



PRODUCT SPECIFICATION

DOCUMENT NO  
CAS-0011

(□□□□□□)

Serial ATA Connector,  
(TITLE) 22P SMT (22SAPP-X-X)  
Peripheral Plug.

PAGE: 1 OF 7

REV: A

DR: Eva  
Huang

APPD:Paul Yang

DATE:01-23-03'

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## 1. Scope :

This specification covers performance, tests, and quality requirements for CAA Technologies Co., Ltd. **Serial ATA** series connectors.

The applicable product descriptions and part numbers are as shown in table 1.

Table 1

PRODUCT NO.	DESCRIPTION
CA-22SAPP-X-X	HIGH PERFORMANCE SERIES BUS CONNECTOR

## 2. Requirements :

### 2.1 Design and Construction

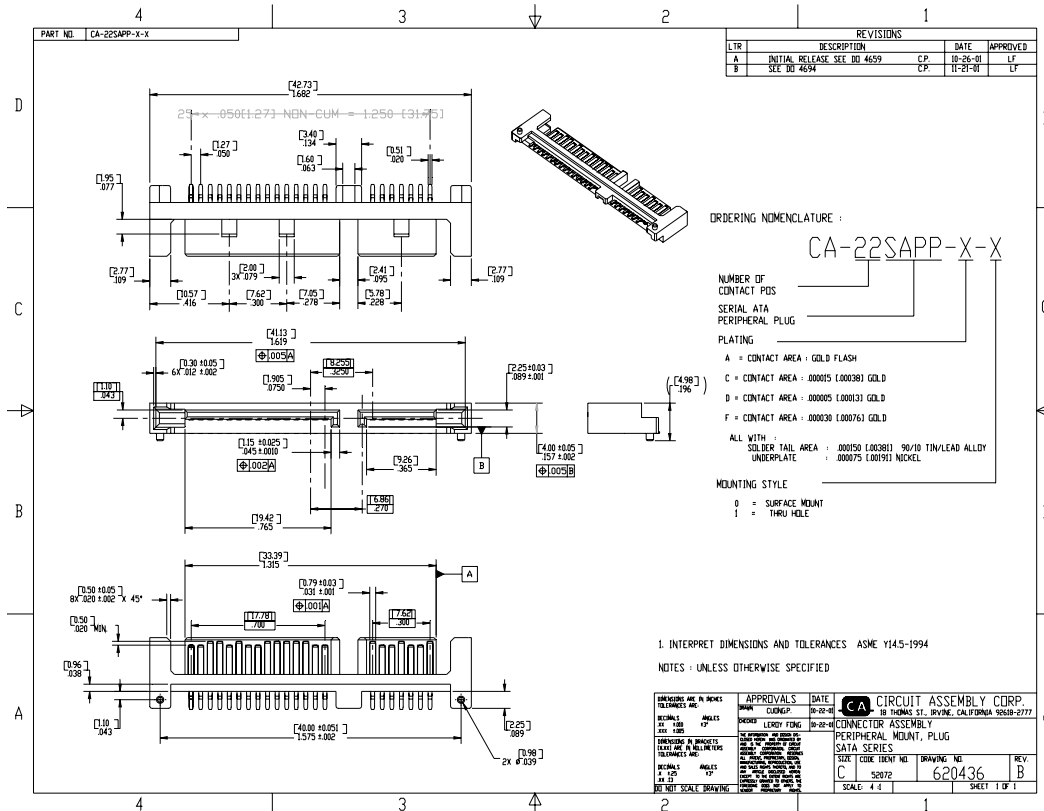
Product shall be of the design, construction and physical dimensions specified on applicable product drawing

### 2.2 Reference Document

2.2.1 ANSI Standard .

2.2.2 Approver international and regional standard (ISO, CEN/CENELEC, ITUT).

### 2.3 Drawings:



□□□ Serial ATA Connector,

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## 3.Product Details

## 3.1 Materials

3.1.1 Contact□Phosphor Bronze, JIS C5191-H

3.1.2 Housing□ Thermoplastic ,UL 94V-0 , Color: BLACK

## 3.2 Finish

## 3.2.1 Contact

a. Terminal contact area□0.038μm(minimum) Gold Plating.

b. The solder area is 3.75μm (minimum) Tin plating.

c. Under plating is 1.875μm (minimum) Nickel plating.

