

### Multi-Mode PWM Controller Optimized for High Performance and Low Standby Power

The AP3304 is a peak-current control, multi-mode (QR+CCM), PWM controller optimized for high performance, low standby power, and cost-effective offline flyback converters.

At no load or light load, the IC will enter burst mode to minimize standby power consumption. The minimum switching frequency is set to avoid audible noise. When the load increases, the IC will enter QR mode with frequency foldback to improve system efficiency and EMI performance. The maximum switching frequency of about 100kHz is set to clamp the QR frequency to reduce switching power loss. Furthermore, the frequency dithering function is built-in to reduce EMI emission.

Internal piecewise linear-line compensation ensures constant output power limit over the entire universal line voltage range.

Comprehensive protection features are included, such as brownout protection, cycle-by-cycle current limit (OCP),  $V_{CC}$  overvoltage protection (VOVP), secondary-side output OVP (SOVP) and UVP (SUVP), internal OTP, overload protection (OLP), and pins' fault protection.

The AP3304 is available in the SOT26 package.



#### The Diodes Advantage

The AP3304 is a high-performance and high-integration part for portable consumer applications that need ultra-low standby power and wide range output.

- Multi-Mode of Operations**  
 Improves efficiency across all load levels:  
 QR mode at high-line voltage and CCM mode at low-line voltage
- 60V Process of Vcc Pin for Wide Range Output Application**  
 Lowers BOM (bill of materials) quantity and simplifies system design for USB PD applications
- SOT26 Package**  
 Cost-effective package for lower BOM cost and a higher power density PCB layout
- AC Input Brownout Protection (BNO)**  
 Protects system from damage due to ultra-low-line conditions

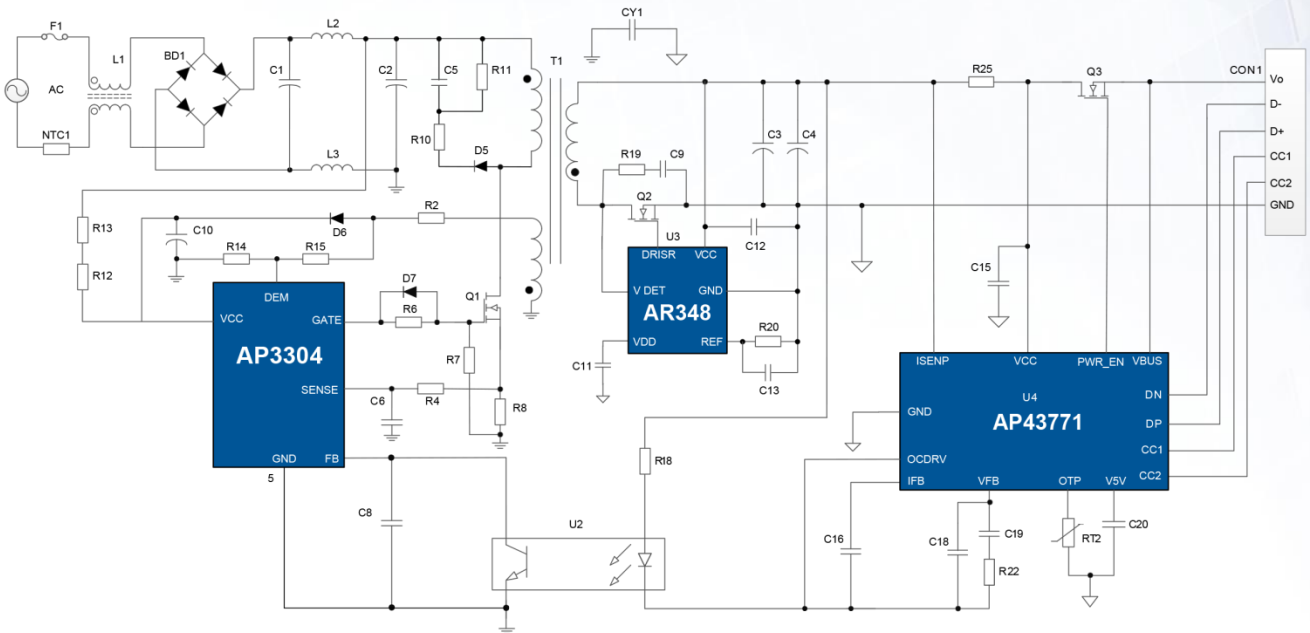
#### Applications

- Cell phone chargers
- Power Delivery (PD) applications
- Set-Top Box (STB) power supplies
- Open frame switching power supplies

## Typical Application Schematic

### USB PD3.0 PPS Chargers Solution

### AP3304 + APR348 + AP43771



## Product Information

Part Number	HV Start-Up Circuit	Startup Current ( $\mu$ A)	UVLO Threshold on/off (V)	Gate Output Current (mA)	Maximum Frequency (kHz)	Package
<a href="#">AP3304</a>	No	1	15.8/6.5	+300/-800	80 (CCM mode)	SOT26

## Ordering Information

Device	Package	Packing	
		Qty.	Carrier
<a href="#">AP3304W6-7</a>	SOT26	3000	Tape and Reel