

Board Mount Temperature Sensors Temp Sensor Beta Comp Select Address

| | |
|---------------|-------------------------------------------|
| Manufacturers | Microchip Technology, Inc |
| Package/Case | MSOP-8 |
| Product Type | Temperature Sensors |
| RoHS | Rohs |
| Lifecycle | |



Images are for reference only

Please submit RFQ for EMC1412-2-ACZL-TR or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The EMC1412 is a high accuracy, low cost, System Management Bus (SMBus) temperature sensor. Advanced features such as Resistance Error Correction (REC), Beta Compensation (to support CPU diodes requiring the BJT/transistor model including 45nm, 65nm and 90nm processors) and automatic diode type detection combine to provide a robust solution for complex environmental monitoring applications.

The EMC1412 monitors two temperature channels (one external and one internal). It provides $\pm 1^{\circ}\text{C}$ accuracy for both external and internal diode temperatures.

Resistance Error Correction automatically eliminates the temperature error caused by series resistance allowing greater flexibility in routing thermal diodes. Beta Compensation eliminates temperature errors caused by low, variable beta transistors common in today's fine geometry processors. The automatic beta detection feature monitors the external diode/transistor and determines the optimum sensor settings for accurate temperature measurements regardless of processor technology. This frees the user from providing unique sensor configurations for each temperature monitoring application. These advanced features plus $\pm 1^{\circ}$ measurement accuracy provide a low-cost, highly flexible and accurate solution for critical temperature monitoring applications.

Features

Features

Programmable SMBus Address

Support for diodes requiring the BJT/transistor model

supports 45nm, 65nm, and 90nm CPU thermal diodes

Pin compatible with ADM1032, MAX6649, and LM99

Automatically determines external diode type and optimal settings

Resistance Error Correction

External Temperature Monitors

0.125°C resolution

Supports up to 2.2nF diode filter capacitor

Internal Temperature Monitor

0.125°C resolution

3.3V Supply Voltage

Programmable temperature limits for ALERT# and THERM#

Available in small 8-pin 2mm x 3mm TDFN RoHS compliant package

Available in small 8-pin MSOP RoHS compliant package

Application

Notebook Computers

Desktop Computers

Industrial

Embedded applications



Related Products



[EMC1047-2-AI2L-TR](#)

Microchip Technology, Inc
MSOP-10

[EMC1423-1-AI2L-TR](#)



Microchip Technology, Inc
MSOP-10



[EMC1424-1-AI2L-TR](#)

Microchip Technology, Inc
MSOP-10



[EMC1422-1-AC2L-TR](#)

Microchip Technology, Inc
MSOP-8



[EMC1413-A-AIA-TR](#)
Microchip Technology, Inc
VDFN-10



[EMC1413-A-AIZL-TR](#)
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MSOP-10



[EMC1412-A-ACZL-TR](#)
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