

SEMI E162-0912

MECHANICAL INTERFACE SPECIFICATION FOR 450 mm FRONT-OPENING SHIPPING BOX LOAD PORT

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1 Purpose

1.1 The purpose of this Standard is to define the basic interface dimensions of a load port on the semiconductor manufacturing equipment, where a 450 front-opening shipping box (FOSB) can be loaded and unloaded. The intention of this Standard is to define a set of requirement and features to enable interoperability of load ports and carriers without limiting innovative solutions.

2 Scope

2.1 The interface specification in this Standard is driven by and intended to mate with a carrier compliant to the relevant SEMI 450 mm FOSB Standard.

2.2 Loading and unloading is assumed to take place in semi-automated and automated mode by using any kind of system or device (e.g., Person guided vehicle or overhead hoist vehicle).

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3 Limitations

3.1 This Standard does not intend to address manual loading or unloading of a carrier.

3.2 The detailed methods and mechanisms inside a 450 FOSB door of how a carrier door may be engaged to and disengaged from the carrier shell are not specified within this Standard.

4 Referenced Standards and Documents

4.1 SEMI Standards and Safety Guidelines

SEMI E154 — Mechanical Interface Specification for 450 mm Load Port

SEMI M80 — Mechanical Specification for Front-Opening Shipping Box Used to Transport and Ship 450 mm Wafers

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

5 Terminology

5.1 Abbreviations and Acronyms

5.1.1 FOSB — front opening shipping box

5.2 Definitions

5.2.1 450 FOSB — used generally as a 'term' only within this Document to identify the FOSB.

NOTE 1: Unless otherwise specified, the word 'shipping box' or 'carrier' used herein shall mean 450 FOSB.

6 Requirements

6.1 *Physical Dimensions* — All physical dimensions and all other requirements not specified in this Standard shall be as specified in SEMI E154.

6.2 *Door Closing Force* — The force required to push the carrier door into the carrier shell to its fully seated position is f_{234} as specified in the SEMI M80.

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