



PRODUCT SPECIFICATION

DOCUMENT NO  
H100002

TITLE:  
SATA SOCKET 22P  
(22SAHS-X-X-X-X-X)

PAGE: 1 OF 8

REV: B

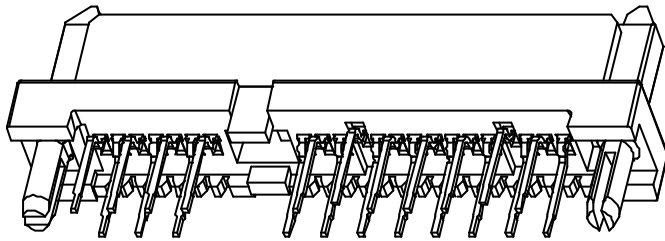
DR:Jelly qiu

APPD:Robbie luo

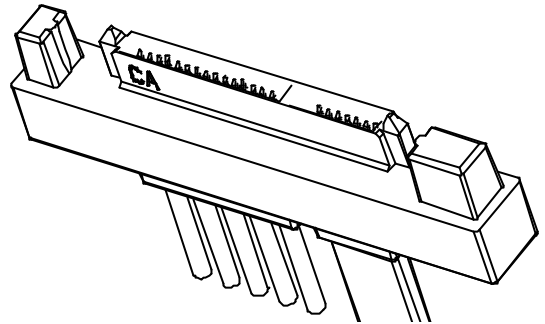
DATA:10/29/2003

LIST OF REVISION

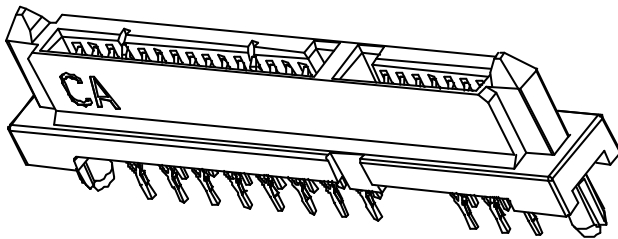
REV	PAGE	DESCRIPTION	ECN. NO.	DATE
A	01-08	NEW		05/19/2003
B	01-08	DOCUMENT NUMBER CHANGE	E031029H175	10/29/03'



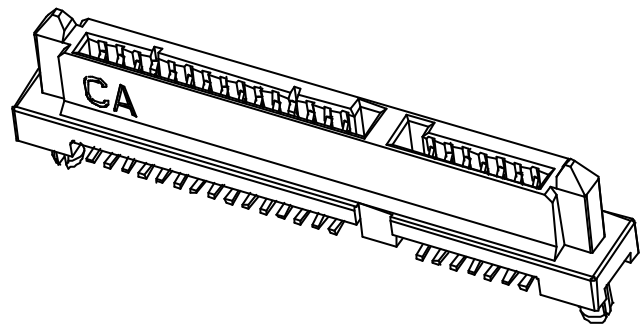
THROUGH HOLE TYPE



MOLD TYPE



PRESS FIT TYPE



SMT TYPE

SATA 22P CONNECT



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## 1.SCOPE:

This specification covers performance, tests, and quality requirements for CA-T Technologies Co., Ltd. SATA 22P series connectors.  
The applicable product descriptions and part numbers are as shown in table

Product No.	Description
22SAHS-X-1-0-X-X	SATA SOCKET 22P SMT TYPE
22SAHS-X-1-1-X-X	SATA SOCKET 22P THROUGH HOLE TYPE
22SAHS-X-1-3-X-X	SATA SOCKET 22P PRESS FIT TYPE
22SAHS-X-1-4-X-X	SATA SOCKET 22P MOLD TYPE

## 2 Requirements:

### 2.1 Design and Construction

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

### 2.2 Regulatory Requirements

2.2.1 Be an UL,C-UL Recognized Component

2.2.2 Housing plastics must be rate UL 94V-0

### 2.3.Reference Document

2.3.1 Serial ATA High Speed Serialized AT Attachment,Revision 1.0

2.3.2 EIA –364,Electrical Connector Test Procedures

## 3 Product Details

### 3.1 Materials

3.1.1 Contact:Copper Alloy

3.1.2 Housing: Thermoplastic , UL 94V-0 , Color: Black

3.1.3 Cover(for solder): Thermoplastic , UL 94V-0 , Color: Black

### 3.2 Finish

#### 3.2.1 Contact

a. Terminal contact area:A: 1~3u”(minimum) Gold Plating.

D: 5u”(minimum) Gold Plating.

C:15u”(minimum) Gold Plating.

F:30u”(minimum) Gold Plating.

b. The solder area : 90/10 Sn/Pb 150u m (minimum) plating.

c.Under plating :50u m (minimum) Nickel plating.

