JEDEC STANDARD

Descriptive Designation System for Electronic-device Packages

JESD30H

(Proposed Revision of JESD30G, January 2016)

AUGUST 2017

JEDEC SOLID STATE TECHNOLOGY ASSOCIATION

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DESCRIPTIVE DESIGNATION SYSTEM FOR ELECTRONIC-DEVICE PACKAGES

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Foreword

This standard establishes requirements for the generation of electronic-device package designators for the JEDEC Solid State Technology Association. The requirements herein are intended to ensure that such designators are presented in as uniform a manner as practicable.

Example of how this standard can be used, is in defining the part in sufficient detail to enable process efficiencies during the part and product life cycles, i.e., design, purchasing, manufacturing, quality control, test, etc.. This release includes additional definition and clarification of the device to provide this support to the industry. The standard is designed to be scalable insofar that it should cover as many components as possible that are available in the market. It should also be scalable to encompass the emergence of new packages in the future. It is not intended to provide standardization for a limited number of parts, or the perceived common parts in the market, since this is impracticable to measure.

Although this standard is considered to have international standardization implications, a complete comparison between the JEDEC standard and the international documents has not been made.

This revision of the standard incorporates many new table entries and text emendations compared to JESD30G. The material contained in this standard was formulated by the JEDEC JC-11 Committee on Mechanical (Package Outlines) Standardization and approved by the JEDEC Board of Directors.

In the next release, this standard will incorporate a standard XML structure to support Component Manufacturers in providing part data to their customers, utilizing these definitions herein. This document will be made available under JEP95, as a Standard Process Procedure, SPP-XXX, to be developed.

DESCRIPTIVE DESIGNATION SYSTEM FOR ELECTRONIC-DEVICE PACKAGES

From JEDEC Board Ballots JCB-17-23 formulated under the cognizance of the JC-11 Committee on Mechanical (Package outline) Standardization.)

1 Scope

This standard describes a systematic method for generating descriptive designators for electronic-device packages. The descriptive designator is intended to provide a useful communication tool, but has no implied control for assuring package interchangeability.

2 Terms and definitions

For the purpose of this standard, the following definitions shall apply:

body direction: this attribute defines whether the part body is either vertical or horizontal, by comparing the cross-sectional area of the part in both the horizontal direction and the vertical direction. If the horizontal cross sectional area is greater than the vertical cross sectional area, then the body direction is horizontal.

die-size package: See chip scale package

footprint (of a package): The pattern of package terminals that is used to define the land patterns on a mating printed circuit board.

NOTE The footprint may include features necessary for mechanical mounting of the package.

package: The encapsulation of an electronic component.

See Table 1 for a list of package outline styles.

package terminal shape: Package terminal shape is a one character code that indicates the terminal shapes of all the terminals on the package (see 3.2.4 for how this is calculated)

package terminal position: Package terminal position is a one character code that indicates the position of all the terminals on the package (see 3.2.2 for how this is calculated)

part access direction: Various parts require additional clearance around the part, typically in one direction post assembly on the PCB. This may be a once off access to the part as the PCB is mounted into its enclosure, or it may require continuous access over the life of the product. Part access can come in any of the following directions – Topside, Underside, Front, Back, Right side, Left side

terminal: An externally available point of electrical connection. (Ref. JESD99.) The solid or stranded wire or formed conductor that extends from a package body to serve as a mechanical or electrical connector, or both. The terminal can also be a metallic post or stud mount package body that is used for making electrical connections.

2 Terms and definitions (cont'd)

terminal group: A part can have multiple terminals of different shapes, position, and size. The term group is used to define a grouping of terminals that have a uniform layout and which have a common set of terminal types and terminal dimensions. As an example a layout of multiple terminals would be a set of 16 terminals organized into 2 columns of 8 where the spacing in the vertical direction is the same for all terminals and the spacing in the horizontal direction is the same for all terminals.

terminal group terminal shape: A single-letter suffix that identifies the standard form or shape of the terminal belonging to a specific group of terminals on a package. When there is a single terminal group on a package, then the package terminal shape is the same as the terminal group terminal shape.

terminal group terminal position: A single-letter prefix that identifies the physical terminal positions specific to a group of terminals on a package. When there is a single terminal group on a package, then the package terminal position is the same as the terminal group terminal position.

terminal mount: The method or technology employed in mounting the terminal to the printed board land pattern. There are 5 types available – SMT, Through-hole, Non-board, Hole, or Press-fit

3 Descriptive designation system for electronic-device packages

3.1 General

The standard descriptive designation system is a method for identifying the physical features of an electronic-device package. The most scalable method to achieve this is to split the definition of the package into three basic elements, namely package outline, terminal position, and terminal shape description. To conform as close as possible to previous JEDEC Standards, the terminal position precedes the package outline, while the terminal shape follows the package outline. This designator is extended through the use of additional fields to provide additional package information such as package-body material, terminal count, and package body dimensions.

