



Memory Module Temperature Sensor and Serial Presence Detect EEPROM

PRODUCT FEATURES

Data Brief

General Description

The EMC1501 is a combination temperature monitor and Serial Presence Detect (SPD) EEPROM compatible with the TSE2002av JEDEC Specification. It contains an internal temperature monitor as well as an integrated 2k bit EEPROM with two methods of software protection. This product is different from other devices in that it can operate at any of three voltage ranges (1.8V, 2.5V, or 3.3V). It provides accuracy beyond the JEDEC requirements and offers 1°C accuracy from 25°C to 100°C.

The low current consumption can be reduced using the software programmed shutdown mode. The EMC1501 contains programmable high, low, and critical temperature limits. Finally, the device EVENT pin can be configured as active high or active low and can be configured to operate as an interrupt or as a comparator output.

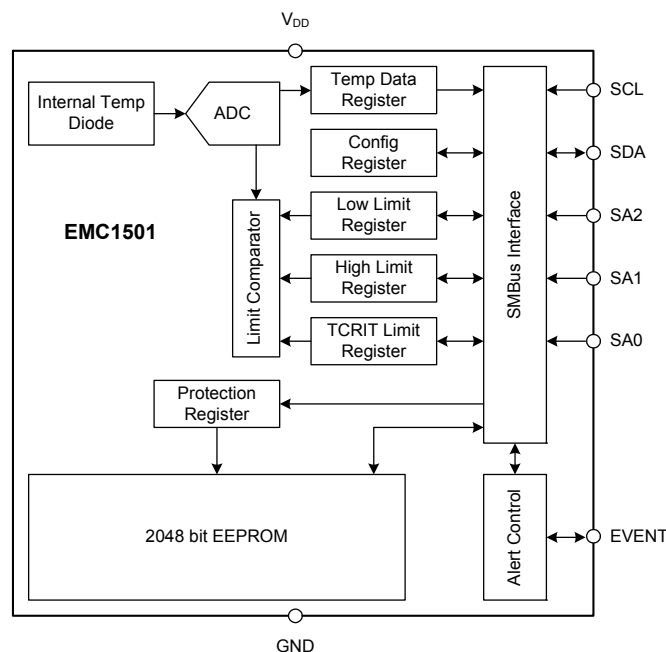
Applications

- Dual In-line Memory Modules (DIMMs)
- Desktop and Mobile Computers
- Telecom

Features

- Meets JEDEC Standard TSE2002av (JC-42.4) for Serial Presence Detect with Temperature Sensor
- Integrated 2k bit EEPROM
- Software EEPROM protection
 - Permanent and temporary software locks
- Event pin
- Internal Temperature Monitor
 - 1°C accuracy (25°C to 100°C)
- Programmable High, Low, and TCRIT Limits
- SMBus 2.0 and I²C Compliant 2-wire interface
 - Supports Page Read and Write operations

Block Diagram



ORDER NUMBER(S):

ORDERING NUMBER	PACKAGE	FEATURES
EMC1501-AC3-TR	8 pin, TDFN 2mm x 3mm Lead-Free, RoHS Compliant	Internal temperature sensor and 256 byte EEPROM with SW lock

