



#### 1.0 SCOPE

This specification defines the performances for alignment free Serial ATA connector.

#### 2.0 PRODUCT DESCRIPTION

#### 2.1 PRODUCT NAME AND SERIES NUMBER(S)

S-ATA CONNECTOR PECEPTACLE A-FREE BOTTOM MOUNT TYPE.

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See appropriate sales drawings for details on dimensions, materials, plating and markings.

#### 2.3 SAFETY AGENCY APPROVALS

See appropriate sales drawings

#### 2.4 PRODUCT WEIGHT

The product weight is 6.85g

#### 2.5 PRODUCING PLANT FACTORY AND ADDRESS

Producing plant factory: Nuconn Industry CORP

Dong Guan Nuconn Industry CORP Address:

No.32, Rong Fu Roard, Shang Sha 3th Ind. District, ChangAn Town,

DongGuan City, GuangDong, China

#### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Please refer to the Sales Drawings , and other sections of this Specification for specific references to applicable documents and specifications. In cases where the Product Specification differs from the Sales Drawings, the Sales Drawing will take precedence

#### 4.0 RATINGS:

A. Operating temperature range at rated voltage and current: -55°C to +85°C

B. Storage Temperature Range: -55°C to +85°C

REVISION:	ECR/ECM	ECR/ECN INFORMATION:		PRODUCT NO		SAT29-N3-16073	SHEET No		
~	EC No:	New SP	IFORMATION: New SPEC 2017-12-01 <u> R:</u> CRE 4 ℓ	PRODUCT	S-/	S-ATA CONNECTOR PECEPTACLE			
A	DATE:	DATE:2017-12-01NAMES-ATA CONNECTOR PECEPTACLE2DATE:2017-12-01NAMEA-FREE BOTTOM MOUNT TYPE2				2019			
DOCUM	IENT NUME	<u>BER:</u>	CRE	ATED / REVISE	<u>ED BY:</u>	CHECKED BY:	<u>APPROV</u>	ED BY:	
PS-S	ATA-00	004		ANDELEE.YAN	NG	JERRY.TUNG	KIMI.H	ISU	



#### 5.0 PERFORMANCE

#### Test Requirements and procedures Summary

Mechanical	Requirements
meenamear	requirements

ITEM	Test Items	Requirement	Procedures
1	Examination of Product	Meets requirement of product drawing. Flaws/ Contaminations/ Discolorations which does not occur functional defect are allowable.	Visual inspection No physical damage

Electr	ical Requirements	quirements						
ITEM	Test Items		Require	ment	Procedures			
2	Current rated	1.54	A per termina	al				
2	Voltage rated	30V	AC per con	tact				
					Mount the connector to a to	est		
					PCB.			
					Wire power pins P1,P2,P8	and,		
		1.5A per pin minimum.			P9 in parallel for power.			
	Contact current	The temperature rise above			Wire ground pins P4,P5,P6,			
		ambient shall not exceed			P10,			
2		30°C at any point in the			and P12 in parallel for retu	rn.		
5		con	nector when	contact	Supply 6 A total DC current to			
	(power segment)	pos	itions are po	wered.	the power pins in parallel,			
		The	ambient co	ndition is still	returning form the parallel			
	3 rating (power segment)	air a	at 25°C.		ground pins(P4,P5,P6,P10	,and		
					P12)			
					Record temperature rise w	hen		
					thermal equilibrium is reac	hed.		
			PRODUCT	0.47		ou===		
<u>EVISION:</u>	ECR/ECN INFORMAT	<u>ION:</u>	NO	SAI	29-N3-160/320	<u>SHEET</u>		
-	EC No: New SP	EC	PRODUCT	S-ATA CO	NNECTOR PECEPTACLE			

Α	<u>EC No:</u> DATE:	2017-12-01		PRODUCT NAME	S-/ A	ATA CONNECTOR PECE -FREE BOTTOM MOUN	EPTACLE T TYPE	<b>3</b> of <b>9</b>
DOCUM	IENT NUM	<u>BER:</u>	CRE	ATED / REVISE	D BY:	CHECKED BY:	APPROV	ED BY:
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## ACROR PRODUCT SPECIFICATION

4	Termination Resistance	Initial: 30mΩ Max. Final: Δ R=15mΩ Max.	Subject mated contacts assembled in housing to 20 mV maximum open circuit at 100 mA Max. Refer to figure 2. EIA-364-23
5	Insulation Resistance	1000 MΩ Min.	After 500V DC for 1 minute, measure the insulation resistance between the adjacent contact of mated and unmated connector assemblies.
6	Dielectric withstanding Voltage	The dielectric shall withstand 500V AC for 1 minute at sea level Leakage current shall not exceed 0.5mA.	Test between adjacent contacts of mated and unmated connector assemblies EIA-364-20 Method B