### 3.3 Ratings

3.3.1 Current rating:1 A/Contact(Max)

3.3.2 Operating temperature : -20°C to 85°C

## 4 Performance and Testing

4.1 Test Requirement and Procedures Summary are shown in table 1.

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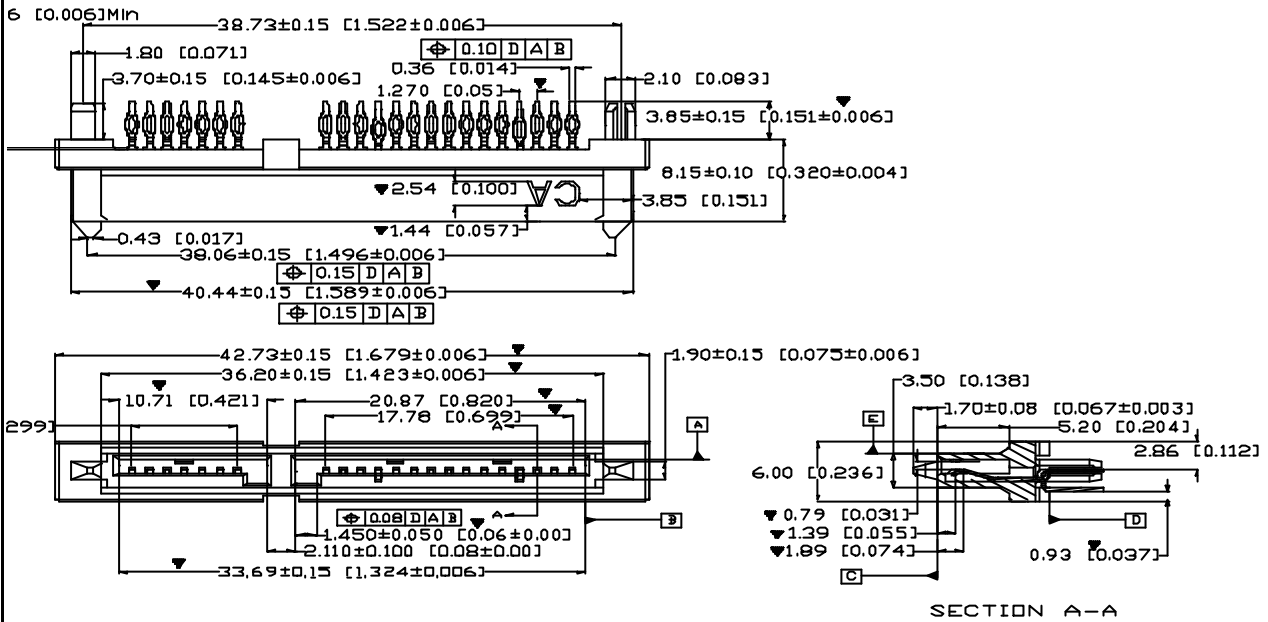
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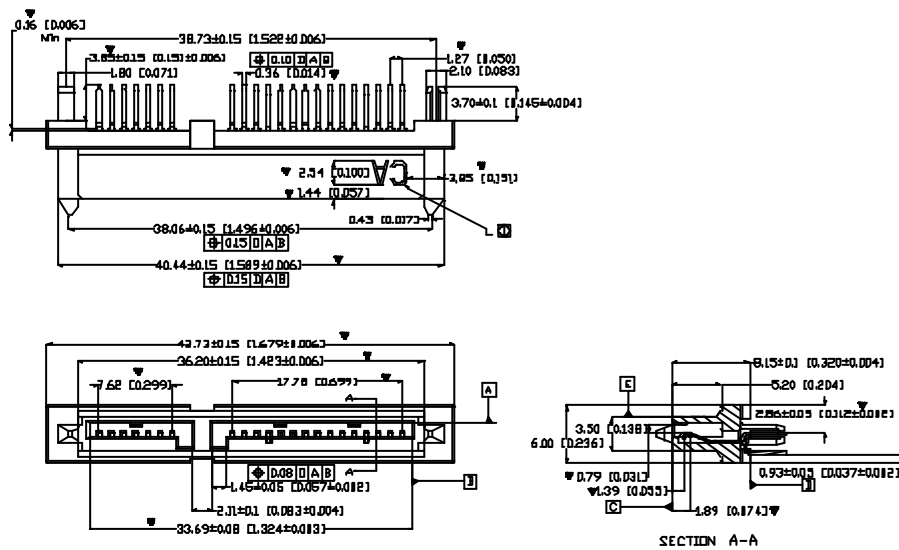
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SATA DETAIL DRAWING(PRESS FIT)



