



New Product Announcement

AP23x1A/AP24x1A/
AP25x1A

Improved Power Density 2A and 2.5A Single Channel Overcurrent protecting USB Power Switches

The AP23x1A/24x1A/25x1A series provides fast and accurate overcurrent protection for improved USB port protection.

They expand on the existing family of USB switches with their support of dual-purpose port applications in which a port is used for data communication between the host and peripheral devices, while simultaneously maintaining a charge for the battery of the peripheral device.

They are ideal for protection in LCD TVs, monitors, set-top boxes, notebooks, E-readers and smartphones.

All variants feature built-in soft-start and output discharge circuitry, as well as reverse current blocking and over-temperature protection.

If an overcurrent condition occurs, the AP23x1A/25x1A limits the output current while the AP24x1A latches off the output.



The Diodes' Advantage

The AP23x1A/24x1A/25x1A provides fast and accurate overcurrent protection for improved USB port protection

- **Fast, short-circuit response time: 2µs**
Prevents unnecessary system shutdown or restart
→ improved system robustness
- **2A continuous Load versions with different OCP Constant current (AP23x1A) and latch-off (AP24x1A)**
Fault behavior can be optimized for different designs
- **Output discharge function**
Provides controlled discharge of the output capacitor when disabled → Improved robustness of system
- **Reverse current blocking, UVLO, overcurrent, over-temperature and short-circuit protection**
Improves robustness of USB ports

Circuit Function

- USB Ports protection
- 5V/3.3V Power Supply Short-Circuit Protection

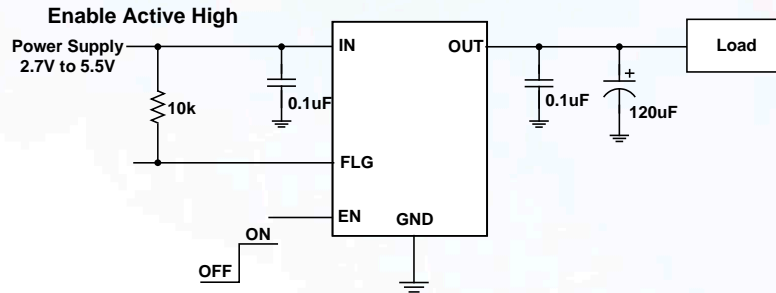


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AP23x1A/AP24x1A/
AP25x1A

Typical Application

Enable Active High



Product Portfolio

Part	Enable (active)	Recommended Max Continuous Load Current	Current Limit	Overcurrent Protection	OTP	Soft-start	Reverse Blocking	Output Discharge	Flag	Package
AP2301A	Low	2.0A	2.5A	Current-Limit	Y	Y	Y	Y	Y	SO-8, MSOP-8EP, MSOP-8 U-DFN3030-8, U-DFN2020-6
AP2311A	High									
AP2401A	Low	2.0A	2.5A	Latch-Off	Y	Y	Y	Y		
AP2411A	High									
AP2501A	Low	2.5A	3.7A	Current-Limit	Y	Y	Y	Y		
AP2511A	High									

Ordering Information

Device	Package Code	Packaging	Reel Size	Tape Width	Quantity
AP2x01AS-13 AP2x11AS-13	S	SO-8	13"	12 mm	2,500
AP2x01AM8-13 AP2x11AM8-13	M8	MSOP-8	13"	12 mm	2,500
AP2x01AMP-13 AP2x11AMP-13	MP	MSOP-8EP	13"	12 mm	2,500
AP2x01AFGE-7 AP2x11AFGE-7	FGE	U-DFN3030-8-6	7"	8 mm	3,000
AP2x01ASN-7 AP2x11AFGE-7	SN	U-DFN2020-6	7"	8 mm	3,000

Where **2x01** is either 2301, 2401 or 2501
2x11 is either 2311, 2411 or 2511