

## Product Overview

### CAT1023: EEPROM Serial 2-Kb CPU Supervisor

For complete documentation, see the data sheet.

The CAT1023 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 I<sup>2</sup>C bus. The CAT1023 provides a precision VCC sense circuit and two open drain outputs: one (RESET) drives high and the other (RESETE) drives low whenever VCC falls below the reset threshold voltage. Write operations are disabled if WP is connected to a logic high. The supervisor has 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 CAT1023 has a separate watchdog timer interrupt input pin, WDI. The power supply monitor and reset circuit protect memory and system controllers during power up/down and against brownout conditions. Five reset threshold voltages support 5.0 V, 3.3 V and 3.0 V systems. If power supply voltages are out of tolerance reset signals become active, preventing the system microcontroller, ASIC or peripherals from operating. Reset signals become inactive typically 200 ms after the supply voltage exceeds the reset threshold level. With both active high and low reset signals, interface to microcontrollers and other ICs is simple. In addition, the RESET pin or a separate input, MR, can be used as an input for push-button manual reset capability. The on-chip, 2k-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 0.8mm maxi

### Features

- Precision power supply voltage supervisor - 5.0 V, 3.3 V and 3.0 V systems - Five threshold voltage options
- Watchdog timer
- Active high or low reset - Valid reset guaranteed at VCC = 1 V
- 400 kHz I<sup>2</sup>C 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
- Manual reset input

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 <sub>cycle</sub> Max (kHz)	t <sub>ACC</sub> Max ns	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	I <sub>standby</sub> Max (μA)	I <sub>act</sub> Max (mA)	T Min (°C)	T Max (°C)	Package Type
CAT1023WI-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
CAT1023WI-28-GT3	0.2975	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1023WI-30-GT3	0.2933	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1023WI-42-GT3	0.2975	Pb-free Halide free	Active	Serial	2 kb	256 x 8	I2C	400	900	2.7	5.5	60	3	-40	85	SOIC-8
CAT1023WI-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
CAT1023YI-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
CAT1023YI-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
CAT1023YI-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
CAT1023YI-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
CAT1023YI-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](http://www.onsemi.com).

Created on: 7/4/2020