



# New Product Announcement

## AP3118

### High-Voltage PWM Controller

The AP3118 is a current mode PWM controller specially designed for offline power supply that requires ultra-low standby power, high- power density and comprehensive protection. Coordinating with secondary USB PD controller, which can provide a total USB PD solution.

The PWM switching frequency at normal operation is internally fixed (about 65kHz). AP3118 supports transient peak power excursion. At peak load, the frequency will be increased from 65kHz to 130kHz to meet the requirement of output power. The duration time is internally set to 30mS.

The AP3118 provides an inner high-voltage start-up function through HV pin which can reduce the standby loss. The HV pin also realizes X-CAP discharge function. When an X-CAP is connected to a system, it will discharge the X-CAP when the AC line voltage is off automatically without the need for extra discharge resistors.

The AP3118 integrates a VCC LDO circuitry, allowing the LDO to regulate the wide range VCC\_IN to an acceptable value. This makes the AP3118 a good choice in wide range output voltage application.

There are also versatile system protections provided by AP3118, such as secondary side OVP, secondary side UVP, constant output current limit, cycle-by-cycle current limit (OCP), brown-out protection, programmable external OTP, etc.



#### The Diodes Advantage

The AP3118 has a high-performance and high-integration part for portable and consumer application which need ultra-low standby power and wide range output.

- **Multiple Modes of Operations:**  
**65kHz CCM PWM Mode, Green-Mode and Burst Mode**  
Optimizing efficiency across all load levels
- **High Voltage Startup/ X-cap Discharge Function**  
Achieve ultra low standby power loss
- **Internal 100V LDO to Regulate V<sub>CC</sub> for Wide Range Output Application**  
Making lower BOM quantity and system design simplified
- **Constant Output Current Limitation**  
Keeping same over-current point under wide range output condition
- **Function of F<sub>s</sub> increasing from 65hzk to 130khz**  
To meet some peak load application
- **AC Input Brown-Out Protection (BNO)**  
BNO could protect system from damage due to ultra low line condition

#### Applications

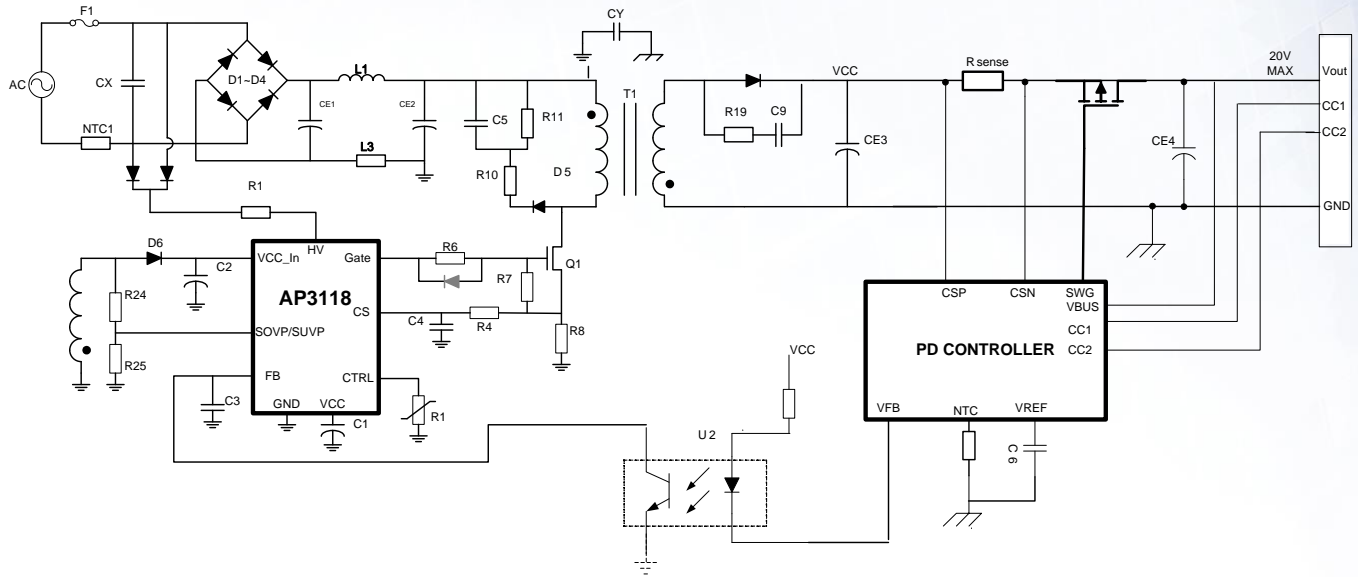
- USB PD
- Quick Charger
- Notebook Adaptor
- General AC-DC Adaptor



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### Typical Application Schematic



### Product Portfolio

Part Number	HV Start-Up Circuit	Startup Current (μA)	UVLO Threshold on/off (V)	Gate Output Current (mA)	PWM Oscillation Frequency (kHz)	Ctrl PIN		VOVP	OLP & SOCP	BNO	LOVP	Package (Note 1)
						low	high					
AP3118	Yes	1.5	14.8/6.7	500	65	Auto-recover	Auto-recover	Auto-recover	Auto-recover	Auto-recover	Auto-recover	SSOP9

To find out more information:

<https://www.diodes.com/part/AP3118>