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EMC1152

SST Compliant Hardware Monitor with Two Temperature Channels and Five Voltage Channels

PRODUCT FEATURES

Data Brief

General Description

The EMC1152 is a one-wire sensor that is capable of monitoring up to five voltages and two temperature zones for an Intel PC platform containing an SST host. The two temperature zones consist of an internal temperature diode and an externally connected temperature diode. In cooperation with a host device, thermal management and fan control can be performed. Communication takes place over a one-wire SST based interface. The internal 11-bit delta-sigma ADC architecture provides superb linearity, high accuracy, and excellent noise immunity.

Applications

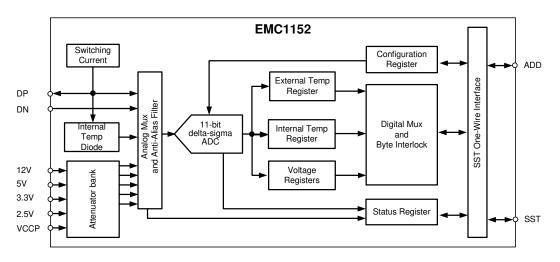
Desktop PCs, Servers and Workstations

Features

- Single Wire Interface (SST based)
 - SST 1.0 compliant
 - Fixed Address. Discoverable Device
 - Three programmable addresses
 - Supports FCS Abort functionality not available in SST 0.9 compliant devices

- Resistance Error Correction
- Ideality Configuration
- Beta Compensation (EMC1152-1)
 - EMC1152 configured to measure 2N3904 diode
 - EMC1152-1 configured to measure CPU substrate diode
- External Temperature Monitor
 - 0.125°C resolution
 - ±1°C Accuracy (50°C to 70°C)
 - Diode Fault Reporting
- Internal Temperature Monitor
 - Range -40°C to +125°C
 - 0.125°C resolution
 - ±2°C Accuracy (40°C to 70°C)
- Voltage Monitor:
 - 12V, 5V, 3.3V, 2.5V, VCCP inputs
 - 2% Total Unadjusted Error
 - 11-bit resolution
- Supply
 - 3.0V to 3.6V

Simplified Block Diagram





ORDER NUMBERS:

| PART NUMBER | FEATURES | PACKAGE |
|-------------------|---|--|
| EMC1152-AIZL-TR | External Diode configured to monitor 2N3904 | 10 pin MSOP Lead-Free, ROHS Compliant |
| EMC1152-1-AIZL-TR | External Diode configured to monitor 65nm CPU | 10 pin MSOP Lead-Free, ROHS Compliant |



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Package Outline Revision 2.58 (08-01-07) PIN 1 IDENTIFIER AREA (D/2 X E1/2) COMMON DIMENSIONS SYMBOL MIN NOM MAX NOTE REMARK 0.80 OVERALL PKG HEIGHT 1.10 4 2 10X b SEE DETAIL "A" Α1 0.05 0.15 STANDOFF A2 0.75 0.85 0.95 BODY THICKNESS TOP VIEW END VIEW 2.80 3.00 3.20 "X" BODY SIZE Ε 4.65 4.90 5.15 LEAD SPAN E1 2.80 3.00 3.20 "Y" BODY SIZE 0.80 LEAD FOOT LENGTH 0.40 0.17 0.27 2,4 LEAD WIDTH С LEAD FOOT THICKNESS 0.08 0.23 0.50 BSC LEAD PITCH COPLANARITY ccc 0.00 0.10 □ ccc C NOTES: 1. ALL DIMENSIONS ARE IN MILLIMETER. 2. TOLERANCE ON THE TRUE POSITION OF EACH LEAD IS \pm 0.04 mm AT MAXIMUM MATERIAL SIDE VIEW 3-D VIEW 3. PACKAGE BODY DIMENSIONS "D" AND "E1" DO NOT INCLUDE MOLD/INTERLEAD PROTRUSIONS OR FLASH, MAXIMUM MOLD PROTRUSIONS OR FLASH IS 0.15 mm (0.006 INCHES) PER END AND SIDE. DIMENSIONS "D" AND "E1" ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY, INCLUDING ANY MISMATCH BETWEEN TOP AND BOTTOM PLASTIC BODY. THEY ARE DETERMINED AT DATUM PLANE "H". 4. DIMENSIONS "b" AND "c" APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.08 mm AND 0.15 mm FROM THE LEAD TIP. 5. DETAILS OF THE PIN 1 IDENTIFIER ARE OPTIONAL, BUT MUST BE LOCATED WITHIN THE ZONE SINGERS BY DESIGN \oplus Θ PACKAGE OUTLINE DETAIL "A" 10 PIN TSSOP, 3x3 MM BODY, 0.50 MM PITCH S.K.ILIEV 3/29/05 MO-10-TSSOP-3x3 3/29/05 PRINT WITH "SCALE TO F S.K.ILIEV JEDEC: MO-187

Figure 1 EMC1152 10-Pin MSOP Package Drawing