



AP3125 Robust Green-Mode PWM Controllers

The AP3125 family current mode PWM controllers optimized for high performance, low standby power in cost effective offline fly-back converters. They are available in SOT26 package.

The AP3125 have three modes of operation to minimize power losses dependent on load.

1. Fixed 65kHz/100kHz PWM
switching frequency: under Full-Load.

2. Green Mode: At lighter loads the AP3125 automatically switches to PFM with switching frequency fold-back, improving system efficiency. A 20kHz minimum switching frequency avoids audible noise.

3. Burst Mode: Under Light- or No-load to minimize standby power.

Frequency dithering is built-in to reduce EMI emissions.

The AP3125 family includes comprehensive protection features such as cycle-by-cycle current limit (OCP), V_{CC} Over Voltage Protection (VOVP), internal OTP, Over Load Protection (OLP).

The AP3125B/HB has additional Brownout (BNO) and Line Over Voltage Protection (LOVP).

The AP3125A/V/R/L/HA have different versatile latch/auto protection functions - see overleaf.

The AP3125HB/HA have a 100kHz nominal switching frequency plus associated protection features.



The Diodes Advantage

The AP3125 family have a high performance, and cost effective offline AC-DC solution for portable application, consumer, home appliances.

- **Three modes of operations: 65kHz/100kHz PWM Mode, Green-Mode and Burst Mode**
Improves efficiency across all load levels.
- **Frequency Dithering in 65kHz/100kHz PWM and Green modes**
Reduces EMI emission.
- **Internal slope and line compensation**
Simplifies the feedback loop design making a more robust design
- **Over-Current Protection, VCC Over-Voltage Protection, internal OTP, Over-Load Protection**
Increases system reliability and robustness.
- **Built-in Brownout and Line Over-Voltage Protection (AP3125B/HB)**
Protects the system from faults and transients
- **CTRL pin versatile Protection (AP3125A/V/R/L/HA)**
Provides external OTP/OVP with minimal number of components

Applications

- Switching AC-DC Adapter/Charger
- ATX/BTX Auxiliary Power
- Set-top Box (STB) Power Supply
- Open Frame Switching Power Supply

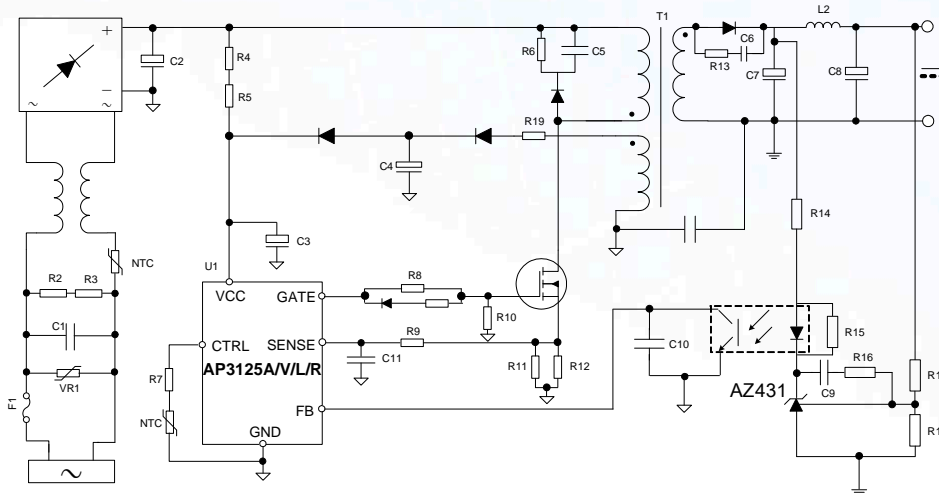


New Product Announcement

AP3125

AP3125 Robust Green-Mode PWM Controllers

Typical Application Schematic



Diodes' Green-Mode PWM Controllers

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					
AP3125A	No	1	15.8/7.6	350	65	Latch	Auto-recover	Auto-recover	Auto-recover	NC	NC	SOT26
AP3125HA					100							
AP3125V	No	1	15.8/7.6	350	65	Latch	Latch	Latch	Auto-recover	NC	NC	SOT26
AP3125R	No	1	15.8/7.6	350	65	Auto-recover	Latch	Auto-recover	Auto-recover	NC	NC	SOT26
AP3125L	No	1	15.8/7.6	350	65	Latch	Latch	Latch	Latch	NC	NC	SOT26
AP3125B	No	1	15.8/7.6	350	65	NC	NC	Auto-recover	Auto-recover	Auto-recover	Latch	SOT26
AP3125HB					100							

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

To find out more information:

Family web page http://diodes.com/catalog/flyback_pwm_controllers_0739/

Datasheet: <http://diodes.com/datasheets/AP3125B.pdf>

http://diodes.com/datasheets/AP3125A_V_R_L.pdf

<http://diodes.com/datasheets/AP3125H.pdf>