This mandatory package designator may be extended, through the use of user-selected fields, to provide additional package information such as specific package features, package differentiators, and supplemental information.

NOTE JEITA ED7303 ("Name and code for integrated circuit package") and IEC 60191-4 ("Coding system and classification into forms of package outlines for electronic device packages") are standards similar to JESD30.

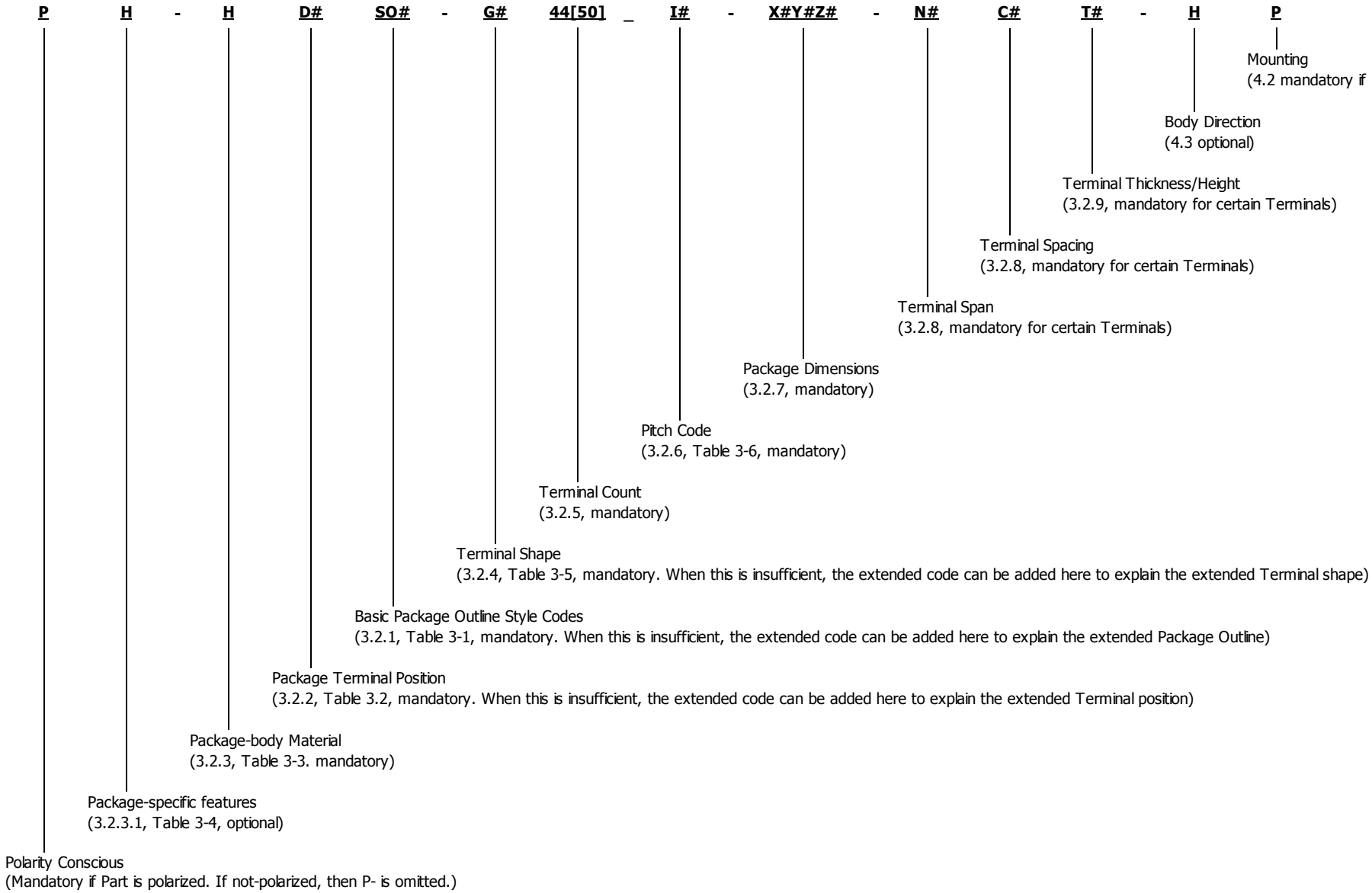

Figure 1 — Descriptive designation system for electronic-device packages