

Board Mount Temperature Sensors SMBus Temp Sensor Selectable Address

Manufacturers	Microchip Technology, Inc
Package/Case	VDFN-10
Product Type	Temperature Sensors
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for EMC1413-A-AIA-TR or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The EMC1413/EMC1414 are high accuracy, low cost, System Management Bus (SMBus) temperature sensors. 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 EMC1413 monitors three temperature channels and the EMC1414 monitors four temperature channels. 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 each 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 $\pm 1^{\circ}\text{C}$ 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

Automatically determines external diode type and optimal settings

Resistance Error Correction

Up to 3 External Temperature Monitors

0.125°C resolution

Supports up to 2.2nF diode filter capacitor

Anti-parallel diodes for extra diode support

Internal Temperature Monitor

3.3V Supply Voltage

Programmable temperature limits for ALERT#

Available in these RoHS compliant packages

10-pin 3mm x 3mm DFN

10-pin MSOP

Application

Notebook Computers

Desktop Computers

Industrial

Embedded applications

Related Products

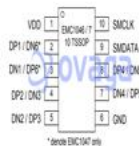


[EMC1412-2-ACZL-TR](#)

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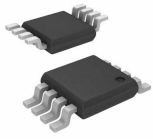
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