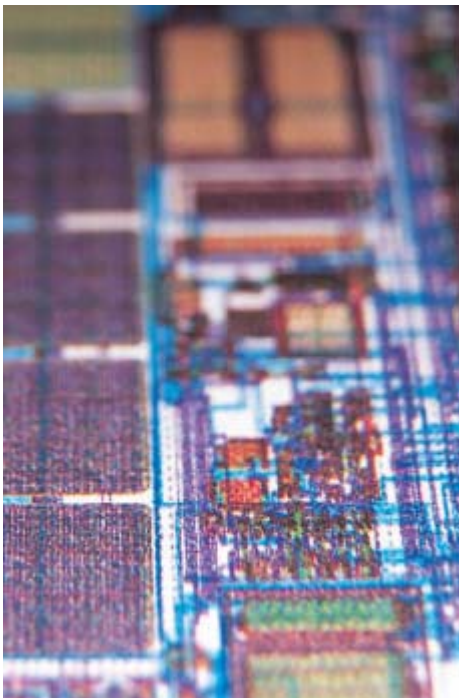
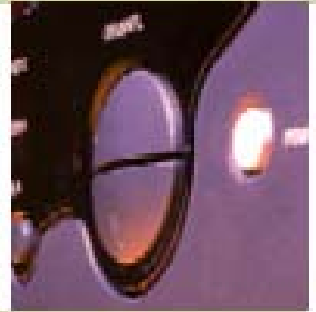




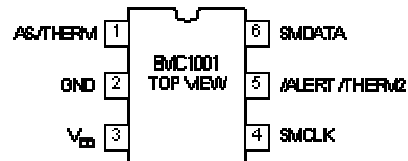
SMSC™
SUCCESS BY DESIGN



SMSC's EMC1001 is a tiny SMBus temperature sensor with $\pm 1.5^\circ\text{C}$ accuracy and two interrupts. Packaged in a SOT23-6, the EMC1001 provides an accurate, low-cost, low-current, solution for critical temperature monitoring in a PC or embedded applications.

The EMC1001 generates two separate interrupts with programmable thermal trip points. The THERM# output operates as a thermostat with programmable threshold and hysteresis. The ALERT# output can be configured as a maskable SMBus alert with programmable window comparator limits, or as a second THERM# output. An efficient fan control system can be created since this output may be used to control a fan.

A power down mode extends battery life in portable applications. Each part number may be configured to respond to one of four separate SMBus addresses.



KEY FEATURES & CUSTOMER BENEFITS:

- Self Contained Internal Temperature Sensor
 - 0.25°C resolution
 - $\pm 1.5^\circ\text{C}$ Accuracy 40°C to 85°C
- Small 6-lead SOT Package, green, lead-free package also available
- SMBus address selected by external resistor
 - Select 1 of 4 per package, 8 addresses available
- Maskable Interrupt using ALERT#
- One-shot Command during standby
- Low Power, 3.0V to 3.6V Supply
 - 47uA at 0.0625 Conversions per Second (Typical)
 - 4.8uA in Standby (Typical)
- SMBus 2.0 Compliant interface

- Programmable temperature conversion rate



APPLICATIONS

- Desktop and Notebook Computers
- Thermostats
- Smart batteries
- Industrial/Automotive
- Other Electronic Systems

COMPETITION:

How SMSC compares with Competition:

Manufacturer	Device	Pins	OUTPUT FUNCTIONS										Comments
			Interrupt (Alert) Pin	T-Crit (Therm) Pin	Address Pin	T-Crit (Therm) Limit	Maskable Interrupt	CP/Dr1	PrsOutPolar	Thermst Mode	Interrupt Mode		
SMSC	EMC1001	6	X	X	X	X	X	X	X	X	X	X	
Analog Devices	AD7414	6	X		X		X	X	X	X	X	X	No Interrupt
	AD7415	5			X								
Maxim	MAX3625	6	X		X				X	X	X	X	order address
	MAX3626	6	X		X				X	X	X	X	
	DS1775	5	X					X	X	X	X	X	
Mcorel	MIC 280	6	X			X	X	X				X	1 Ext / 1 Internal Sensor External Sensor, No Intrpt Order Address
	MIC 281	6											
TK Instruments	TMP100	6			X				X	X	X	X	No Interrupt
	TMP101	6	X		X			X	X	X	X	X	
Microchip	TC74	5											No Interrupt

 SMSC Advantage
 SMSC Disadvantage

Manufacturer	Device	Temp Resolution	Accuracy			# Addresses	PMBus/1Wire	I2C	SMBus/1Wire	OneShot	Current	Supply		Conversion Time
			Deg C	Range C (T _s)								V	V	
SMSC	EMC1001	10	1.5 3	40 -40	85 125	8	X	X	X	X	65µA 4µA shutdown	3.0	3.6	26 ms
Analog Devices	AD7414	10	1.5 2	-40 -40	70 85	8			X	X	900µA 3µA shutdown	2.7	5.5	25µs
	AD7415	10	1.5 2	-40 -40	70 85	6			X	X	900µA 3µA shutdown	2.7	5.5	25µs
Maxim	MAX6625	8	1.5 2	0 0	50 70	4		X	X		250µA 1µA shutdown	3.0	5.5	133 ms
	MAX6625	12	1.5 2	0 0	50 70	4		X	X		250µA 1µA shutdown	3.0	5.5	133 ms
	DS1775	9-12	2 3	-10 -55	85 125	8		X	X		100µA	2.7	5.5	187ms 8bit 1500ms 12bit
Mcorel	MIC 280	9-12	2 2.5	0 -55	100 125	8	X	X	X		400µA 9µA shutdown	3.0	3.6	9 bit 240ms 12 bit 250ms
	MIC 281	8	3	0	100 85	8			X		400µA 9µA shutdown	3.0	3.6	240ms
Texas Instruments	TMP100	9 to 12	2 3	-25 -55	85 125	8	X	X	X	X	75µA typ 1µA shutdown	2.7	5.5	9 bit 75ms 12 bit 600ms
	TMP101	10 to 12	2 3	-25 -55	85 125	3	X	X	X	X	75µA typ 1µA shutdown	2.7	5.5	
Microchip	TC74	8	2 3	25 0	85 125	8			X		350µA 10µA shutdown	2.7	5.5	250 ms

Other Temperature Sensors:

Feature	EMC1003	EMC1001	EMC1002	EMC1023	EMC1033
Package	8-pin MSOP	6-pin SO ⁸	8-pin MSOP 8-pin SOIC	8-pin MSOP	8-pin MSOP
Temperature	0 - 85 DegC	-40 - 125 DegC	-40 - 125 DegC	0 - 85 DegC	-40 - 125 DegC
Power Supply	3.3V 5V Tolerant	3.3V 5V Tolerant	3.3V 5V Tolerant	3.3V 5V Tolerant	3.3V 5V Tolerant
SMBUS 2.C Support	▪	▪	▪	▪	▪
Remote Temp Monitors	2		1	2	2
Temp Accuracy	+/- 1 Deg C	+/- 1.5 Deg C	+/- 1 Deg C	+/- 1 Deg C	+/- 1 Deg C
Ambient Temp Monitor	▪	▪	▪	▪	▪
Temp Interrupt/SMBus Alert		2	2		2
Resistance Error Correction			▪	▪	▪
Idle Config			▪	▪	▪
Comments					Anti-Parallel Diodes
		NEW	NEW	NEW	NEW



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