Enviro	Environment Requirements and Endurance Characteristics									
ITEM	Test Items	Requirement	Procedures							
7	Vibration (Random)	No discontinuities of 1 µ s longer duration	Test Letter A Subject mated connectors to 5.35 g's RMS 30 minutes in each of three mutually perpendicular planes Load: 100 mA EIA-364-28 Condition V							

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DOCUM PS-S	IENT NUME	<u>BER:</u> <b>)04</b>	CRE	CREATED / REVISE		<u>CHECKED BY:</u> JERRY.TUNG	<u>Approv</u> Kimi.H	ED BY: ISU



# ACROR PRODUCT SPECIFICATION

			Measure the force necessary
			to mate the connector
8	Insertion force	20 N Max	assemblies at a max. rate of
			12.5mm/min.
			EIA-364-13
			Measure the force necessary
			to un-mate the connector
9	Withdrawal force	2 N Min	assemblies at a max. rate of
			12.5mm/min.
			EIA-364-13
		No physical damage.	5000 cycles
10	10 Durability	Meet requirements of	Test done at a maximum rate
10		additional tests as specified	of 200 cycles / hr.
		in the test sequence	EIA-364-09
			Subject mated connector to 30
			g's half-sine shock pulses of
		No discontinuitios of 1 u.s. or	11 msec duration.
11	Physical shock	longer duration	Three shocks in each direction
11	F Hysical Shock		applied along three mutually
		no privsical damage.	perpendicular planes for a total
			of 18 shocks.
			EAI-364-27 Condition H
			Test the mated connector with
		Contact resistance: 15 m $\Omega$	10 temperature cycles.
		Max.	Condition as following:
12	Thermal shock	changed from initial value.	155°C+0/-3°C for 0.5hours.
		And without distinct	2. 25°C+10/-5°C for 5 MAX
		damage.	3. 85°C+3/-0°C for 0.5hours.

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DOCUM PS-S	<u>1ENT NUME</u> <b>ATA-00</b>	<u>BER:</u> <b>)04</b>	CRE	ATED / REVISE	<u>ed by:</u> N <b>g</b>	CHECKED BY: JERRY.TUNG	<u>Approv</u> Kimi.H	<u>ed by:</u> <b>ISU</b>



## ACRON PRODUCT SPECIFICATION

	PS-	SATA-0004		ANDELEE.YAN	IG	JE	RRY.TUNG	KIMI.H	ISU	
	DOCU	MENT NUMBER:	CRE	ATED / REVISE	<u>D BY:</u>	<u>CH</u>	HECKED BY:	APPROV	ED BY:	
	Α	EC No:         New Si           DATE:         2017-1	<b>PEC</b> 2-01	PRODUCT NAME	S-/	ATA COI A-FREE E	NNECTOR PECE BOTTOM MOUN	EPTACLE T TYPE	<b>6</b> of	; <b>9</b>
R	EVISION:	ECR/ECN INFORMA	TION:	PRODUCT NO		SAT	29-N3-16073	320	SHEET	T No
							Time: 3±1 sec	:		
						Temperature:	<u>9</u> . 350±10°C			
	10	soldering heat		priysical dall	aye.		Manual solder	ina:		
	18	Resistance to	No	nhysical dan	າສຸດອ					
							Temperature	₽ 260+3°C		
							Flow soldering	1 OH PVVB, 1.		
							EIA-364-52/S	S-00254-1		
		,	con	tact point			3±0.5 sec			
	17	Solder abilitv	Min. Flux must not rise at			:				
			Wet solder coverage: 95%		95%	Solder temper	ature: 245±3	°C		
							24h			
	16	(SO2)	See	note 1			ppm,25±2°C,9	0~95% R.H.	for	
		Industrial gas		See note 1			SO2 gas 10			
							Subject mated connectors to			
							EIA-364-17			
	15	Temperature life	See note 1 500 hours.							
						temperature lit	fo at 85+2°C	l0 for		
							EIA-304-31	connectore	to	
	14	14Humidity15Temperature life16Industrial gas (SO2)					90~95% R.H. 1	or 240h		
		Humidity	See	note 1			humidity at 40	±2°C with		
						Subject mated	connectors	to		
		mechanism					5000 cycles. F	Refer to figure	e 3.	
	13	alignment free	See	note 1			direction displa	acement ±1.0	0mm	
		Durability of					Vertical directi	on or Horizo	ntal	
							EIA-304-32			
							See Table 1.			
							$1 \rightarrow 2 \rightarrow 3 \rightarrow 4$ is	one cycle		
[							( ) 0 ) 0 ) ( )			



