

Product Overview

FAN23SV70AMPX: 20 A Synchronous Buck Regulator

For complete documentation, see the data sheet.

The FAN23SV70AMPX is a highly efficient synchronous buck regulator. The regulator is capable of operating with an input range from 7 V to 24 V and supporting up to 20 A load currents. The device can operate from a 5 V rail ($\pm 10\%$) if V_{IN} , P_{VIN} , and P_{VCC} are connected together to bypass the internal linear regulator.

The FAN23SV70A utilizes Fairchild's constant on-time control architecture to provide excellent transient response and to maintain a relatively constant switching frequency. The device utilizes Pulse Frequency Modulation (PFM) mode to maximize light-load efficiency by reducing switching frequency when the inductor is operating in discontinuous conduction mode at light loads. Switching frequency and over-current protection can be programmed to provide a flexible solution for various applications. Output over-voltage, under-voltage, over-current, and thermal shutdown protections help prevent damage to the device during fault conditions. After thermal shutdown is activated, a hysteresis feature restarts the device when normal operating temperature is reached.

Features

- V_{IN} Range: 7 V to 24 V Using Internal Linear Regulator for Bias
- V_{IN} Range: 4.5 V to 5.5 V with $V_{IN}/P_{VIN}/P_{VCC}$ Connected to Bypass Internal Regulator
- High Efficiency: Over 96% Peak
- Continuous Output Current: 20 A
- Internal Linear Bias Regulator
- Accurate Enable facilitates VIN UVLO Functionality
- PFM Mode for Light-Load Efficiency
- Excellent Line and Load Transient Response
- Precision Reference: $\pm 1\%$ Over Temperature
- Output Voltage Range: 0.6 to 5.5 V

For more features, see the data sheet

Applications

- Servers and Desktop Computers
- Notebooks, Netbooks
- Game Consoles
- Telecommunication
- Storage

Part Electrical Specifications

Product	Compliance	Status	Topology	Control Mode	V_{CC} Min (V)	V_{CC} Max (V)	V_o Typ (V)	I_o Typ (A)	Efficiency (%)	f_{sw} Typ (kHz)	Package Type
FAN23SV70AMPX	Pb-free Halide free	Active	Step-Down	Hysteretic	7	24	Adjustable	20	$\geq 90\%$	Adjustable	PQFN-34

For more information please contact your local sales support at www.onsemi.com.

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