

SEMI M18-0912

GUIDE FOR DEVELOPING SPECIFICATION FORMS FOR ORDER ENTRY OF SILICON WAFERS

This Standard was technically approved by the Silicon Wafer Global Technical Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on August 30, 2012. Available at www.semiviews.org and www.semi.org in September 2012; originally published in 1990; previously published November 2007.

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1 Purpose

1.1 Silicon technology underlies the integrated circuit and device industry. Silicon wafers are the basis for most integrated circuits and devices used in electronic equipment. It is very useful to have common forms that include the parameters that should be included in the specifications for various kinds of silicon wafer products. This Guide indicates how to develop such a form for inclusion in the appropriate specification and how the various forms can work together in preparing order entry information for the various silicon wafer products.

NOTE 1: This Standard does not provide the order entry form. It guides the development of specifications. The order entry form is described in various silicon material specifications as listed in § 5.

2 Scope

2.1 This Guide covers the methodology for developing specification forms for order entry including:

- how to identify form sections, form columns, and form headings,
- instructions for line format and how to number items,
- how to add new items appropriate to a given wafer product to the form,
- how to reference new items from another section of the form not within the specification, and
- method to request new additions from a group responsible for a section of the form for order entry that contains essential parameters for the particular wafer but is not included in the order form for that wafer’s specifications.

2.2 This Guide lists the sections of the order entry form and shows where they appear and how they are used.

2.3 This Guide provides information on how to construct the ordering information section for silicon wafer specifications.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 *SEMI Standards and Safety Guidelines*

SEMI M1 — Specification for Polished Single Crystal Silicon Wafers

SEMI M8 — Specification for Polished Monocrystalline Silicon Test Wafers

SEMI M16 — Specification for Polycrystalline Silicon

SEMI M24 — Specification for Polished Monocrystalline Silicon Premium Wafers

SEMI M38 — Specification for Polished Reclaimed Silicon Wafers

SEMI M41 — Specification of Silicon-on-Insulator (SOI) for Power Device/ICs

SEMI M57 — Guide for Specifying Silicon Annealed Wafers

SEMI M59 — Terminology for Silicon Technology

SEMI M61 — Specification for Silicon Epitaxial Wafers with Buried Layers

SEMI M62 — Specification for Silicon Epitaxial Wafers

SEMI M71 — Specification for Silicon-on-Insulator (SOI) Wafers for CMOS LSI

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

4 Terminology

4.1 Terms, symbols, and acronyms associated with silicon wafers and silicon technology are listed and defined in SEMI M59.

5 Development of Silicon Wafer Specification Format for Order Entry

5.1 *Location* — Each part of the silicon wafer specification format for order entry appears in only one specification.

5.1.1 Parts 1 and 2, General Information and Polished Wafer or Substrate, respectively, appear in SEMI M1.

5.1.2 Part 3, Epitaxial Wafer, appears in SEMI M62.

5.1.3 Part 4, Epitaxial Wafer with Buried Layer, appears in SEMI M61.

5.1.4 Part 5, Annealed Wafer, appears in SEMI M57.

5.1.5 Part 6, SOI Wafer, appears in SEMI M71.

5.2 *Developmental Responsibility* — Each international or regional task force responsible for developing the specifications for a certain silicon wafer product is responsible for developing the necessary part of the silicon wafer specification format for order entry, unless the part appropriate to that wafer product appears already in another specification.

5.2.1 For example, specifications for test, premium, and reclaimed wafers use only Parts 1 and 2, which appear in SEMI M1.

5.2.2 If there are several specifications for similar silicon wafer products (e.g., several specifications for SOI wafers), the task forces responsible for such specifications must cooperate with each other to identify and use a single location for the part of the silicon wafer specification format for order entry for that wafer product.

5.3 The title of the table that includes a part of the silicon wafer specification format for order entry is in table title format as follows:

Table x. Silicon Wafer Specification Format for Order Entry, Part #, Wafer Product

5.3.1 For example, the title of the table for epitaxial wafers is as follows:

Table 1. Silicon Wafer Specification Format for Order Entry, Part 3, Epitaxial Wafer

5.4 *Structure of the Table Containing a Part of the Silicon Wafer Specification Format for Order Entry*

5.4.1 Each part of the table is printed in portrait format with a width of 6.5 in. or 165 mm.

5.4.2 Each part of the table has five columns. The column headers (using table header format but in all caps) and their widths are given in Table 1. Each cell in the table has 0.02 in. or 0.5 mm margins. Column headers appear at the top of each page of the table.