

# New Product Announcement AP3983B/C/D/E/R

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

The AP3983B/C/D/E/R is a family of enhancedperformance power switchers delivering improved:

- Conversion efficiency
- Voltage & current accuracy
- Protection functions

The family regulates the output voltage and current on the primary side by piecewise Pulse Frequency Modulation (p-PFM) in discontinuous conduction mode with an operating frequency up to 80kHz.

The AP3983B/C/D/E/R family has built-in fixed cable voltage compensation. Typical applications include chargers, Data-comms adapters and home appliance power supplies.

The AP3983B/C/R are packaged in SO-7, delivering output powers up to 10W and the AP3983C/D/E are packaged in PDIP-7, delivering powers up to 20W.



#### The Diodes Advantage

- Accurate Primary Side Regulation
  Eliminates Opto-coupler and '431/CC-CV components, reducing overall BOM size and cost
- Built-in MOSFET:
  650 BV<sub>DSS</sub> for AP3983B/C/D
  700 BV<sub>DSS</sub> for AP3983E/R

Reduces solution size; High-drain voltage meets wide AC input

- Internal Output Cable Voltage Drop Compensation Reduces external components and solution size
- Switching Frequency Dithering Function Improves EMC performance
- Multi-Interval Pulse Frequency Modulation Avoids audible noise
- Hiccup FunctionImproves Short Circuit Protection

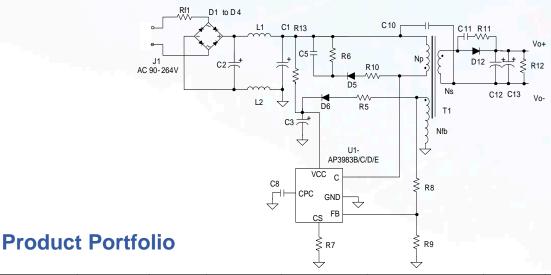
#### **Applications**

- <20W Adapters</p>
- Appliance power supplies
- Data-comms adapters
- Chargers



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## **Typical Application Schematic**



Part Number	BVDSS (V)	Drain Current (A)	Startup Current (µA)	Operating Current (μΑ)	UVLO Threshold on/off (V)	Power Rating (W)	Standby Power (mW)	Package
AP3983B	650	1	0.6	650	15.5/6.8	Up to 6	75	SO-7
AP3983C	650	2	0.6	650	15.5/6.8	Up to 7.5	75	SO-7
AP3983C	650	2	0.6	650	15.5/6.8	Up to 10	75	PDIP-7
AP3983D	650	4	0.6	650	15.5/6.8	Up to 18	75	PDIP-7
AP3983E	700	5	0.6	650	15.5/6.8	Up to 20	75	PDIP-7
AP3983R	700	5	0.6	650	15.5/6.8	Up to 10	75	SO-7

Family page: <a href="http://www.diodes.com/catalog/Primary Side Regulation Switchers 143">http://www.diodes.com/catalog/Primary Side Regulation Switchers 143</a>

Datasheets: <a href="http://diodes.com/datasheets/AP3983R.pdf">http://diodes.com/datasheets/AP3983R.pdf</a>

http://diodes.com/datasheets/AP3983B C D.pdf

### **Ordering Information**

Part Number	Package	Temperature Range	Marking ID	Packing
AP3983BMTR-G1	SO-7	-40°C to +85°C	3983BM-G1	4,000/Tape & Reel
AP3983CMTR-G1	SO-7	-40°C to +85°C	3983CM-G1	4,000/Tape & Reel
AP3983CP7-G1	PDIP-7	-40°C to +85°C	AP3983CP7-G1	50/Tube
AP3983DP7-G1	PDIP-7	-40°C to +85°C	AP3983DP7-G1	50/Tube
AP3983EP7-G1	PDIP-7	-40°C to +85°C	AP3983EP7-G1	50/Tube
AP3983RMTR-G1	SO-7	-40°C to +85°C	3983RM-G1	4,000/Tape & Reel