## ACRON PRODUCT SPECIFICATION

PS-S	SATA-000	4	A	NDELEE.YAN	IG	JE	RRY.TUNG	KIMI.I	HSU
A DOCU	DATE:	<b>2017-12</b> - <u>२:</u>	-01 CRE	ATED / REVISE	5 / : <u>D BY:</u>	A-FREE E	BOTTOM MOUN	T TYPE	<b>7</b> of <u>ED BY:</u>
VISION:	ECR/ECN IN		I <u>ON:</u>	PRODUCT NO		SAT	29-N3-16073	320	SHEET
	copper or o	copper	And on a	without dist	inct da	amage			
23	Stress corr cracking	rosion g of	Con Max char	tact resistan	itial va	ōmΩ alue.	Refer to SS-00 standard	0126-6 test	
22	Salt mi	ist	By v notic	isual inspec ceable rust	tion w	ithout	Test the mater fine mist of sa temperature o Salt solution : After treatmen situation for 11 meet requirem	d connector It solution at f 35±2°C for 5 ±1 % it, place roon n. And check nent.	to a a 48h. n
21	Temperatu (Cold Ag	re Life ling)	Con Max valu dam	tact resistan changed fro e And witho age.	ce: 15 om ini ut dist	5 mΩ tial inct	Product in follo -40±2°C,250 h room situation EIA-364-17/ J	owing state: n. After test, p for 1h IS C 0020	place
20	Retention	force	3N I	ЛIN			Axial pullout for terminal and m at a rate of 12 EIA-364-29	orce on the nail in the hou .5mm/min.	using
19	Moistu resistar	re ice	See	note 1.			Subject mated moisture at 25 RH for 10 cycl MIL-STD-202	l connectors 5~65°C,90~99 les. Method 106	to 5%
							Soldering time	es: Twice	



### ACCOR PRODUCT SPECIFICATION

			Condition 1) Room		
			temperature		
		Whisker length:50µ m Max	Temp:25±2°C		
		With a metal microscope or	Hum:50% RH or less		
		a zoom stereo one, with	Test time:1000h		
		which you can see an image	Condition 2) Temperature		
		that is 100 to 200 times	cycle		
		larger than original, observe	Temp:-40±2°C~85±2°C		
	Whisker Test	whether whiskers appear	Storage time: At least 7 min		
04		and the lengths of the	Number of cycles:1500		
24		appearing whisker.	Condition 3) Temperature-		
		If you have difficulty in	Humidity		
		observing in two matters,	Temp: 60±2°C		
		use a scanning electron	Hum:90~95% RH		
		microscope (SEM).Set the	Test time:1000h		
		magnification at one	Condition 4) High Temperature		
		between 300 and 1000	Temp:50±2°C		
		times.	Test time:1000h		
			Sony Technical Standards.		
			SS-00254-8		
	Fretting Corrosion		Refer to Sony Technical		
		Contact resistance: Fifth or	Standard STM-1126-05		
25		less from the previously	" Parts Design Standards-tes		
		specified value	Method for Electronic		
		Discontinuity: 1 u. s or less	Component PART 5 Test		
			Method For Fretting		
			Corrosion."		

REVISION:	ECR/ECM	CR/ECN INFORMATION:		PRODUCT NO		SAT29-N3-1607320		
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DOCUMENT NUMBER: CRE PS-SATA-0004			ATED / REVISED BY:		<u>CHECKED BY:</u> JERRY.TUNG	<u>Approv</u> Kimi.ł	<u>ed by:</u> <b>1SU</b>	
PS-SATA-0004			ANDELEE.YAI	NG	JERRY.TUNG	KIMI.H	ISU	



### PRODUCT SPECIFICATION

#### shall meet requirements of additional tests as specified in the test group

Step		Temperature (°C)	Time (min)				
	1	-55 +0/-3	30				
1 cycle	2	25 +10/-5	5 Max				
	3	85 +3/-0	30				
	4	25 +10/-5	5 Max				

Table 1 Thermal Shock Step

(Excerpt of EIA-364-32 Test Condition I)



Fig.2 Termination resistance measurement point

- 1. Solder test sample with PCB
- Move Upper housing vertically(Z-Direction)or horizontally(X- Direction)±1.0mm 5000 cycles Test should be performed with keeping Upper housing horizontal, Operating speed in 100mm/min.

Fig.3 Test method of Durability of alignment free mechanism

The specification of floating force : X-Direction 4N max and Z-Direction 8N max.

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PS-SATA-0004			ANDELEE.YAI	NG	JERRY.TUNG	KINI.	150	

### ACCON 文件制訂、修訂、廢止申請單

	RD-13-A-00/-254	Ę		
文件編號	PS-SATA-0004	文件名稱	SAT>9-1	13-1607220
申請部門	SÞ	申請人	Jim.	日期 12.1.17
制訂單位	RD.	制訂人	Andeler	日期 12-1 17
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□ 修 訂	14	ew Proc	Just Specifi	ication.
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