EMC1046/EMC1047

1°C Multiple Temperature Sensor with Beta Compensation and Hottest of Thermal Zones

PRODUCT FEATURES

General Description

The EMC1046/EMC1047 are high accuracy, low cost, System Management Bus (SMBus) temperature sensors. Advanced features such as Resistance Error Correction (REC), Beta Compensation (to CPU diodes requiring the BJT or transistor model) and automatic diode type detection combine to provide a robust solution for complex environmental monitoring applications.

Each device provides ±1° accuracy for external diode temperatures and ±2°C accuracy for the internal diode temperature. The EMC1046/EMC1047 monitors up to seven temperature channels (up to six external and one internal).

Applications

- Notebook Computers
- Desktop Computers
- Industrial
- Embedded Applications

Features

- Designed to support 45nm, 65nm, and 90nm CPU diodes
- Supports diodes requiring the BJT or transistor model
- Resistance Error Correction (up to 100 Ohms)
- Up to six External Temperature Monitors
  - ±1°C Accuracy (60°C < T_{DIODE} < 100°C)
  - 0.125°C Resolution
  - Supports up to 2.2nF filter capacitor
  - Anti-parallel diodes for extra diode support and compact design
- Internal Temperature Monitor
  - ±2°C accuracy
- 3.3V Supply Voltage
- Available in a 10-pin TSSOP lead-free RoHS Compliant package

Block Diagram

* denotes EMC1047 only
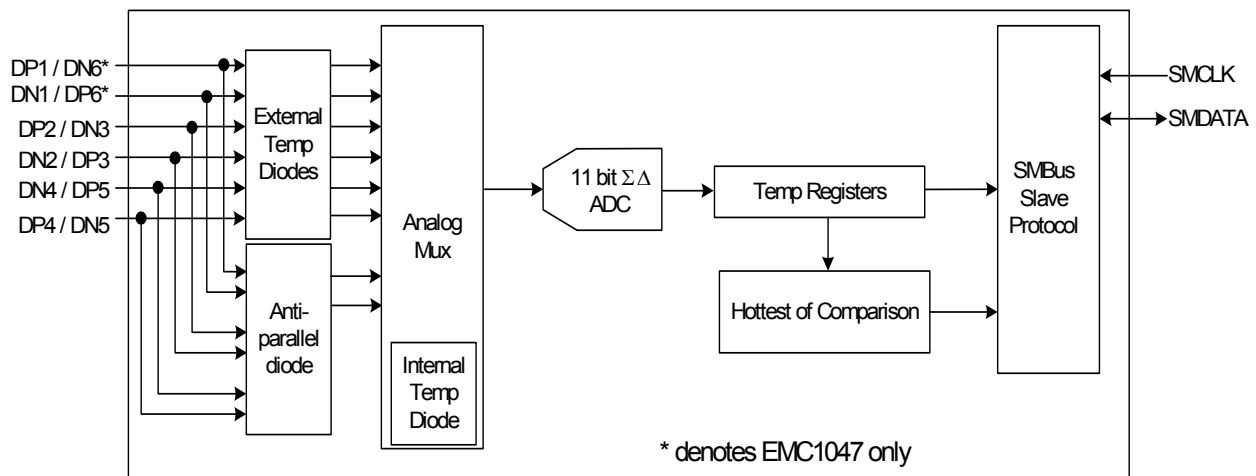
ORDER NUMBERS:

ORDERING NUMBER	PACKAGE	FEATURES	DIODE MODES SUPPORTED	SMBUS ADDRESS
EMC1046-1-AIZL-TR	10-pin TSSOP (Lead-Free RoHS Compliant)	Up to 5 external diodes. "Hottest Of" temperature comparison	Intel CPU, 3904, AMD with setup	1001_100(r/w)
EMC1046-6-AIZL-TR	10-pin TSSOP (Lead-Free RoHS Compliant)	Up to 5 external diodes. "Hottest Of" temperature comparison	Intel CPU, 3904, AMD with setup	1001_101(r/w)
EMC1047-1-AIZL-TR	10-pin TSSOP (Lead-Free RoHS Compliant)	Up to 6 external diodes. "Hottest Of" temperature comparison	Intel CPU, 3904, AMD with setup	1001_100(r/w)
EMC1047-2-AIZL-TR	10-pin TSSOP (Lead-Free RoHS Compliant)	Up to 6 external diodes. "Hottest Of" temperature comparison	Intel CPU, 3904, AMD with setup	1001_000(r/w)

