



This specification defines the performances for USB A Type Connector.

### 2. PRODUCT DESCRIPTION:

2.1 PRODUCT NAME AND SERIES NUMBER(S)

USB A TYPE Connector Series Acron Part No.USR10-N3-0419120

- **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 1.64g

### 3. APPLICABLE DOCUMENTS AND SPECIFICATIONS

See product drawing and other sections of this specification for the relevant reference documents and specification. In cases where the specification differs from the product drawings, the product drawings take precedence. In the event of conflict between the requirements of this specification and the referenced documents, the specification shall take precedence.

#### 4. RATINGS:

- A. Operating temperature range at rated voltage and current: -20 $^{\circ}$ C to +70 $^{\circ}$ C
- B. Storage Temperature Range: -25℃ to +80℃
- C. Current rating: 1A Max. per contact
- D. Voltage rating: 30V AC Max per contact
- 3. Air pressure: 86KPa to 106KPa

### 5. PERFORMANCE

Item	Test Items	Requirement	Procedures
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual, dimensional and functional per applicable quality inspection plan.

	Electrical Requirements								
		Test	ltems	Requirement Procedures					
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DOCUMENT NUMBER: CRE			CREATED / REVISED BY:		CHECKED BY: APPROVED BY		ED BY:		
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2	Rated voltage / rated current	1A Max. per contact 30V AC Max. per contact	The rated current shall be measured by the current when the temperature rise of the terminal reaches 30°C with resistive load.
3	Contact Resistance	30 mΩ Max.(Initial)	Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA MAX.
4	Insulation Resistance	1000 MΩ Min.	Insulation resistance between any adjacent open contacts of mated and unmated connectors shall not be less than a value as specified below with a 500V d.c. insulation resistance test.
5	Withstanding Voltage	No breakdown	A potential of 500v a.c. shall be applied between any adjacent open contacts, between any contact and shall of mated and unmated connectors, for 1 minute Trip current:2mA

	Mechanical Requirements									
	Test Items	Requirement	Procedures							
6	Appearance	Meets requirements of product drawing.	Visual inspection No physical damage							
7	Mating force and un mating force	Refer to the standard table clause 6	The measurement of the inserting force in done initially where as the measurement of the withdrawal force in done after inserting and withdrawing 30 times.							
8	Terminal strength (contact part)	No breakdown	The set shall be subjected to 1 bent through an angle of 45° in the right and left directions of terminal thickness.							

	Environment Requirements and Endurance Characteristics										
		Test	Items	Requirement			Procedures				
	9 Temperature Life (Cold Aging)		Co Tw pre val Ap	Contact resistance Twice or less from the previously specified value Appearance Without distinct damage		Product in following state: -25±3℃, 48h after test, place room situation for 1h JIS C 60068-2-1					
	10	Dry heat		Co Tw pre	Contact resistance Twice or less from the previously specified		USB connectors shall be stored at temperature of 85±2°C for 96h. Then it shall be subjected to standard		ard		
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	A <u>EC No:</u> PDR-D1600 DATE: 2016/01/1		)002 /15	PRODUCT NAME	USB A TYPE Connector		<b>3</b> of <b>7</b>				
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Α	<u>EC No:</u> DATE:	PDR-D160 2016/01/	002 15	PRODUCT NAME		USB A TYPE Connec	tor	<b>4</b> of <b>7</b>
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13	13 Change of temperature		Cor Twi pre valu App Wit	ntact resistan ice or less fro viously specif ue bearance hout distinct o	ce m the fied damage	USB connectors shall continuously to 5 suc temperature cycles, e figure below. Then it to standard atmosphe after which measurer made.	I be subjected cessive chan- each as show shall be subje- eric condition ments shall be	d ges of n in ected for 1 h
12	Composite Temperatu Humidity (	e ire/ Cycle Test	Cor Twi pre valu	ntact resistan ice or less fro viously specif ue	ce m the īed	The repetition of the withdrawing of USB of mating shall be subjected to arbient Temperature for 1 h of measurement shall be Temperature reduce °C within 30 min. Humidity uncontroller less than 25°C	insertion and connectors an ected to 30 cyc ed of 10cycles test shall be in mating connectors s or 2h, after wh e made. d from 25°C to ed at a temper	the d the cles s per hall be hich to -10 ature
11	Damp heat	ł	Cor Twi pre valu App Wit me	ntact resistant ice or less fro viously specifue bearance hout distinct o et item 3,4,	ce m the fied damage	Product in following s 90~95%.R.H. 40±2°C place room situation IEC 60068-2-78	state: for 96h After for 1h	test,
			valı App Wit	ue pearance hout distinct o	damage	atmosphere ic condit which measurement JIS C 60068-2-2	ions for 1 h, a shall be made	fter 9.

