



# Triple/Quad Single-Wire Temp Sensor in MSOP-8 Using SMSC BudgetBus™ Sensor Interface

## PRODUCT FEATURES

Data Brief

### General Description

The EMC1203 and EMC1204 are temperature sensors that communicate with a host over a single-wire SMSC BudgetBus™ Sensor Interface. The EMC1203 has an internal temperature sensor and monitors up to two remote diodes. An additional remote diode is added with the EMC1204 for a total of three remote zones, and both devices are in a small MSOP-8 package. When used in combination with an SMSC Super I/O host, such as a keyboard controller, a complete thermal management system is created. A power down mode preserves battery life in portable applications. The internal 11-bit sigma delta temperature-to-digital converter provides superb linearity, high accuracy and excellent noise immunity.

### Features

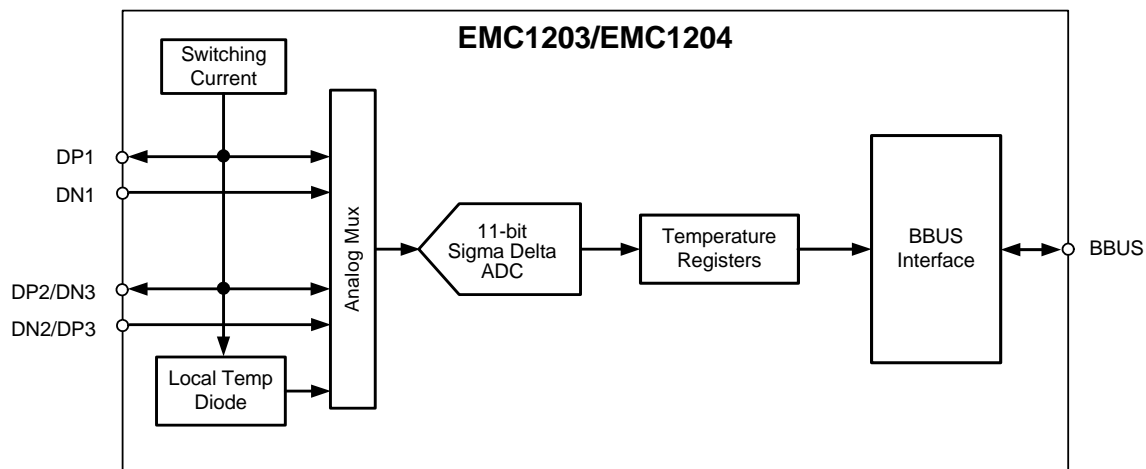
- Single-wire SMSC BudgetBus™ Sensor Interface
- Low Power, 3.0V to 3.6V Supply
  - < 50uA at 1 conversion per second
  - < 2.5uA in Standby
- External Temperature Sensor
  - Range -63.875° C to +191.875° C
  - 0.125° C resolution
  - ±1° C Accuracy 60° C to 100° C
  - Diode Fault Reporting
- Self Contained Internal Temperature Sensor
  - Range 0° C to +85° C
  - 0.125° C resolution
  - ±3° C Accuracy 0° C to 85° C
- MSOP-8 3x3mm lead-free RoHS compliant packages

PART NUMBER	INTERNAL TEMPERATURE MONITOR	REMOTE TEMPERATURE MONITOR
EMC1203	1	2
EMC1204	1	3

### Applications

- Desktop Computers
- Notebook Computers
- Server Applications

### Simplified Block Diagram



**ORDER NUMBER(S):****EMC1203-ACZL-TR IN 8 PIN, MSOP LEAD-FREE ROHS COMPLIANT PACKAGE****EMC1204-ACZL-TR IN 8, PIN MSOP LEAD-FREE ROHS COMPLIANT PACKAGE****Reel size is 4,000 pieces.****Evaluation Board available upon request. (EVB-KBC1100)**

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## Package Outline

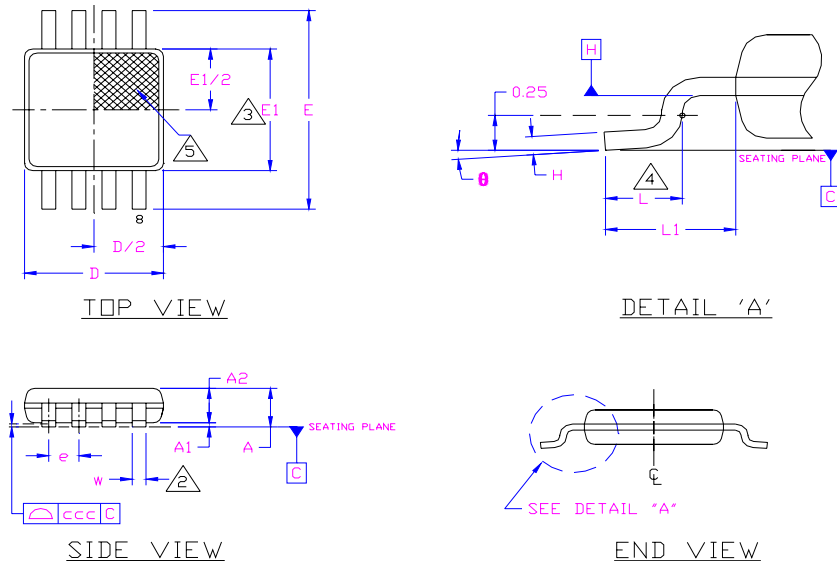


Figure 1 8-Pin MSOP Package Outline - 3x3mm Body 0.65mm Pitch

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.