SATA DETAIL DRAWING(THROUGH HOLE)

CA

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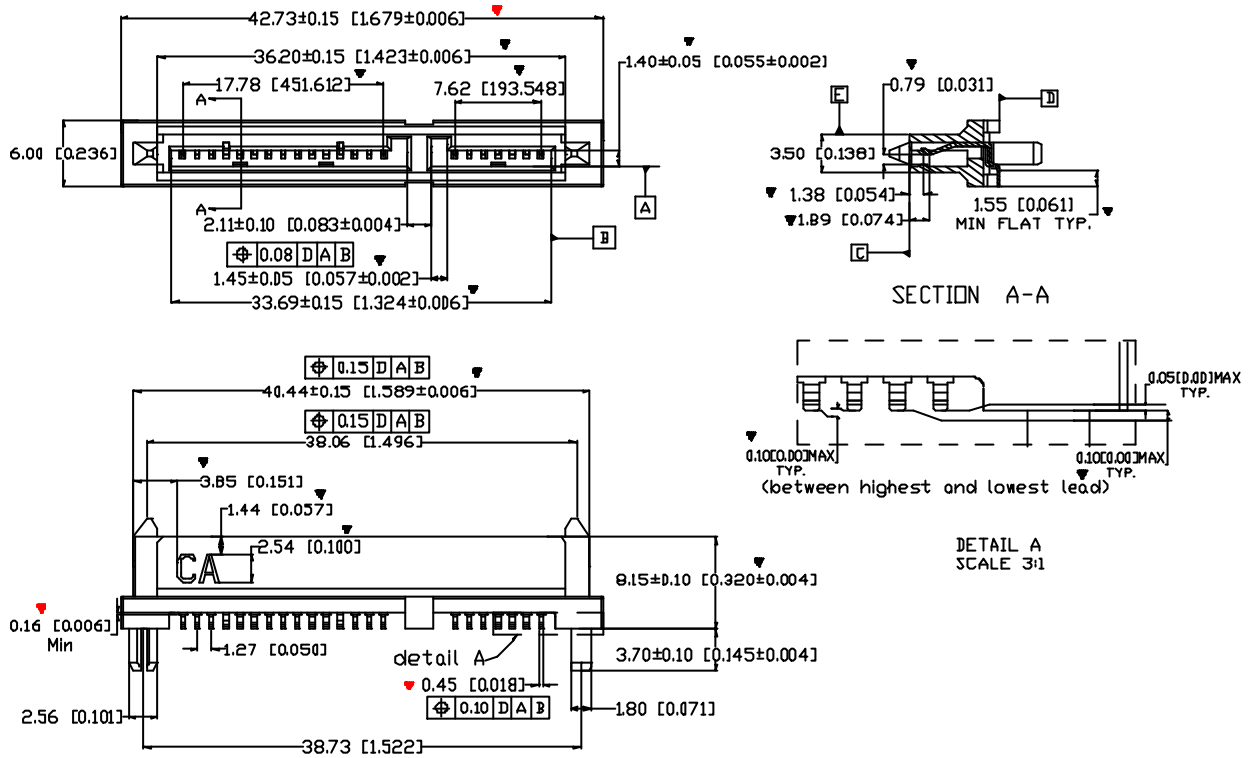
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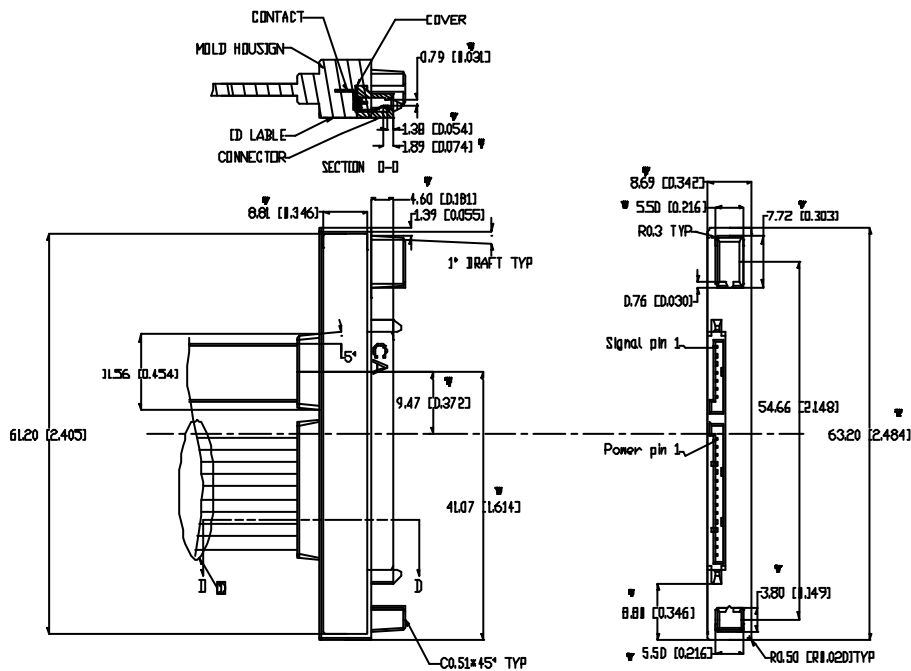
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SATA DETAIL DRAWING(SMT)



