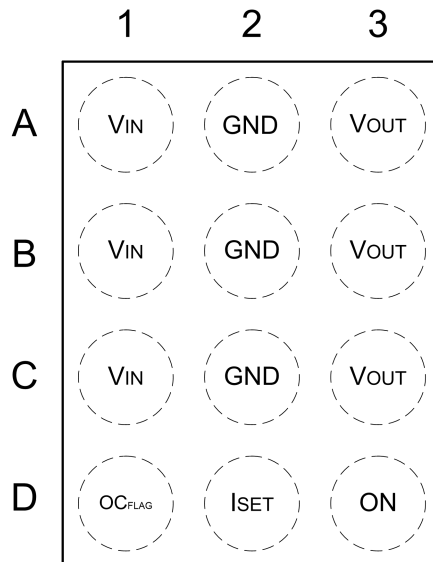


Figure 1, Pin Assignments of OCP9227

Pin Name	Pin No.	Pin Function
V _{OUT}	A3 B3 C3	Switch output to Load
V _{IN}	A1 B1 C1	Switch input and Device supply
GND	A2 B2 C2	Ground
ON	D3	Enable pin, active high
OC _{FLAG}	D1	Fault Output: Active LOW, open-drain output that indicates an input over current. External pull-up resistor is required.
ISET	D2	Current Limit Set Input: A resistor from ISET to ground sets the current limit for the switch.

■ Typical Application Circuit

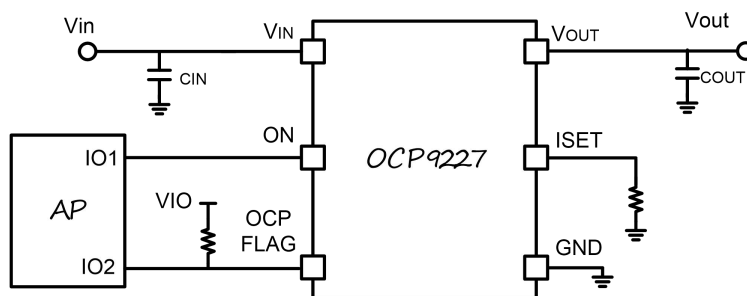


Figure 2, Typical Application

1. C_{IN} and C_{OUT} capacitors recommended for improvement of device power rail stability.

■ Block Diagram