## 3.3 Ratings

3.3.1 Current rating :1.5 A/Contact(Max)

3.3.2 Operating Voltage : 3.3V,5.0V,12.0V AC/DC(rms)

3.3.3 Operating temperature : -20°C to 85°C.

## 3.4 Durability

200 cycles Min.

## 3.5 Contact Retention Force :

500 gram minimum per contacts.

## 3.6 Electrical :

Dielectric Withstanding Voltage : 500V AC for 1 minute

Contact Resistance : &lt; 30mΩ

Insulation Resistance : &gt; 1000MΩ


## 3.7 Recognition and Certification□

UL,C-UL Recognition

4. Performance and Testing  
 4.1 Test Requirement and Procedures Summary are shown in table 2.

**Table 2**

Test description	Requirement	Procedure
Visual and dimensional inspection	Unmated connectors. No defects that would impair normal operations. No deviation from dimensional tolerances.	ANSI/EIA 364-18A-84 See drawings
Plating thickness measurement	Contact finish 0.038µm, minimum, gold, over 1.27µm, minimum, nickel.	
<b>ELECTRICAL</b>		
Low-level Contact resistance	EIA 364-23 Subject mated contacts assembled in housing to 20 mV maximum open circuit at 100mA maximum	<input type="checkbox"/> Initially 30mΩ maximum <input type="checkbox"/> Resistance increase 15mΩ maximum after stress
Withstanding voltage test	EIA 364-20 Method B Test between adjacent contacts of mated and unmated connector assemblies.	The dielectric shall withstand 500 VAC for 1 minute at sea level
Insulating resistance test	EIA 364-21 After 500 VDC for 1 minute <input type="checkbox"/> measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies.	1000 MΩ minimum
	<input type="checkbox"/>	
<b>MACHANICAL</b>		
Vibration and dimensional inspections	EIA 364-18 Visual <input type="checkbox"/> dimensional and functional per applicable quality inspection plan.	Meets product drawing requirements.
Durability	EIA 364-09 50 cycles for internal cabled application <input type="checkbox"/> 500cycles for backplane/blindmate application .Test done at a maximum rate of 200 cycles per hour.	
Contact retention force	Pull-out force along the horizontal or vertical axis.	500 gram Min. per pin

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ENVIRONMENTAL			
Physical shock	EIA 364-27 Condition H Subject mated connectors to 30 g□s half sine shock pulses of 11 msec duration. There shock in each direction applied along three mutually perpendicular planes for a total of 18 shock . See NOTE 2.		No discontinuities of 1 μs or longer duration. No physical damage.
Random vibration	EIA 364-28 Condition V Test letter A Subject mated connectors to 5.35 g□s RMS. 30minutes in each of three mutually perpendicular planes. See NOTE 2.		No discontinuities of 1 μs or longer duration
Humidity	EIA 364-31 Method □ Test Condition A. Subject mated connectors to 96 hours at 40□ with 90 □to 95□RH.		See NOTE 1.
Temperature life	See NOTE 1.		
Thermal shock	EIA 364-32 Test Condition □. Subject mated connectors to 10 cycles between -55□ and +85□.		See NOTE 1.
NOTE			
1. Shall meet EIA 364-18 Visual Examination requirements□show no physical damage□and shall meet requirements .			
2. Shock and vibration test fixture is to be determined by each user with connector vendore			



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4.2 Test Sequence

TABLE 3 Continue

ITEM	TEST	TEST GROUP (a)					
		A	B	C	D	E	
		TEST SEQUENCE (b)					
1	Examination of the connector□s□	1,5	1,6	1	1,8	1,4	
2	Low-level Contact resistance	2,4	2,5	2,4			
3	Insulation resistance				2,6		
4	Dielectric withstanding voltage				3,7		
5	Current rating			5			
6	Durability	3				2	
7	Physical shock		3				
8	Vibration		4				
9	Humidity				5		
10	Temperature life			3			
11	Thermal shock				4		
12	Contact retention force					3	

NOTE□

□ a □ Preconditioning, 20 cycles for the 50-durability cycle requirement, 50 cycles for the 500-durability cycle requirement. The insertion and removal cycle is at the maximum rate of 200 cycles per hour.