

SPECIFICATION

SPEC. NO. : SPEC0730 **REV :** D1

DATE : 2021.10.08

PRODUCT NAME : SlimSAS V/T 0.6mm Pitch Receptacle

PRODUCT NO : PSL060- XX3X-XXX-XH

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Change History:

版次	ECN No.	日期	變更內容
A1	ECN201704086	2017.04.27	發行 A1 版
B1	ECN201807044	2018.07.16	根據協會規範修改耐電流判定標準 修正振動測試時間 增加爐溫曲線說明
C1	ECN201904021	2019.04.09	Temperature Life (preconditioning) 改為 120 hours
D1		2021.10.08	增加 wafer 在塑膠中保持力

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Product Description: SlimSAS V/T 0.6mm Pitch Receptacle

1. SCOPE

This specification covers performance, methods and quality requirement for SlimSAS 0.6mm Pitch Receptacle connector.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, latest edition of the specification applies. In the event of conflict between requirements of this specification and product drawing, product drawing shall take precedence.

2.1. Commercial standards, specifications and report

- 2.1.1. EIA-364
- 2.1.2. EIA-364-1000.01

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of design, construction and physical dimensions specified on applicable product drawing.

3.2. Materials and Finish

- 3.2.1. Contact : Copper alloy.
 Finish : Under-plating: 50μ " min. Nickel plated over all.
 Solder tail: Matte Tin 100μ " min.
 Contact area: option 1. 30μ " min. Gold
 option 2. 15μ " min. Gold
- 3.2.2. Latch : Stainless steel.
 Finish : Under-plating: 50μ " min. Nickel plated over all.
- 3.2.3. Base :Thermoplastic, UL 94V-0 rated, Color :Black
- 3.2.4. Insert Molding :Thermoplastic, UL 94V-0 rated, Color :Black
- 3.2.5. Cap :Thermoplastic, UL 94V-0 rated, Color :Black
- 3.2.6. Housing :Thermoplastic, UL 94V-0 rated, Color :Black

3.3. Ratings

- 3.3.1. Voltage : 30 VAC / contact
- 3.3.2. Current : 0.5 A / contact
- 3.3.3. Operating Temperature : -40°C to +85°C
- 3.3.4. Non-operating Temperature : -55°C TO +85°C
- 3.3.5. Storage Temperature : -20°C to +85°C

3.4. Performance and Test Description

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Paragraph 3.5. All tests are performed at ambient environmental conditions per EIA-364 unless otherwise specified.

3.5. Test Requirements and Procedures Summary

Test Description		Requirement		Procedure		
Visual Inspection		The inspection results should be compliant with the individual specification.		Before the qualification test, all these components shall be examined the Features, Construction as per applicable specification and documents. (EIA-364-18)		
ELECTRICAL						
Low Level Contact Resistance		20mΩ maximum for signal contacts (initial)		Measured at 20 mVolts(Max) open circuit at 100mA. (EIA 364-23)		
Insulation Resistance		1000 MΩ minimum between adjacent contacts		Test voltage 500±10V DC/2min between adjacent contacts of unmated connector assemblies. (EIA 364-21)		
Dielectric Withstanding Voltage		No defect or breakdown between adjacent contacts No leakage current in excess of 1mA		Apply a voltage of 300 VAC for 1 minute (EIA 364-20)		
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MECHANICAL

Mating Force (With Latch Feature disable)	31N maximum	The specimens are mounted to mounting fixtures by the normal mounting means. The insertion and withdrawal speed: 25 mm/minute(EIA-364-13)
Un-mating Force (With Latch Feature disable)	24N maximum. 5N minimum.	The specimens are mounted to mounting fixtures by the normal mounting means. The insertion and withdrawal speed: 25 mm/minute(EIA-364-13)
Latch Plug Retention Force	50 N minimum.	Mate connector at a rate of 25 mm per min.
Contact Normal Force	Displacement:0.15mm Test rate:0.5mm/min 20gf minimum	EIA-364-04C
Wafer retention force	10N minimum	The specimens are mounted to mounting fixtures by the normal mounting means. The withdrawal speed: 25 mm/minute
Reseating	See Note (a).	The specimens are mounted to mounting fixtures by the normal mounting means. The insertion and withdrawal speed: 25 mm/minute(EIA-364-13)
Durability (preconditioning)	See Note (a).	Mate and unmated connector assemblies for 50 cycles at maximum rate of 500 cycles per hour. (EIA-364-09)
Durability	See Note (a).	Mate and unmated connector assemblies for 250 cycles at maximum rate of 500 cycles per hour automatically. (EIA-364-09)
Vibration	No discontinuities 1 μ s or longer duration. 10 m Ω max. change from initial contact resistance See Note (a).	Both mating halves rigidly fixed to not contribute to relative motion of one contact against another Evaluation conditions: sinusoid Frequency: 10 to 500 Hz Amplitude: 1.52mm Duration:3 hour per axis / 3 axis (EIA-364-28, Test Condition II)
Mechanical Shock	10 m Ω max. change from initial (baseline) contact resistance See Note (a).	Subject mated connectors to 50 G's half-sine shock' pulses of 11ms duration. Three shocks in each direction applied along three mutually perpendicular planes, 18 total shocks. (EIA-364-27 Test Condition A)

