SPECIFICATION FOR APPROVAL

CUSTOMER:

CUSTOMER PART NO:

PART NO: **230-10052-01** REVISION: **PSA**

DESCRIPTION: SlimSAS x4(x8) R/A 0.6mm Pitch Receptacle

	MANUFACTURE SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY:	Ethan	
DATE:	2021.3.19	

GENESIS ELECTRO-MECHANICAL LTD.
4F-5, No. 51, Sec. 4, Zhongyang Rd.,
Tu-Cheng Dist, New Taipei City 236, Taiwan
TEL: +886-2-2268-9006
FAX: +886-2-2268-9005

Revision history

版本	日期	摘　要	核准	審查	制修訂
PSA	2021.3.19	INITIAL	Hill	Hill	Ethan

Product Description: SlimSAS x4(x8) 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: 50 μ" min. Nickel plated over all.
Solder tail: Matte Tin 100 μ" min.
Contact area: option 1. 30 μ" min. Gold
option 2. 15 μ" min. Gold

3.2.2. Latch : Stainless steel.
Finish : Under-plating: 50 μ" 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. Operting Temperature : -40℃ to +85℃
3.3.4. Non-operating Temperature : -55℃ TO +85℃
3.3.5. Storage Temperature : -20℃ to +85℃

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 100±10V DC/2min between adjacent contacts of mated and unmated connector assemblies. (EIA 364-21)
Dielectric Withstanding Voltage	No defect or breakdown between adjacent contacts No leakage current in excess of 5mA	Apply a voltage of 300 VDC for 1 minute (EIA 364-20)
MECHANICAL		
Mating Force (With Latch Feature disable)	x4 version: 21N maximum x8 version: 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)	x4 version:18N maximum x8 version: 24N maximum.	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.

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 μs or longer duration. 10 mΩ 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 Duration:1 hour per axis / 3 axis (EIA-364-28, Test Condition VII, Test Letter D)
Mechanical Shock	10 mΩ max. change from initial (baseline) contact resistance See Note (a).	Subject mated connectors to 30 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, Condition H)
Temperature Rise (via current cycling)	+30℃ 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℃, 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°to 65℃ Duration: 60 cycles. (480 hours) Cycle Definition: Each cycle should last 8 hours. The cycle is a 2 hour dwell at the low temperature, a 2 hour ramp from the low temperature to the high temperature, a 2 hour dwell at the high temperature, and a 2 hour ramp from the high temperature to the low temperature. (EIA-364-31)

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℃ for 48 hours continuously (EIA-364-26)
Temperature Life (preconditioning)	See Note (a).	EIA-364-17, Method A(without electrical load). Mated connector. Expose 300 hours at105° ±2°C.
Temperature Life	See Note (a).	EIA-364-17, Method A (without electrical load).Mated connector. Expose 300 hours at 105°±2℃.
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℃, for 5±0.5 seconds. (EIA-364-52)
Resistance to Reflow Soldering Heat	See Note (a).	Pre-Heat : 150°~180℃, 60~120 sec. Heat Peak : 260℃, 10 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℃ +/- 3℃ to 85℃ +/- 3℃ Thermal Ramp: minimum of 1℃ 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℃±3℃ to 85℃±3℃ Thermal Ramp:minimum 1℃ 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		

3.6. Product Qualification and Test Sequence

4. Test or Examination	Test Group												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
	Test Sequence												
Visual Inspection	1,10	1,8	1,12	1,10	1,7	1,3	1,7	1,7	1,3	1,7	1,3	1,3	1,10
Low Level Contact Resistance	2,5,7,9	2,5,7	2,5,7,9,11	2,5,7,9			2,6	2,4,6					2,5,7,9
Insulation Resistance										2,6			
Dielectric Withstanding Voltage										3,5			
Mating Force					2,5								
Un-mating Force					3,6								
Durability (preconditioning)	3	3	3	3			3	3					3
Durability					4								
Temperature Life (preconditioning)		4	4										4
Temperature Life										4			
Thermal Shock	4												
Cyclic Temp. & Humidity	6												
Reseating	8		10	8			5						8
Mechanical Shock								5					
Vibration		6											
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
Sample Size	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Table 1

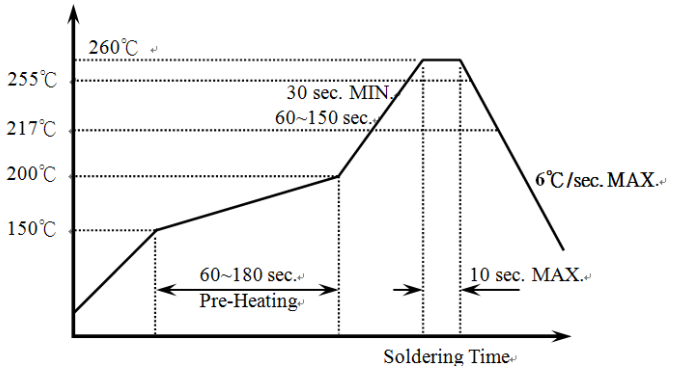

Figure 1. Recommended Reflow Temperature Profile