JEDEC STANDARD

Customer Notification of Product/Process Changes by Semiconductor Suppliers

JESD46-B

(Revision of JESD46-A)

AUGUST 2001

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 EIA General 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 an JEDEC standard or publication may be further processed and ultimately become an ANSI/EIA 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 Solid State Technology Association, 2500 Wilson Boulevard, Arlington, VA 22201-3834, (703)907-7559 or www.jedec.org

Published by
JEDEC Solid State Technology Association 2001
2500 Wilson Boulevard
Arlington, VA 22201-3834

PRICE: Please refer to the current
Catalog of JEDEC Engineering Standards and Publications or call Global Engineering Documents, USA and Canada 1-800-854-7179, International (303) 397-7956

CUSTOMER NOTIFICATION OF PRODUCT/PROCESS CHANGES BY SEMICONDUCTOR SUPPLIERS

(From Board Ballot JCB-00-42, formulated under the cognizance of JC-14.4 Committee on Quality Processes and Methods).

1 Scope

This document covers semiconductor products and their associated processes.

This standard establishes procedures to notify customers of semiconductor product and process changes.

2 Terms and definitions

change: An alteration to the product process, a) major: a change that may result in an impact to form, fit, function, or reliability of the product, or b) minor: a change that does not result in an impact to form, fit, function, or reliability of the product.

customer: Any organization that has purchased the product from the supplier within the past two (2) years and has a contract or purchase agreement with Process Change Notice (PCN) requirements, or requested (and supplier agreed to provide) PCN information, or is an approved supplier agent.

form: The visual appearance including shape, color, marking, and surface finish, of the product, as specified by the supplier and/or customer.

fit: The external dimensions and associated tolerances, of the product, as specified by the supplier and/or customer.

function: The electrical, mechanical, thermal, and performance characteristics of the product, as specified by the supplier and/or customer.

process: The materials, equipment, and methods used to manufacture the product.

Product or Process Change Notice (PCN): A document sent to customers describing product or process changes, the reasons for the change, and the projected impact of the change.

reliability: The ability of a product to perform a required function over time.

3 Requirements

3.1 Documentation

The supplier shall have a documented PCN process that includes the criteria used to classify the changes. The following minimum elements must be included in the supplier’s documented PCN procedure:

a) Method of identifying and documenting the customer's unique PCN requirements.

b) Definition and classification of proposed changes. (Note: This could be a reference to a separate controlled document, e.g., Engineering Change Notice.)

c) Notification timing.

d) Deliverables to customer - contents of change notification.

e) Record retention requirements.

3.2 Procedure

3.2.1 Classify changes(s)

The proposed change should be classified as either major or minor. Each supplier shall include in their internal PCN specifications, clarifications and/or examples of major changes (See Annex A for examples). Customers must be notified of major changes, whereas notification of minor changes may or may not occur depending on customer requirements.

3.2.2 Customer notification

a) Identify affected customers

b) Determine notification per special customer criteria or, supplier-agreed-to customer profile. If a customer expresses no unique notification attributes, the supplier's standard PCN system shall apply.

c) Customer will be notified a minimum 90 days before the scheduled shipment date of the product identified in the PCN. Shipment may occur upon approval of the PCN by the customer.

3.2 Procedure (cont’d)

3.2.3 Customer response

a) Customers should acknowledge receipt of the PCN within 30 days of delivery of the PCN.

b) Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.

c) After acknowledgement, lack of additional response within the 90 day period constitutes acceptance of the change.

3.3 Product and Process Change Notification minimum content:

The following is the minimum content of the Product and Process Change Notification:

a) Product Identification (e.g., supplier part number(s), affected product lines including specific package types, product family).

b) Detailed description of change(s)

c) PCN tracking number

d) Reason for change(s)

e) Name, address, telephone, email, and fax number of supplier contact

f) Implementation date for change

g) Anticipated (positive and negative) impact on form, fit, function, or reliability.

h) Supplier Qualification plan results , where applicable

i) Customer part number(s) (optional)

j) Date, if required, when qualification samples are available.

k) Date, if required, when final qualification data are available.

l) Last date, if applicable, of manufacture of the unchanged product.

3.4 Records

Each supplier shall retain documentation of individual PCN information for a minimum of five years after final user notification.

ANNEX A Examples of major changes that might require customer notification

NOTE These are examples only and should not be considered as representing all possible changes.

Design	Major design change
Waferfab	Waferfab site
	Wafer diameter
	Diffusion dopant
	Gate oxide material
	Gate oxide thickness Dielectric material
	Polysilicon dopant type
	Metallization material
	Metallization thickness
	Top protective layer material
	Top protective layer thickness
	Die coating material
	Die coating thickness
Package Assembly	Assembly site
	Lead frame base material
	Plating material
	Wire bond method
	Mold compound material
	Sealing material
	Die attach material
	Marking method
	Marking appearance
	Plating technique
Testing	Test elimination
	Electrical Specification
	Change in ac specification
	Change in dc specification
Mechanical Specification	Change in case outline Loosening tolerance(s)
	Packing/Shipping /Labeling
	Change in Carrier (reel, tray) dimensions
	Drypack requirements
	Environment maximum storage temperature

JEDEC