

MCP1726

Feature-Rich, Low Dropout Regulator for High-Performance Microprocessor Applications

Microchip continues to expand its portfolio of Low Dropout Regulators (LDOs) with its new **MCP1726** ceramic output cap stable, low output voltage regulator.

The MCP1726 is the only 1-amp LDO, stable with ceramic capacitors that incorporates low output voltage, Power Good and user-programmable Power Good delay on-chip, providing an ideal solution for a variety of high-performance system applications.

An Innovative Design

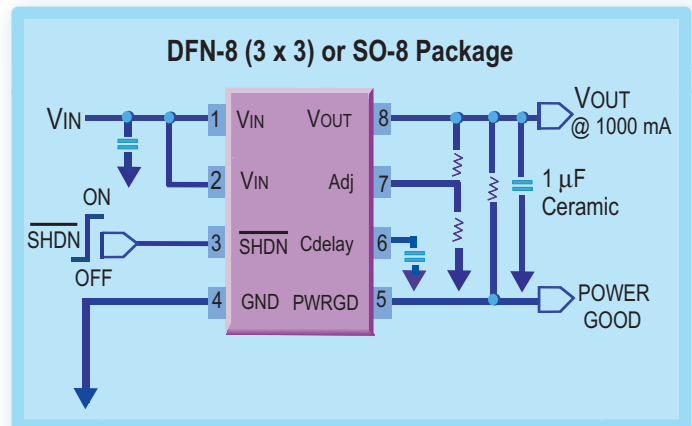
Technology innovation continues to drive microprocessor development onto smaller geometries, requiring separate voltages for the core and I/O. The MCP1726 meets these requirements with high output current and low core voltage, making it an ideal solution for the growing number of applications using high-performance general-purpose embedded processors and next-generation logic cores. These applications include:

- **Computers** (PC motherboards, PC add-in cards and graphics processor cards)
- **Consumer** (high-end digital set top boxes, high-end television sets and LCD projection devices)
- **Industry/power supplies** (SMPS post regulators and automated control systems)

The MCP1726 LDO features output voltage down to 0.8V at 1 amp output current, supporting next-generation high-performance CPUs and logic cores. The output voltage setting can be adjusted from 0.8V to 5.0V using two external resistors, or set to a predetermined fixed value such as 0.8V, 1.2V, 1.8V, 2.5V, 3.3V and 5.0V.

The MCP1726 monitors its output voltage internally and provides Power Good output when the output is within 92% of regulation. An external capacitor can be used on the Cdelay pin to adjust the delay from 1 μ s to 300 μ s. The typical default delay is 200 μ s. Using CMOS construction, the internal quiescent current of the MCP1726 is typically less than 140 μ A. When the LDO is shut down, the quiescent current is less than 0.1 μ A.

The LDO is stable with a 1 microfarad ceramic output capacitor, reducing cost and board space. The power good output with programmable delay option allows engineers to program a system delay on a wider time frame, providing additional flexibility for the design and reducing customer inventory.



Key Features of the MCP1726

- Up to 1A output load current
- Power Good output with adjustable delay
- Stable with 1.0 μ F ceramic output cap
- Over-current and over-temperature protection/thermal shutdown
- A 140 microamp maximum ground current for optimum energy efficiency
- A small, 8-pin DFN package for space-constrained applications
- Shutdown and/or Reset options
- Fold-back output current limit
- Supported temperature range of -40°C to +125°C.
- Low dropout voltage of 150 mV @ 1A typical
- Fast response to load and line transients

Additional Information

- MCP1726 Data Sheet, DS21936
- Microchip Stand-Alone Analog and Interface Solutions Guide, DS21060
- Microchip Product Selector Guide, DS00148
- For online sampling, go to: www.sample.microchip.com
- For online purchasing, go to: www.buy.microchip.com

Sampling and Purchasing Information

The MCP1726 LDO is available today for sampling and volume production in Pb-free 8-pin DFN and SOIC packages.

Visit Microchip's web site for complete details, or contact any Microchip sales representative or authorized Microchip distributor around the world.

MCP1726 Product Specifications

MCP1726 Ceramic-output Cap-stable, Low Output Voltage Regulator Specifications

Product	Output Voltage	Output Current	VCC Range	Junction Temperature Range	Typical Supply Current	Typical Dropout Voltage @ Max. I _{OUT}	Typical Output Voltage Accuracy	SHDN	Programmable Power Good	Package	Packing
MCP1726	0.8V, 1.2V, 1.8V, 2.5V, 3.3V, 5.0V, ADJ	1000 mA	2.3V to 6.0V	-40°C to 125°C	140 μ A	150 mV	\pm 1%	Yes	Yes	SO-8, DFN-8 (3X3)	Tube, Tape & Reel

Sales Offices

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