



New Product Announcement

AP2331TD

0.2A Single Channel Current-Limited Load Switch with Quick Turn-off Output Discharge

The AP2331TD 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, the current will flow in a 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 AP2331TD to limit such back currents. Reverse current limit is always active in the AP2331TD.

Current Limit Protection

The AP2331TD limits the max current to avoid damage of load and during overload conditions.

Short Circuit Protection

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

Discharge Function

When input voltage falls below UVLO, the discharge function is active. The output capacitor is discharged through an internal NMOS with a discharge resistance of 1.8k Ω . Hence, the output voltage drops down. The internal discharge NMOS is turned off right away to avoid leakage current from output. The transient output discharge feature makes it suitable for HDMI or Display port applications.



The Diodes Advantage

The AP2331TD provides fast overcurrent protection for improved USB port protection.

0.2A Single Channel in SOT23 & SC59

- Increases power density for multiple USB ports and other switch applications

Short-circuit current

- Reduces internal power dissipation during short circuit conditions increasing reliability of the system

Quick Turn-off Output Discharge

- Enable faster interface response performance for HDMI or Display port by customer's specific application usage

Applications

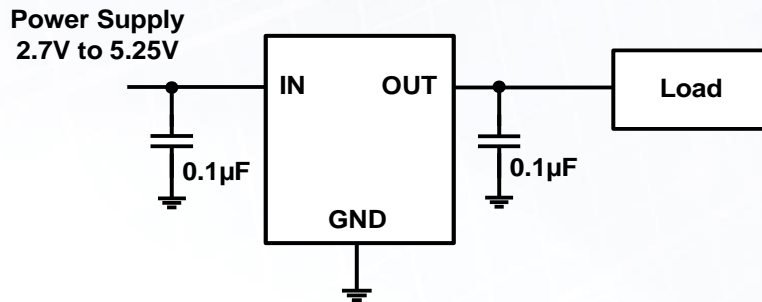
- Notebook PCs
- Tablet PCs
- Motherboards
- Set-Top-Boxes
- TVs
- Telecom Systems



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Application Diagram



Product Portfolio

Part No.	Min. Input Voltage	Max. Input Voltage	Max. Output Current	Limit Current (Typ.)	Discharge Resistance	Package
AP2331SA-7	2.7V	5.2V	0.2A	0.4A	800Ω	SOT-23
AP2331W-7	2.7V	5.2V	0.2A	0.4A	800Ω	SC-59
AP2331FJ-7	2.7V	5.2V	0.2A	0.4A	800Ω	U-DFN2020-3
AP2331TDW-7	2.7V	5.2V	0.2A	0.4A	1.8KΩ	SC-59
AP2331TDSA-7	2.7V	5.2V	0.2A	0.4A	1.8KΩ	SOT-23

Ordering Information

Device	Package Code	Packaging	Package Marking info.	Reel Size	Tape Width	Quantity
AP2331SA-7	SA	SOT23	XX YWX	7"	8 mm	3,000
AP2331W-7	W	SC59	XX YWX	7"	8 mm	3,000
AP2331FJ-7	FJ	U-DFN2020-3	XX YWX	7"	8 mm	3,000
AP2331TDW-7	W	SC59	XX YWX	7"	8 mm	3,000
AP2331TDSA-7	SA	SOT23	XX YWX	7"	8 mm	3,000

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

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

To Find Out More Information:

Portfolio overview webpage: http://www.diodes.com/catalog/Protected_Switches_42
Datasheets: AP2331TD <http://www.diodes.com/files/datasheets/AP2331TD.pdf>