SMSC

SUCCESS BY DESIGN

EMC2301

RPM-Based PWM Fan Controller

PRODUCT FEATURES

General Description

The EMC2301 is an SMBus compliant fan controller with a PWM fan driver. The fan driver is controlled by a programmable frequency PWM driver and Fan Speed Control algorithm that operates in either a closed loop fashion or as a directly PWM-controlled device.

Each closed loop Fan Speed Control algorithm (FSC) has the capability to detect aging fans and alert the system. It will likewise detect stalled or locked fans and trigger an interrupt.

Additionally, the EMC2301 offers a clock output so that multiple devices may be chained and slaved to the same clock source for optimal performance in large distributed systems.

Applications

- Servers
- Projectors
- Industrial and Networking Equipment
- Notebook Computers

Features

- Programmable Fan Control circuit (EMC2301)
  — 4-wire fan compatible
  — High speed PWM (26 kHz)
  — Low speed PWM (9.5Hz - 2240 Hz)
  — Optional detection of aging fans
  — Fan Spin Up Control and Ramp Rate Control
  — Alert on Fan Stall
- Watchdog Timer
- RPM-based fan control algorithm
  — 0.5% accuracy from 500 RPM to 16k RPM (external crystal oscillator)
  — 1% accuracy from 500 RPM to 16k RPM (internal clock)
- SMBus 2.0 Compliant
  — SMBus Alert compatible
- CLK Pin can provide a clock source output
- Available in an 8-pin MSOP Lead-free RoHS Compliant package

Block Diagram
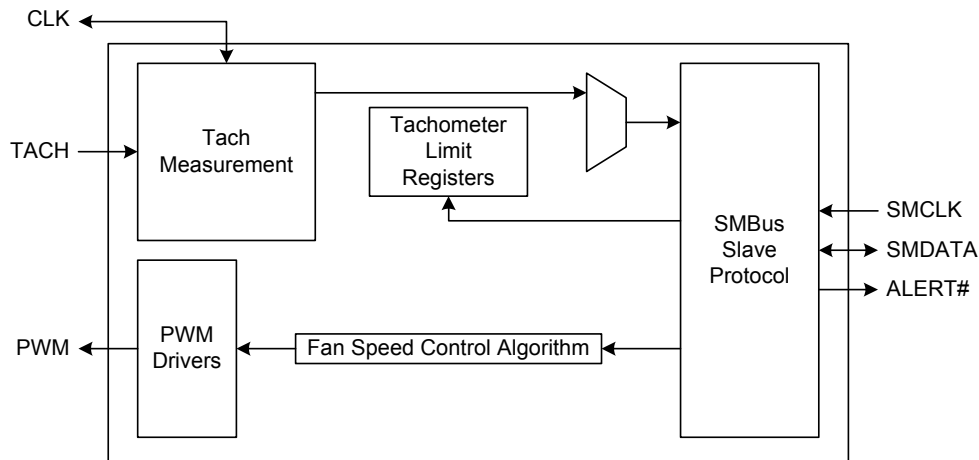
ORDER NUMBER:

ORDERING NUMBER	PACKAGE	FEATURES
EMC2301-1-ACZL-TR	8-pin MSOP (Lead-free RoHS compliant)	One RPM-based fan speed control algorithm

This product meets the halogen maximum concentration values per IEC61249-2-21

For RoHS compliance and environmental information, please visit www.smsc.com/rohs