REEL SIZE IS 5,000 PIECES

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

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



80 ARKAY DRIVE, HAUPPAUGE, NY 11788 (631) 435-6000 or 1 (800) 443-SEMI

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Package Outline

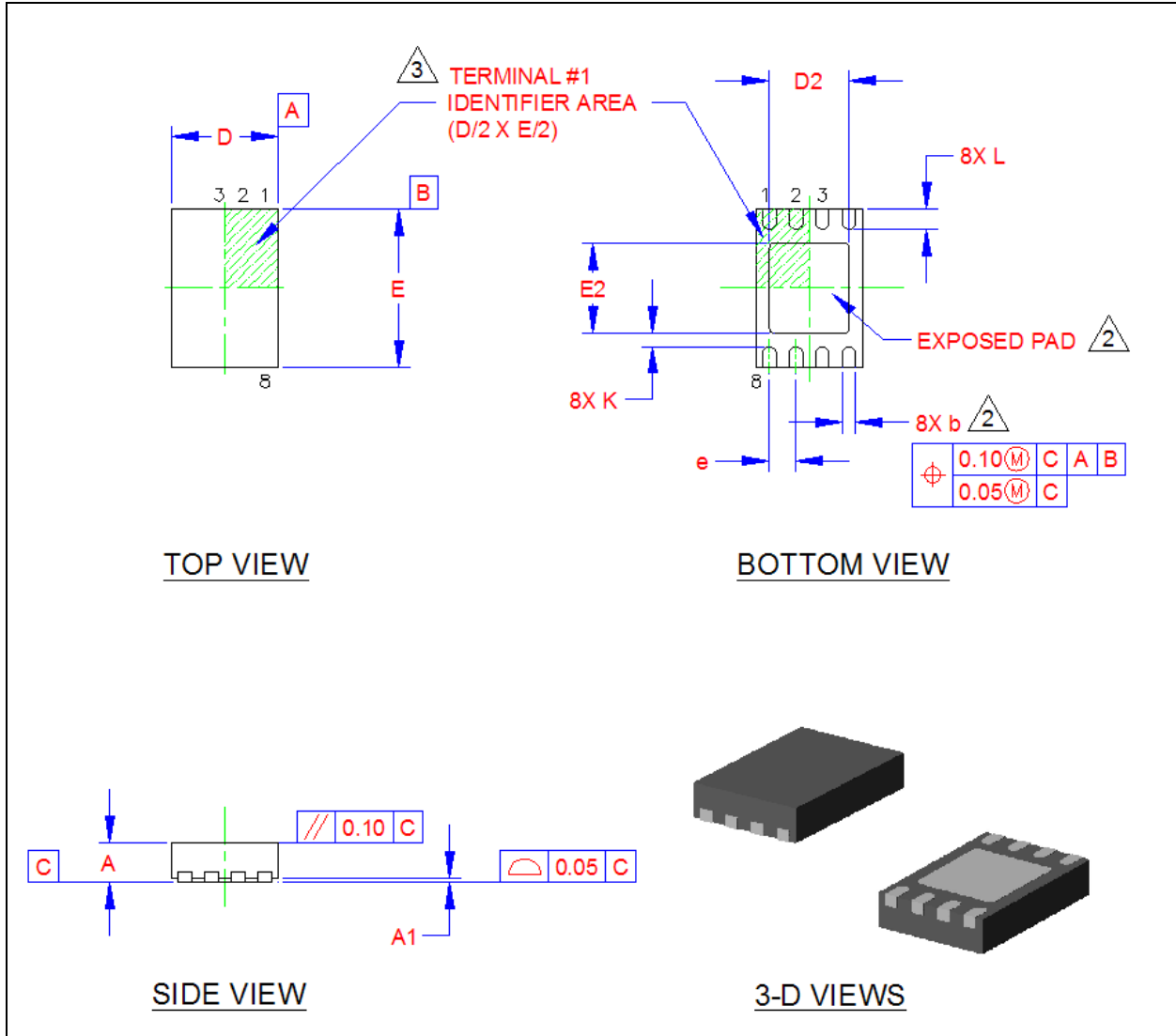
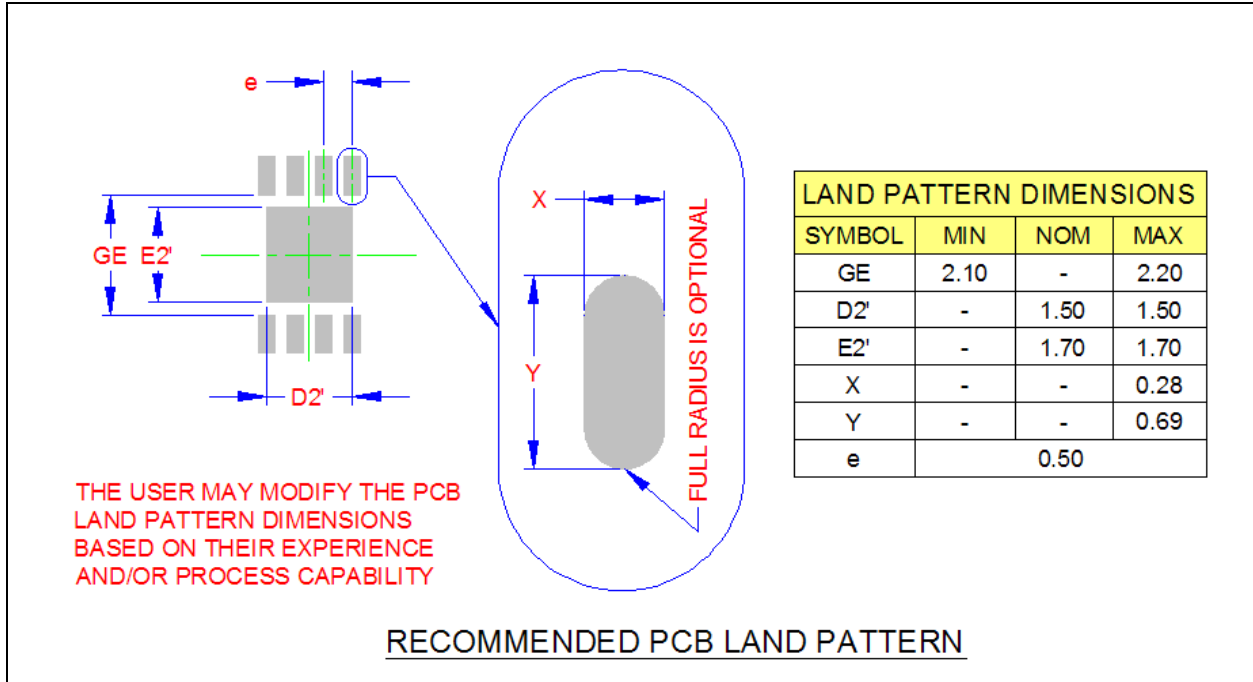


Figure 1 2mm x 3mm TDFN-8 Package Drawing

COMMON DIMENSIONS					
SYMBOL	MIN	NOM	MAX	NOTE	REMARK
A	0.70	0.75	0.80	-	OVERALL PACKAGE HEIGHT
A1	0	0.02	0.05	-	STANDOFF
D	1.90	2.00	2.10	-	X BODY SIZE
E	2.90	3.00	3.10	-	Y BODY SIZE
D2	1.40	1.50	1.60	2	X EXPOSED PAD SIZE
E2	1.60	1.70	1.80	2	Y EXPOSED PAD SIZE
L	0.35	0.40	0.45	-	TERMINAL LENGTH
b	0.18	0.25	0.30	2	TERMINAL WIDTH
K	0.20	0.25	-	-	CENTER PAD TO PIN CLEARANCE
e	0.50 BSC			-	TERMINAL PITCH

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS.
- UNILATERAL COPLANARITY ZONE APPLIES TO THE EXPOSED PAD, AS WELL AS THE TERMINALS. DIMENSIONS "b" APPLIES TO PLATED TERMINALS AND IT IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM THE TERMINAL TIP.
- DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL BUT MUST BE LOCATED WITHIN THE AREA INDICATED.

Figure 2 2mm x 3mm TDFN-8 Package Dimensions

Figure 3 2mm x 3mm TDFN PCB Layout