

## 1°C Triple Temperature Sensor with Hotter of Two Zones

### PRODUCT FEATURES

Data Brief

#### General Description

The EMC1063 is a family of System Management Bus (SMBus) temperature sensors that monitors three temperature zones, one internal diode and two externally connected diodes. The EMC1063 is specifically designed to operate with AMD processor diodes. Alternately, the External Diode 2 channel can be configured to measure a standard thermal diode (such as a 2N3904) with Resistive Error Correction active.

An added feature to the EMC1063 is a function that automatically compares the two external temperature zones and reports the hotter of the two temperatures. Selectable conversion rates and standby mode support low-power operation. The temperature measurement ranges support two data ranges (and formats), -64°C to +127°C and -64°C to +191°C.

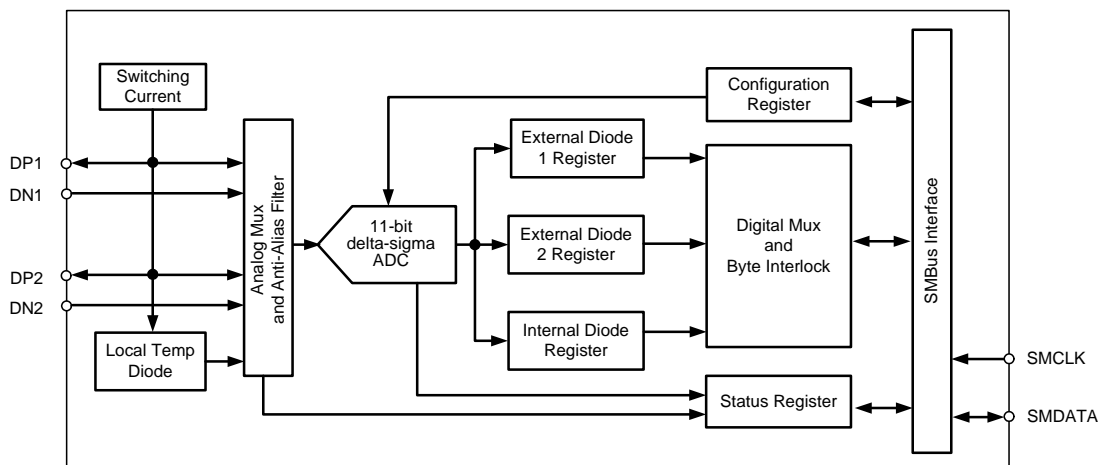
#### Applications

- Desktop and Notebook Computers
- Hardware Management
- Servers
- Embedded Applications

#### Features

- Designed to Operate with AMD Processor Diodes
- Supports two External Temperature Diodes
  - $\pm 1^\circ\text{C}$  Accuracy (40°C to 80°C)
  - 0.125°C Resolution
  - Ideality Factor Configuration
  - Accepts 2200pF Cap Across External Diodes for Noise Suppression
  - Optional Resistive Error Correction on External Diode 2
- Internal Temperature Diode
  - $\pm 3^\circ\text{C}$  Accuracy (0°C to 85°C)
  - 0.125°C Resolution
- Low Power Operation
  - 4uA Standby Current
- 3.0V to 3.6V Supply
- Programmable Conversion Rate
- SMBus 2.0 Compliant
  - Four SMBus Address Available
- Reports Hotter of Two Diodes with Dual-core CPU

#### Simplified Block Diagram



**ORDER NUMBERS:**

ORDERING NUMBER	PACKAGE	FEATURES	SMBUS ADDRESS
EMC1063-1-ACZL-TR	8 pin MSOP Lead-Free RoHS Compliant package	Two External Diodes with Hottest Of Comparison	1001_100x
EMC1063-2-ACZL-TR			1001_101x
EMC1063-3-ACZL-TR			1001_000x
EMC1063-4-ACZL-TR			1001_001x

Reel size is 4,000 pieces.

Evaluation board available upon request (EVB-EMC1063)



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## Package Outline

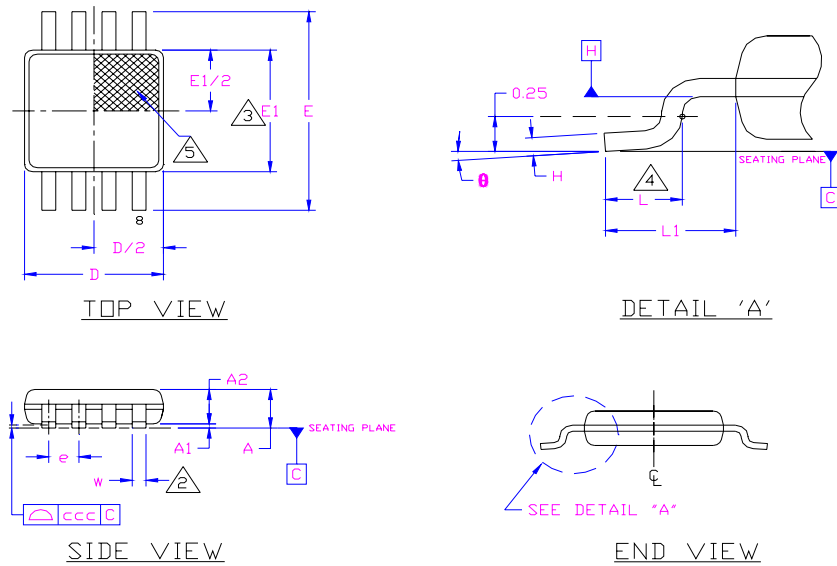


Figure 1 8-Pin MSOP Package Outline - 3x3mm Body 0.65mm Pitch

Table 1 8-Pin MSOP Package Parameters

	MIN	NOMINAL	MAX	REMARKS
A	0.80	~	1.10	Overall Package Height
A1	0.05	~	0.15	Standoff
A2	0.75	0.85	0.95	Body Thickness
D	2.80	3.00	3.20	X Body Size
E	4.65	4.90	5.15	Y Span
E1	2.80	~	3.20	Y body Size
H	0.08	~	0.23	Lead Foot Thickness
L	0.40	~	0.80	Lead Foot Length
L1	0.95 REF			Lead Length
e	0.65 BSC			Lead Pitch
$\theta$	0°	~	8°	Lead Foot Angle
W	0.22	~	0.38	Lead Width
ccc	~	~	0.10	Coplanarity

### Notes:

- Controlling Unit: millimeters.
- Tolerance on the true position of the leads is  $\pm 0.065$  mm maximum.
- Package body dimensions D and E1 do not include mold protrusion or flash. Dimensions D and E1 to be determined at datum plane H. Maximum mold protrusion or flash is 0.15mm (0.006 inches) per end, and 0.15mm (0.006 inches) per side.
- Dimension for foot length L measured at the gauge plane 0.25 mm above the seating plane.
- Details of pin 1 identifier are optional but must be located within the zone indicated.