New Product Announcement

AP22916

2A Slew-Rate-Controlled Power Switches in Tiny Package Protect Portable Systems from Excessive In-Rush Current

The DIODES™ AP22916 series consists of chip-scale power switches capable of handling 2A with a low 5V $R_{DS(on)}$ of 60mΩ, which make it suitable for power control in the smallest of products.

All devices in the AP22916 series operate from 1.3V to 5.5V input voltage rails, enabling them to operate in 1.5V, 1.8V, 2.5V, 3.3V, and 5V systems. Their typical quiescent current of 0.3µA helps extend battery life in portable applications.

The devices' ON pins have a smart pull-down feature that disables the part if the HIGH signal is missing, and will thus release the pull-down when the high-level signal returns. This feature eliminates any potential, extraneous current draw.

The AP22916 is available in four versions:

Version	Start-Up Timing	Output Discharge
B	Fast	Yes
C	Slow	Yes
D	Fast	No
E	Slow	No

True reverse current blocking (TRCB) effectively eliminates reverse current flow when the output voltage exceeds the input voltage in both the ON- and OFF-states.

The AP22916 is available in the X-WLB0808-4 wafer chip scale package, which is 0.78mm x 0.78mm x 0.4mm. The package operates in a temperature range of -40ºC to +85ºC.

The DIODES™ Advantage

New family of power switches with different start-up times mitigates excessive in-rush currents.

- **Low On-Resistance of 60mΩ @ Vin = 5.5V**
  Reduces in-line voltage drops and power dissipation
- **Ultra-low 0.3µA Quiescent Current and Very-low Leakage**
  Extends battery life
- **2.0 A Current Capability with Different Turn-On Times**
  Optimizes controlled output ramp-up times and limits potential damage from in-rush currents
- **Wide Input Voltage Range: 1.3V to 5.5V**
  Offers extra voltage margin for systems operating at 1.3V
- **True Reverse Current Blocking**
  Prevents reverse current flow when Vout exceeds Vin
- **X1-WLB0808-4 (0.78mm x 0.78mm) Chip-Scale Package**
  Enables highest power density for portable applications

Applications

- Mobile devices
- Smart phones
- Portable media devices
- GPS equipment
- Wearable devices
- Advanced notebooks
- Portable medical devices

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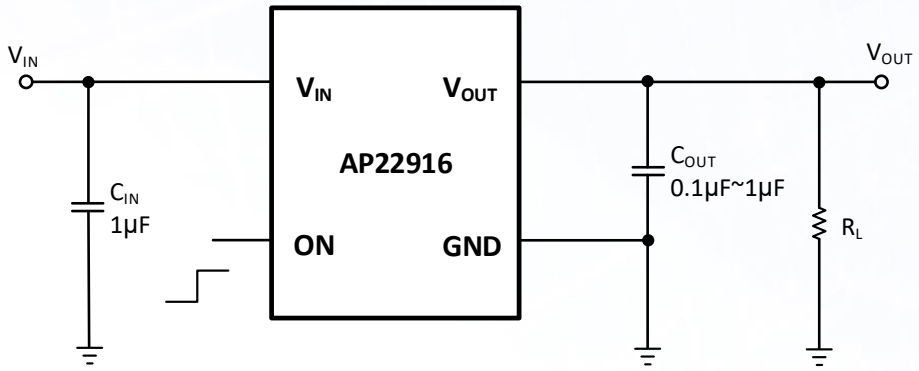
Typical Application



Product Portfolio

Part Number	Minimum Operating Voltage	Maximum Operating Voltage	Maximum Continuous Output Current	Maximum Current Limit	Output Turn-on Delay Time	Output Turn-on Rising Time	Output Discharge	Output Discharge FET On-resistance	Enable Logic (Active)	Quiescent Current @ VIN=5.0V	$R_{DS(on)}$ @ VIN =				Package
											1.3V	1.8V	3.6V	5.0V	
	V	V	A	A	µs	µs		Ω		µA	mΩ				
AP22916B	1.3	5.5	2	2.5	85	42	Yes	150	High	0.3	150	100	70	60	X1-WLB0808-4
AP22916C					1400	750									
AP22916D					85	42	No	na							
AP22916E					1400	750									

Ordering Information

Orderable Part Number	Compliance (Only Automotive supports PPAP)	Package Code	Package	Moisture Sensitivity	Carrier	Quantity Per reel	Tape Width (mm)
AP22916BCA4-7	Standard	CA4	X1-WLB0808-4	MSL-	7" Tape and Reel	3000	8
AP22916CCA4-7							
AP22916DCA4-7							
AP22916ECA4-7							