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			-			1			
						Step 段階	Temperature 温度	Dura 放置	tion 時間
						1	-55 ±3°C	30	min 分
						2	Standard atmospheric co 常温	nditions 10 to	15 min 15 分
						3	85 ±2°C	30	min 分
						4	Standard atmospheric co 常温	nditions 10 to	15 min 分
						IE	C 60068-2-14		
14 Vibration			Co Tw pre val Dis 1µ Ap Wit	ntact resistan ice or less fro wiously specif ue continuity or less MAX. pearance thout distinct o	ce m the fied damage.	Eac seri- app Only freq The to 5 tran Amp This 2h i axis IEC	h terminal shall b es and then 0.1 A lied y endurance cond uency sweep sha entire frequency 5 Hz and return to sversed in 1min. blitude (total excu s motion shall be n each of 3 mutua (a total of 6 h) 60068-2-6.	e connected A d.c. shall be ditioning by a all be made. range, from o 10Hz, shal ursion)1.5mm applied for p ally perpendi	in 3 10 Hz I be eriod of cular
15	Resistance ation	e to sulfur	Co Tw pre val	Contact resistance Twice or less from the previously specified value			Refer to STM-1126-04 "Test Methods for Electronic Components Parts Design Standards Part 4: Sulfur ation Test Method.		
16	Shock		Contact resistance Twice or less from the previously specified value Discontinuity 1µ or less MAX. Appearance		Way Acc Dur Nun norr Z ay IEC	veform: Half-sine elerated Velocity: ation: 11m sec. hber of drops: 3 c nal and reversed kis. ( total 18 drop -60068-2-27.	shock : 490m/s <sup>2</sup> drops each to directions of os.)	, X, Y,	
17	Operating endurance		ectrical charact all be satisfied chanical aracteristics s isfied pearance thout distinct of	hall be	Ope No. EIA	ration Speed: 20 of cycles: 1500 c -364-09	0 cycles /hr. :ycles		
18	Torsion st	rength	Co 30	ntact resistan mΩ MAX	се	Afte 50 N end	r connected, as t N (5.1kgf) shall be for 1 minute in a	atic load of applied to t ny direction.	he plug
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## ACRON PRODUCT SPECIFICATION

							F	3:50N ↓	
							F	1:000mm	
								F1:50N	
	19	Resistance soldering h	e to neat	Meet all electrical and mechanical requirements. And without distinct deformation in appearance		Test connector on PN thickness of PWB is <u>Dip soldering method</u> Solder Temperature:: Immersion Duration: Number of cycles:2 c Immersion depth: up board <u>Manual soldering iror</u> Temperature: 380±10 For 3+1/-0 Seconds. JIS C 60068-2-20.	VB, 1.6mm. <u>l:</u> 260±3℃ 5+1/-0 sec 5+1/-0 sec ycles to the surface <u>n method:</u> 0℃	e of	
	20	) Solder ability		Me cha sat	Mechanical characteristics shall be satisfied.		Electronic Components, Lead-Free Soldering Parts Design Standards Part 1: Solder ability Test for TMD s. Lead- Free Soldering." Preconditioning is for 16h In case of sealing packages which are not exposed to the air, it its for 4h. In case of silver alloy-finished terminals whose silver content is 5 wt% or more, refer to sub-clause 5 "Preconditioning"		ods for Part ead- are In als iore, ing"
	21	Contact ref force	tention	No	No breakdown		Contacts shall withsta straight pull of 10N in contact breakout for <sup>基準部固定</sup>	and a steady the direction 1 minute.	of
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22	Salt mist	By visual inspection without noticeable rust	Test the mated connector to a fine mist of salt solution at a temperature of $35\pm2^{\circ}$ C for 48h. Salt solution : 5 ±1 % After treatment, place room situation for 1h. And check if meet requirement.
23	Stress corrosion cracking of copper or copper alloy	Contact resistance Twice or less from the previously specified value Discontinuity And without distinct damage on appearance	Refer to STM-1126-06 "test Methods for Electronic Components Parts Design Standards Part 6: Sulfur ation Test Method.
24	Resistance to flux penetration	Flux shall not flow into the component Electrical characteristics and Mechanical Characteristics shall be satisfied	For test method refer to Test Method For Resistance to Flux Penetration Nominal board thickness:1.6mm (Testing method refer to note 1.)
25	Solder joint endurance	Mechanical characteristics Shall be satisfied	TMD Refer to STM-1254-06 test Methods for Electronic Components, Lead-Free Soldering Parts Design Standards Part 6: Solder Joint Endurance Test for TMDs. Lead-Free soldering. Preconditioning is for 16h.

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### **ACRON** 文件制訂、修訂、廢止申請單

RD-PS-A-001-245

文件編號	PS-175-0018	文件名稱	USPID-1	V3-041	9120
申請部門	जिङ्ग	申請人	martie	日期	1.15 2016
制訂單位	研發部	制訂人	And dec	日期	1.15 2016
<b>2</b> 制 訂		POR No	. D16000 2	(Rev-K	4)
□ 修 訂		Produc	st Specific	atcibn.	
□廢止原因說明		. <sup>9</sup>			
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