80 ARKAY DRIVE, HAUPPAUGE, NY 11788 (631) 435-6000, FAX (631) 273-3123

Package Outline

EMC2301 Package Information
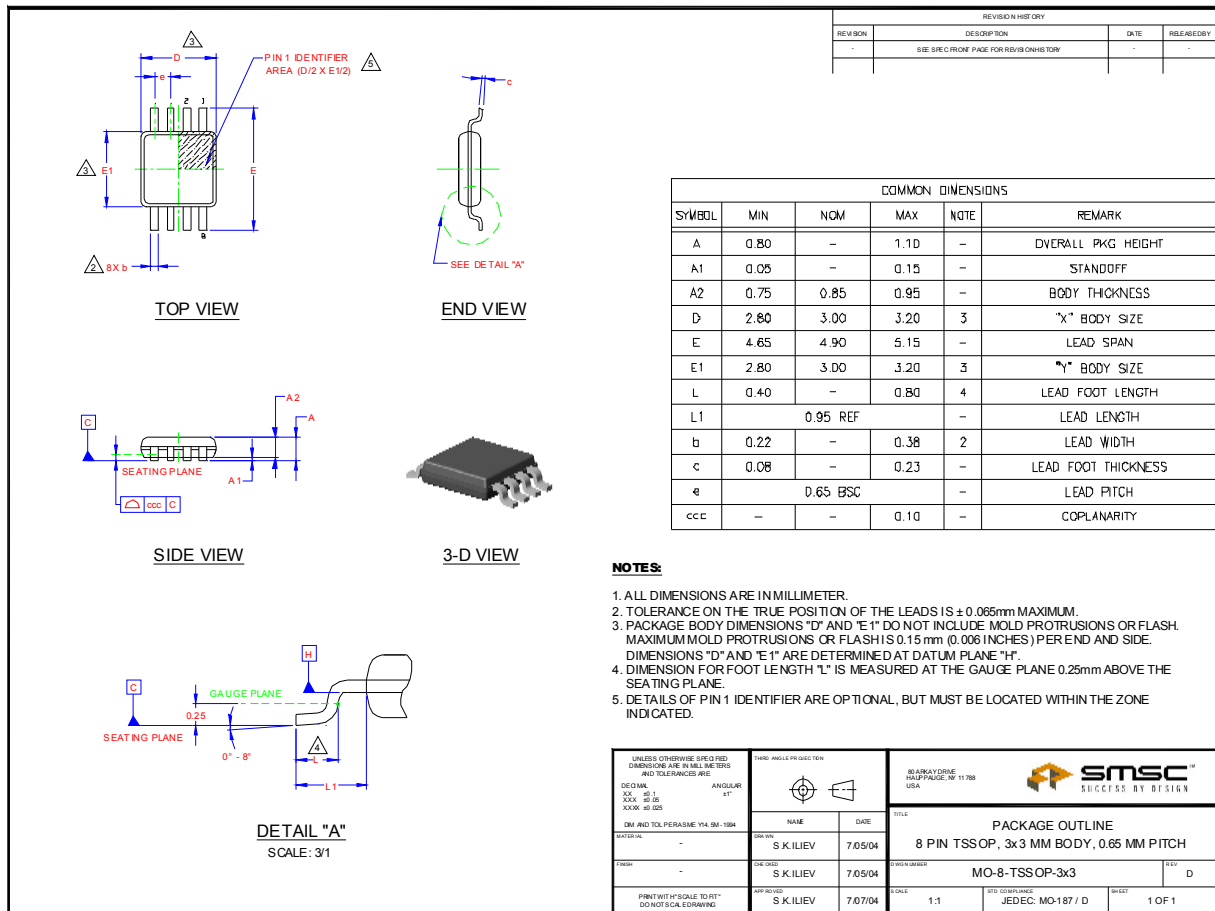
Figure 1 EMC2301 Package Drawing - 8-Pin MSOP

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PRODUCT PREVIEW

Package Markings

TOP

LINE: 1-T – Device Number

LINE: 2-T Version, Revision, Country Code (VRCC)

2x 1.5pt

PIN 1

PB-FREE/GREEN SYMBOL (Matte Sn)

ALL TOP LINES CENTER HORIZONTAL ALIGNMENT

BOTTOM

PIN 1

LINE: 1-B – Date Code (YYWW)

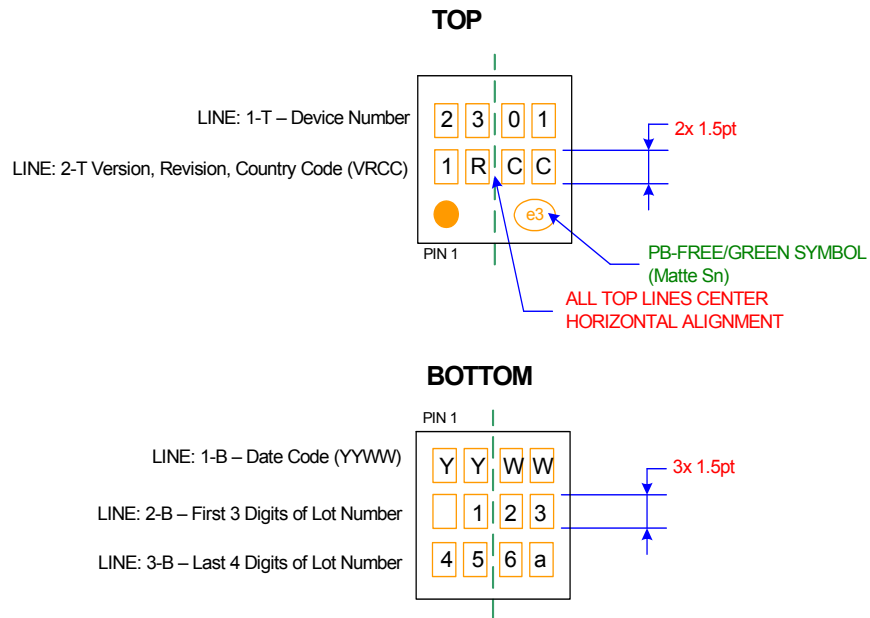LINE: 2-B – First 3 Digits of Lot Number

LINE: 3-B – Last 4 Digits of Lot Number

3x 1.5pt

Figure 2 EMC2301 Package Markings