

High-Performance, Primary-Side, Power Switcher for Off-Line SMPS

The AP3981B/C/D2 is a family of enhanced-performance power switchers delivering improved:

- Conversion efficiency
- Voltage & current accuracy
- Protection functions

The AP3981B/C/D2 family can be used for charger and adaptor applications with accurate CV and CC and without optocoupler.

The family operates in pulse-frequency modulation (PFM) mode and peak current amplitude modulation (AM) mode to achieve high-average efficiency and improve audible noise.

The ICs provide multiple protections: OVP, SCP, OTP, etc.

The AP3981B is packaged in SO-7. AP3981C and AP3981D2 are packaged in SO-8.



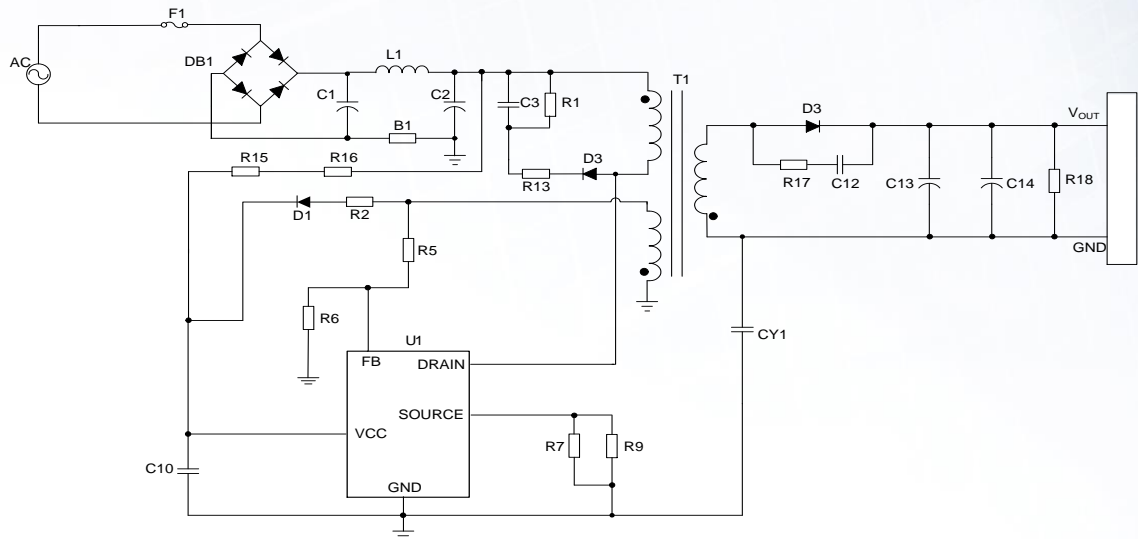
The Diodes Advantage

- **Accurate Primary Side Regulation**
Eliminates optocoupler and 431/CC-CV components, reducing overall BOM size and cost
- **Low Standby Power (<75mW)**
Energy saving
- **High Light-Load Efficiency**
Ideal for end equipment that spends large periods in sleep mode
- **Rich Protection: OTP, OLP, SCP**
Ensures reliable operation
- **Industry-Standard Footprint Compatible Family**
Matches different power requirements
B/C/D2 variants – For 7.5W/12W/18W output power, respectively

Applications

- Router
- Adapter
- Set-Top Box
- Shaver

Circuit Diagram



Product Portfolio

Part Number	Application	Start-Up Current	UVLO Threshold on/off (V)	RDS,ON (ohm)	Standby Power (mW)	Power Rating (W)	Package
AP3981B	Router Adapter	1	16/6.8	7.8	< 65	7.5	SO-7
AP3981C	Router Adapter	1	16/6.8	2.8	< 65	12	SO-8
AP3981D2	Router Adapter	1	16/6.8	1.7	< 65	18	SO-8

Ordering Information

Part Number	Package	Temperature Range	Marking ID	Packing
AP3981BS7-13	SO-7	-40°C to +85°C	3981B	4000/Tape & Reel
AP3981CS-13	SO-8	-40°C to +85°C	3981C	4000/Tape & Reel
AP3981D2S-13	SO-8	-40°C to +85°C	3981D2	4000/Tape & Reel