SATA DETAIL DRAWING(MOLD)



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Table 1

Electrical performance

Test description	Test condition	Requirement
Insulation resistance	After 500VDC for 1minute,measure the insulation resistance between the adjacent terminals of mated and unmated connector assemblies (EIA 364-21).	1000M ohm minimum

ELECTRICAL

Low-level Contact resistance	Subject mated contacts assembled in housing to 20 mV maximum open circuit at 100 mA maximum(EIA 364-23)	30m ohm maximum, initial per mated pair. 15 m ohm maximum change from initial Per mated contact.
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Delectric Withstanding voltage	Subject a voltage of 500VAC for 1 minute between adjacent terminals of mated and unmated connector at sea level. (EIA 364-20).	NO breakdown
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Contact Current Rating(Power Segment)	Wire power pins P1,P2,P8&P9 in parallel for power; 2,Wire ground pins P4,P5,P6,P10&P12 in parallel for return; 3,Supply 6A total DC current to the power pins in parallel,returning from the parallel ground pins(P4,P5,P6,P10&P12 4,Record temperature rise when thermal equilibrium is reached	1. 5A per pin minimum;he temperature rise above ambient shall not exceed 30°C at any point in the connector when contact positions are powered.The ambient condition is still air at 25°C.
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Table 1

Mechanical performance

Test description	Test condition	Requirement
Insertion and Removal force	Mate and unmate connect assemblies at maximum rate of 12.5mm per minute(EIA 364-13)	Maximum insertion force 45N(10.12 lbf) Minimum removal force 10N
Durability test	50 cycles for internal cabled application;500 cycles for backplane/blindmate application.test done at a maximum rate of 200 cycles per hour (EIA 364-09)	No physical damage.Meet requirements of additional tests as specified the test sequence in section 7
Terminal retention force in housing	Apply axial pull out force on terminal in the housing at a tate of 25.4mm per minute	Minimum retention force 4.45N

Environmental performance

Solderability	Immerse the end terminals in rosin for 5-10seconds then immerse them in a soldering bath of 245°C $\pm$ 5°C for 5 seconds	Dipped portion should have 95%continuous new solder coating coverage
Thermal shock	Subject mated connectors to 10 cycles between -55°C&+85°C (EIA 364-32 Test Condition I.)	No physical damage Meet requirements of additional tests as specified in the test sequence in section 7.0
Humidity	Subject the connector to temperature and humidity of 40°C at 90-95%RH for 96 hours (EIA 364-31 MethodII Condition A).	No physical damage Meet requirements of additional tests as specified in the test sequence in section 7.0
Random vibration	Subject mated connector to 5.35g's RMS. 30minutes in each of three mutually perpendicular planes.(EIA 364-17test condition III method A)	No discontinuities of 1us or longer duration
Temperature life	Subject mated connectors to temperature life at +85°C (EIA 364-17A Test ConditionIII.Method A)	No physical damage Meet requirements of additional tests as specified in the test sequence in section 7.0



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4.2 Product Qualification and 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	1,10	1,7	1,8	
2	Low-level Contact resistance	2,4	3,8	2,5		
3	Insulation resistance				2,6	
4	Withstanding voltage				3,7	
5	Current Rating			6		
6	Insertion force		2			
7	Removal force		9			
8	Durability	3	4			
9	Vibration		5			
10	Humidity				5	
11	Temperature life			3		
12	Reseating (manually unplug/plug three times)		7	4		
13	Mixed flowing gas					
					4	

NOTE:

- (a) Preconditioning, 20 cycles for the durability cycle requirement,50 cycles for the 500 durability cycle requirement. The mating and unmating cycle is at the maximum rate of 200 cycles per hour.
- (b) Samples prepared in accordance with applicable manufacture’s instructions and shall be selected at random form current production. Each test group shall provide 100 data point for a good statistical representation of the test result. For a connector with greater than 20 pins, a test group shall consist of a five connector pairs. From these connector pairs, a minimum of 20 contact pairs per mated connector shall be selected and identified. For connectors with less than 20 pins, choose the number of connectors sufficient to provide 100 data point.