JEDEC STANDARD

SPD5118, SPD5108 Hub and Serial Presence Detect Device Standard

JESD300-5

FEBRUARY 2020

JEDEC SOLID STATE TECHNOLOGY ASSOCIATION

NOTICE

JEDEC standards and publications contain material that has been prepared, reviewed, and approved through the JEDEC Board of Directors level and subsequently reviewed and approved by the JEDEC legal counsel.

JEDEC standards and publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for use by those other than JEDEC members, whether the standard is to be used either domestically or internationally.

JEDEC standards and publications are adopted without regard to whether or not their adoption may involve patents or articles, materials, or processes. By such action JEDEC does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the JEDEC standards or publications.

The information included in JEDEC standards and publications represents a sound approach to product specification and application, principally from the solid state device manufacturer viewpoint. Within the JEDEC organization there are procedures whereby a JEDEC standard or publication may be further processed and ultimately become an ANSI standard.

No claims to be in conformance with this standard may be made unless all requirements stated in the standard are met.

Inquiries, comments, and suggestions relative to the content of this JEDEC standard or publication should be addressed to JEDEC at the address below, or refer to www.jedec.org under Standards and Documents for alternative contact information.

Published by
©JEDEC Solid State Technology Association 2020
3103 North 10th Street
Suite 240 South
Arlington, VA 22201-2108

JEDEC retains the copyright on this material. By downloading this file the individual agrees not to charge for or resell the resulting material.

PRICE: Contact JEDEC

Printed in the U.S.A.
All rights reserved

PLEASE!

DON'T VIOLATE
THE
LAW!

This document is copyrighted by JEDEC and may not be
reproduced without permission.

For information, contact:

JEDEC Solid State Technology Association
3103 North 10th Street
Suite 240 South
Arlington, VA 22201-2107

or refer to www.jedec.org under Standards-Documents/Copyright Information.

Contents

Contents (cont'd)

List of Tables

List of Tables (cont'd)

List of Tables (cont'd)

List of Figures

SPD5118, SPD5108 Hub and Serial Presence Detect Device Standard

(From JEDEC Board Ballot JCB-19-26, formulated under the cognizance of JC-42.4, Non-Volatile Memory Devices (Item 1852.07F).)

1 Scope

This standard defines the specifications of interface parameters, signaling protocols, and features for DDR5 Serial Presence Detect EEPROM with Hub function (SPD5 Hub) and integrated Temperature Sensor (TS) as used for memory module applications. The Hub feature allows isolation of a local bus from a master host bus. The designations SPD5118 and SPD5108 refer to the families of devices specified by this document. The term SPD5 Hub refers generically to both devices in the family.

The purpose is to provide a standard for the SPD5 Hub family of devices for uniformity, multiplicity of sources, elimination of confusion, ease of device specification, and ease of use.

A single specification document for SPD5 Hub family device is written to establish and maintain the commonality of these devices and promote the interchangeability of devices in target applications that may require the EEPROM and TS for some uses and EE only for other uses.

Unless otherwise noted in the document, any illegal operation is not allowed and device operations is not guaranteed.

The designations SPD5118, SPD5108 refer to the part of the part designation of a series of commercial logic parts common in the industry. This number is normally preceded by a series of manufacturer specific characters to make up a complete part designation.

2 Definition Of SPD5 5118, SPD5108 Hub Device for Memory Module Applications

2.1 Device Standard

2.1.1 Description

The SPD5 Hub device family contains 1024 bytes of non-volatile memory arranged as 16 blocks of 64 bytes per block. Each block may optionally be write protected via software command. Write protection for each block may be overridden in an offline programmer environment while overrides are prevented in normal use. The SPD5 Hub device operate from 1.8 V nominal power supply input. The SPD5 Hub device is intended to operate up to 12.5 MHz on a 1.0V I3C Basic bus or up to 1 MHz on a 1.0 V to 3.3 V I^2C bus. The SPD5 Hub devices are intended to interface to I^2C/I3C Basic buses which have multiple devices on a shared bus, and must be uniquely addressed with fixed addressing on the same bus.