



SPECIFICATION

SPEC. NO. : SPEC0731 **REV :** B1

DATE : 2023.04.25

PRODUCT NAME : SlimSAS RA 0.6mm Pitch Receptacle

PRODUCT NO : PSL060- XX4X-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
A2		2020.01.05	更改端子正压力 35gf
B		2022.03.02	增加钢网厚度
B1		2023.04.25	增加推荐的钢网开孔尺寸

Product Number: PSL060- XX4X-XXX-XH

Product Description: SlimSAS R/A 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. Top Insert Molding :Thermoplastic, UL 94V-0 rated, Color :Black

3.2.4. Bottom Insert Molding :Thermoplastic, UL 94V-0 rated, Color :Black

3.2.5. 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:0.35mm Test rate:0.5mm/min 35gf minimum	Displacement:0.35mm Test rate:0.5mm/min EIA-364-04C
Reseating	See Note (a).	Manually unplug/plug the connector. Perform 3 such cycles.
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:2 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 $-55^{\circ}\sim 85^{\circ}\text{C}$, 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% - 95% Temperature Range: $25^{\circ}\text{to } 65^{\circ}\text{C}$ Duration: 10 cycles. (240 hours) (EIA-364-31, Method IV)
Salt Spray	Class shall be satisfied	Salt solution concentration: $5\pm 1\%$ The mated connector shall be subjected to a fine mist of salt solution at temperature of $35^{\circ}\pm 2^{\circ}\text{C}$ for 48 hours continuously (EIA-364-26)
Temperature Life (preconditioning)	See Note (a).	EIA-364-17, Method A (without electrical load). Mated connector. Expose 250 hours at $105^{\circ}\pm 2^{\circ}\text{C}$. 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 at $105^{\circ}\pm 2^{\circ}\text{C}$. 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 $245^{\circ}\pm 5^{\circ}\text{C}$, for 5 ± 0.5 seconds. EIA-364-52
Resistance to Reflow Soldering Heat	See Note (a).	Pre-Heat : $150^{\circ}\sim 180^{\circ}\text{C}$, 60~120 sec. Heat Peak : 260°C , 30 sec. MAX. See Figure 1 Cycles: 2 times (EIA-364-56)
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												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Visual Inspection	1,14	1,4	1,12	1,10	1,7	1,3	1,7	1,3	1,5	1,3	1,3	1,10	1
Low Level Contact Resistance	2,7,9 ,11		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		3											
Vibration		2											
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												
Sample Size	4	4	5	5	5	5	5	5	4	5	5	5	6pin

Table 1

260°C

255°C

217°C

200°C

150°C

30 sec. MIN.

60~150 sec.

6°C/sec. MAX.

10 sec. MAX.

60~180 sec.

Pre-Heating

Soldering Time

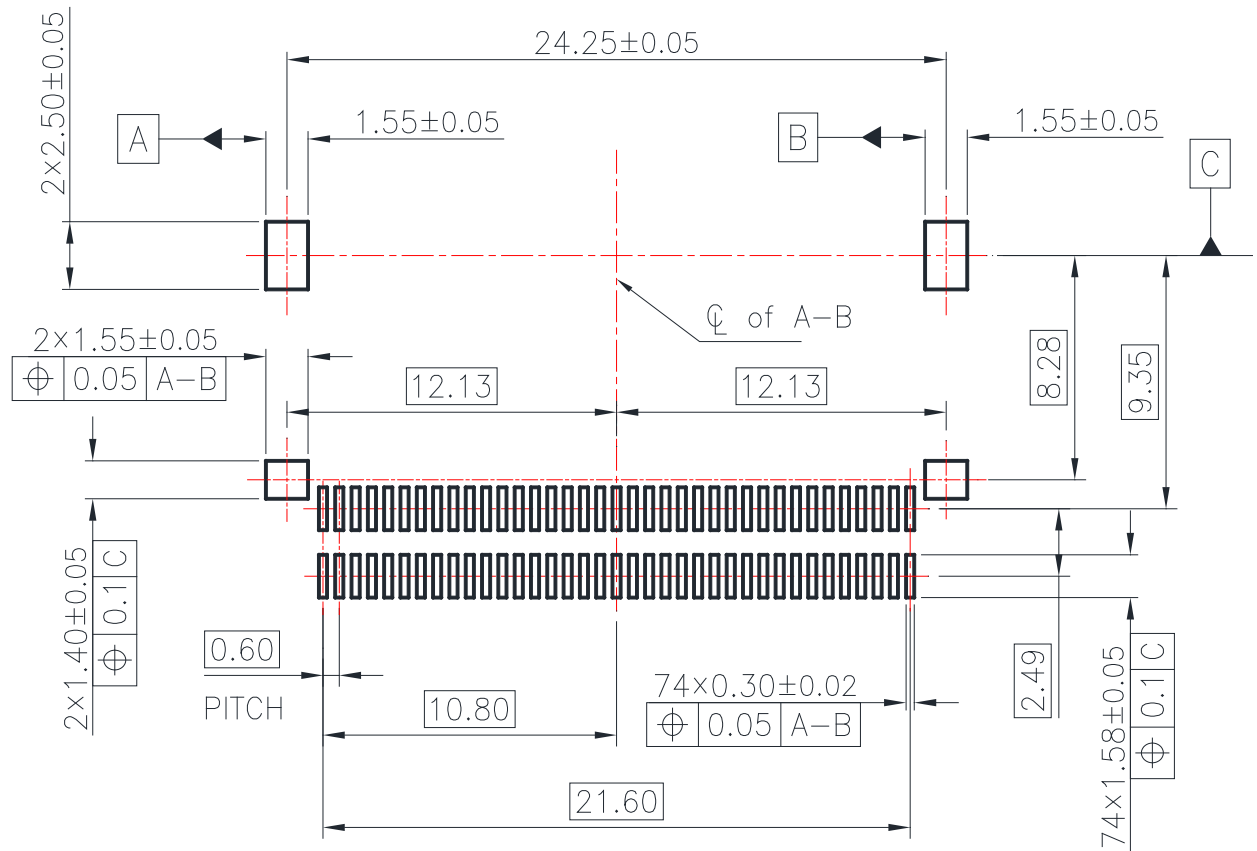


Figure 3. Recommended Steel mesh Dimensions (For SMT Feet) ;

Recommended Steel mesh thickness: $0.15 \sim 0.18\text{mm}$;