Temperature Rise (via current cycling)	+30°C max. (Current rating: 0.5A)	Measure the temperature rise at the rated current after 96 hours.(45 minutes ON and 15 minutes OFF). Fixture as required.				
ENVIRONMENTAL						
Thermal Shock	See Note (a).	Subject mated connectors to 10 cycles between -55°~ 85°C, 30 minute dwell at each temperature extreme. (EIA-364-32, Condition I)				
Cyclic Temperature & Humidity	See Note (a).	Subject mated connectors to cycle the connector Humidity: 90% - 98% Temperature Range: 25°to 65°C Duration: 10 cycles. (240 hours) (EIA-364-31,Method IV)				
Salt Spray	Class shell be satisfied	Salt solution concentration: 5±1% The mated connector shall be subjected to a fine mist of salt solution at temperature of 35°±2°C for 48 hours continuously (EIA-364-26)				
Temperature Life (preconditioning)	See Note (a).	EIA-364-17, Method A(without electrical load). Mated connector. Expose 120 hours at105° ±2°C. Exposure time as per EIA-364-17				
Temperature Life	See Note (a).	EIA-364-17, Method A(without electrical load). Mated connector. Expose 250 hours at105° ±2°C. Exposure time as per EIA-364-17				
Solderability	Solder able area shall have minimum of 95% solder coverage.	Subject the test area of contacts into flux for 5~10 seconds and then into solder bath, controlled at 245°±5°C, for 5±0.5 seconds. EIA-364-52				
Resistance to Reflow Soldering Heat	See Note (a).	Pre-Heat : 150°~180°C, 60~120 sec. Heat Peak : 260°C, 30 sec. MAX. See Figure 1 Cycles: 3 times (EIA-364-56)				
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Mixed Flowing Gas	See Note (a).	Duration: 10 days. Connectors should be mated during this portion of the test. (EIA-364-65,Class IIA)				
Thermal Disturbance	See Note (a).	The test specimens shall be mated during the test. Temperature Range: 15°C +/- 3°C to 85°C +/- 3°C Thermal Ramp: minimum of 1 °C per minute. Dwell times should insure that the contacts reach the extremes, no less than 5 minutes. Number of cycles: 10. Humidity does not need to be controlled during this portion of the test.				
Dust	See Note (a).	The test specimens shall be unmated during the test. Benign Dust(EIA-364-91)				
Thermal Cycling	See Note (a).	The test specimens shall be mated during the test. Temperature Range: 15°C ± 3°C to 85°C ±3°C Thermal Ramp:minimum 1°C per minute. Dwell times should insure that the contacts reach the extremes, no less than 5 minutes. Number of cycles: 500. Humidity does not need to be controlled during this portion of the test.				
(a) Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Table 1						
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3.6. Product Qualification and Test Sequence

Test or Examination	Test Group
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Visual Inspection	1,14	1,7	1,12	1,10	1,7	1,3	1,7	1,3	1,5	1,3	1,3	1,10	1	1
Low Level Contact Resistance	2,7,9,11	2,4,6	2,5,7,9,11	2,5,7,9			2,6		2,4			2,5,7,9		
Insulation Resistance	3,12													
Dielectric Withstanding Voltage	4,13													
Mating Force					2,5									
Un-mating Force					3,6									
Durability (preconditioning)	5		3	3			3					3		
Durability					4									
Temperature Life (preconditioning)			4									4		
Temperature Life									3				2	
Cyclic Temp. & Humidity	6													
Reseating	10		10	8			5					8		
Mechanical Shock		5												
Vibration		3												
Solderability								2						
Resistance to Reflow Soldering Heat						2								
Salt spray							4							
Mixed Flowing Gas			6											
Thermal Disturbance			8	6										
Dust				4										
Temperature Rise										2				
Latch Plug Retention Force											2			
Thermal Cycling												6		
Contact Normal Force													3	
Thermal Shock	8													
Wafer or retention force														2
Sample Size	4	4	5	5	5	5	5	5	4	5	5	5	6pin	5

Table 1

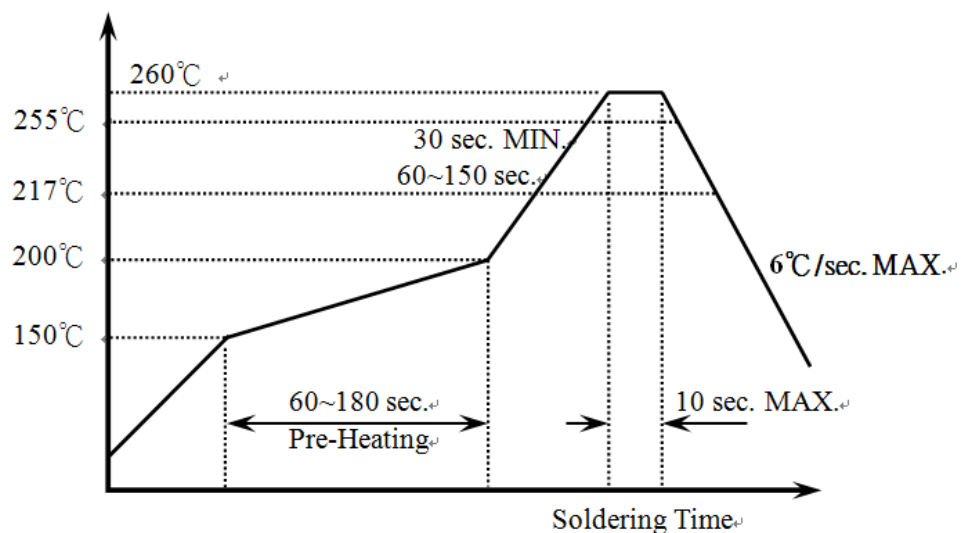


Figure 1. Recommended Reflow Temperature Profile
Recommended Steel mesh thickness: 0.12mm Min