SEMI E19.2-0309
STANDARD MECHANICAL INTERFACE (SMIF), SPECIFICATION FOR 125 mm (5 in.) PORT

This Standard was technically approved by the Physical Interfaces & Carriers Global Technical Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on January 2, 2009. Available at www.semiviews.org and www.semi.org in March 2009; originally published in 1991; previously published June 1997.

The complete specification for this interface includes all general requirements of SEMI E19.

1 Purpose

1.1 The purpose of this Document is to quantify the requirements for a 125 mm (5 in.) cassette SMIF interface.

2 Scope

2.1 This Specification provides the 125 mm (5 in.) specific values of all alpha-numeric variables (e.g., A1) defined in SEMI E19.

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 Requirements

3.1 The complete specification of this interface includes all the general requirements of SEMI E19. Table 1 provides the specific values for 125 mm (5 in.) cassette SMIF ports.

4 Referenced Standards and Documents

4.1 *SEMI Standards and Safety Guidelines*

SEMI E19 — Standard Mechanical Interface (SMIF)

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

Table 1 Port Dimensions for 125 mm (5 in.) Wafer Cassette

Port Door	A1	85.72 mm ± 0.13 mm	(3.375 in. ± 0.005 in.)
	A2	85.72 mm ± 0.13 mm	(3.375 in. ± 0.005 in.)
	A3	9.53 mm ± 0.25 mm	(0.375 in. ± 0.010 in.)
Guide Rails	B1	102.87 mm ± 0.13 mm	(4.050 in. ± 0.005 in.)
	B2	95.25 mm ± 0.13 mm	(3.750 in. ± 0.005 in.)
	B3	6.35 mm ± 0.25 mm	(0.250 in. ± 0.010 in.)
	B4	6.35 mm ± 0.25 mm	(0.250 in. ± 0.010 in.)
	B5	17.78 mm (0.700 in.)	maximum
	B6		
	B7	12.70 mm (0.500 in.)	minimum
	B8	3.18 mm ± 0.25 mm	(0.125 in. ± 0.010 in.)
	B9	6.35 mm (0.250 in.)	maximum radius
Latch Pins	C1	93.98 mm ± 0.13 mm	(3.700 in. ± 0.005 in.)
	C2	6.35 mm ± 0.13 mm	(0.250 in. ± 0.005 in.)
	C3	63.50 mm ± 0.13 mm	(2.500 in. ± 0.005 in.)
	C4	3.18 mm ± 0.05 mm	(0.125 in. ± 0.002 in.) diameter
	C5		

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	C6	6.35 mm ± 0.25 mm	(0.250 in. ± 0.010 in.)
	C7	Full spherical radius	
	C8	4.44 mm (0.175 in.)	minimum
Registration Pins	D1	127.20 mm ± 0.13 mm	(5.000 in. ± 0.005 in.)
	D2	63.50 mm ± 0.13 mm	(2.500 in. ± 0.005 in.)
	D3	139.70 mm ± 0.13 mm	(5.500 in. ± 0.005 in.)
	D4	69.85 mm ± 0.13 mm	(2.750 in. ± 0.005 in.)
	D5	6.35 mm ± 0.08 mm	(0.250 in. ± 0.003 in.)
	D6	10.16 mm ± 0.25 mm	(0.400 in. ± 0.010 in.)
	D7	Full spherical radius	
Latch Pin Force each	F1	1.36 kg (3 lb.)	minimum
	F2	1.36 kg (3 lb.)	minimum
Position of Cassette	G1	12.70 mm ± 0.25 mm	(0.500 in. ± 0.010 in.)
	G2	0.50 mm (0.020 in.)	maximum

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