



## AP2331

# Single-Channel Current-Limited Load Switch

The AP2331 is a single-channel current-limited load switch optimized for hot-swap applications

### Reverse-Current Protection

The USB specification does not allow an output device to source current back into the USB port.

In a normal MOSFET switch, current will flow in reverse direction (from the output side to the input side) when the output side voltage is higher than the input side. A reverse current limit feature is implemented in the AP2331 to limit such back currents. Reverse current limit is always active in AP2331

### Current limit Protection

The AP2331 limits the maximum current to avoid damage of load and during overload conditions.

### Short Circuit Protection

The AP2331 senses the short circuit and immediately clamps output current to a certain safe level.



## The Diodes Advantage

The AP2331 provides fast over-current protection for improved USB ports protection.

- **0.2A Single Channel in SOT23, SC59, DFN2020(New PKG)**  
Increases power density for multiple USB ports and other load switch applications
- **Short-circuit current**  
Reduces internal power dissipation during short circuit conditions increasing reliability of the system
- **Output auto-discharge function**  
Provides controlled discharge of the output voltage stored on the output capacitor

## Circuit Functions

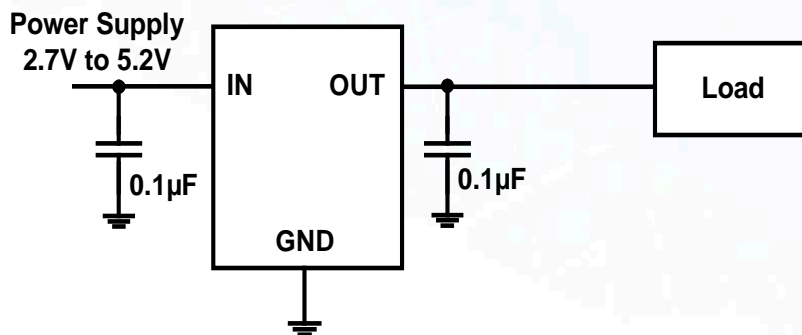
- Ultra-books/Notebooks
- Set-Top Boxes
- Desktops
- Consumer Electronics
- Tablet PC
- Telecom Systems



**New Product  
Announcement**  
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**AP2331**

# Single Channel Current-Limited Load Switch

## Typical Application Schematic



## Product Portfolio

Part	Min. Input Voltage	Max. Input Voltage	Max. Output Current	Limit Current (Typ.)	Package
AP2331SA	2.7V	5.2V	0.2A	0.4A	SOT-23
AP2331W	2.7V	5.2V	0.2A	0.4A	SC-59
AP2331FJ	2.7V	5.2V	0.2A	0.4A	U-DFN2020-3

## Ordering Information

Device	Package Code	Packaging	Package marking info.	Reel Size	Tape Width	Quantity
AP2331SA-7	SA	SOT23	XX YWX	7"	8 mm	3000
AP2331W-7	W	SC59	XX YWX	7"	8 mm	3000
AP2331FJ-7	FJ	U-DFN2020-3	XX YWX	7"	8 mm	3000

All variants are in packages that are "Green" Molding Compound (No Br, Sb) with Lead Free Finish/RoHS Compliant (Note 1)  
Notes:1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes  
2 Codes for date coding on part marks

Y Year 0-9      W A-Z week 1-26 a-z week 27-53      X A-Z: Green