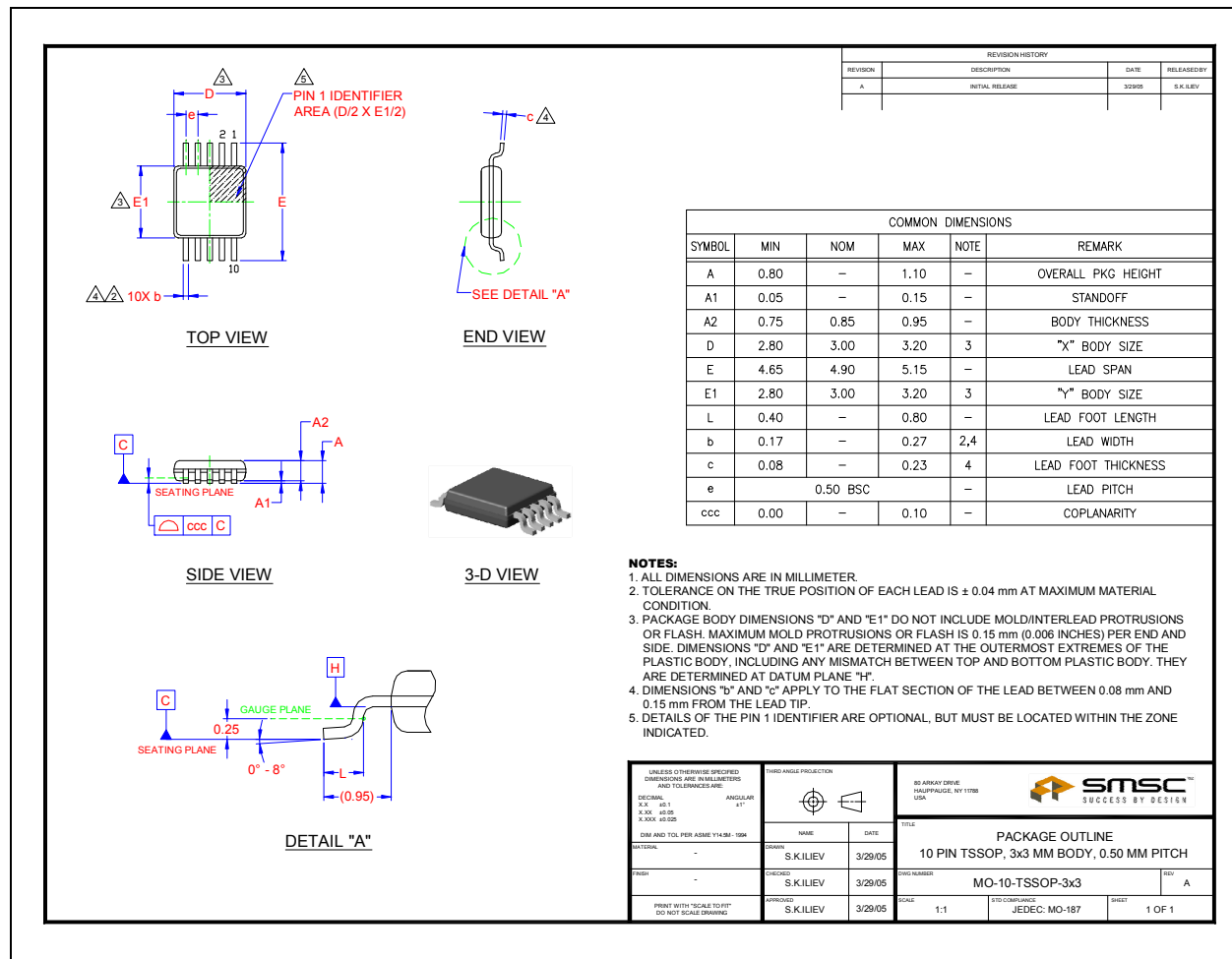Reel Size is 4,000 pieces

PRODUCT PREVIEW

Package Outline

EMC1046/EMC1047 Package Drawing

Figure 1 10-Pin TSSOP Package Drawing

PRODUCT PREVIEW