Product Overview

CAT1027: EEPROM Serial 2-Kb CPU Supervisor

For complete documentation, see the data sheet.

The CAT1027 is a complete memory and supervisory solution for microcontroller-based systems. A EEPROM Serial 2-Kb CPU Supervisor and a system power supervisor with brown-out protection are integrated together in low power CMOS technology. Memory interface is via a 400 kHz I²C bus.The CAT1027 provides a precision VCC sense circuit with five reset threshold voltage options that support 5.0 V, 3.3 V and 3.0 V systems. The power supply monitor and reset circuit protects memory and systems controllers during power up/down and against brownout conditions. If power supply voltages are out of tolerance reset signals become active preventing the system microcontroller, ASIC, or peripherals from operating.CAT1027 has only a RESET output. In addition, the RESET pin can be used as an input for push-button manual reset capability.The CAT1027 provides an auxiliary voltage sensor input, VSENSE, which is used to monitor a second system supply. The auxiliary high impedance comparator drives the open drain output, VLOW, whenever the sense voltage is below 1.25 V threshold.The CAT1027 is designed with a 1.6 second watchdog timer circuit that resets a system to a known state if software or a hardware glitch halts or 'hangs' the system. The CAT1027 features a watchdog timer interrupt input, WDI.The on-chip 2 k-bit EEPROM memory features a 16-byte page. In addition, hardware data protection is provided by a VCC sense circuit that prevents writes to memory whenever VCC falls below the reset threshold or until VCC reaches the reset threshold during power up.Available packages include an 8-pin DIP, 8-pin SOIC, 8-pin TSSOP, 8-pin TDFN and 8-pin MSOP. The TDFN package thickness is 0.8 mm maximum. TDFN footprint is 3x3 mm.

Features

- Precision VCC power supply voltage supervisor 5.0 V, 3.3 V and 3.0 V systems Five threshold voltage options
- Additional voltage monitoring — Externally adjustable down to 1.25 V
- Watchdog timer
- Active high or low reset — Valid reset guaranteed to VCC = 1 V
- 400 kHz I²C bus
- 3.0 V to 5.5 V operation
- Low power CMOS technology
- 16-Byte page write buffer
- Built-in inadvertent write protection
- 1,000,000 Program/Erase cycles

  For more features, see the data sheet

Applications

- Industrial control
- Medical systems
- Printers
- Mass storage

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Type	Density	Organization	Data Transmission Standard	f_{cycle} Max (kHz)	t_{ACC} Max ns	V_{CC} Min (V)	V_{CC} Max (V)	$I_{standby}$ Max (µA)	I_{act} Max (mA)	T Min (°C)	T Max (°C)	Package Type
CAT1027WI-25-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1027WI-28-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1027WI-30-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1027WI-42-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1027WI-45-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1027YI-25-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	TSSOP-8
CAT1027YI-28-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	TSSOP-8
CAT1027YI-30-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	TSSOP-8
CAT1027YI-42-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	TSSOP-8
CAT1027YI-45-GT3	0.78	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	TSSOP-8

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

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