立威科技股份有限公司 Attend Technology Inc.
新北市汐止區新台五路一段81號10樓之六
10F-6, No.81, Sec.1, Xintai 5th Rd., Xizhi-Dist., New Taipei City 221, Taiwan, R.O.C.
TEL 886 2 2698 7028 FAX 886 2 2698 7078 WEBSITE www.attend.com.tw

SPECIFICATION AND PERFORMANCE

Series	119A-99A00-R02	File	119A-99A00-R02_spec_2	Date	2020/04/16

Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of 119A-99A00-R02

Performance and Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specification. Unless otherwise specified, all tests are performed at ambient environmental conditions.

RoHS:

All material in according with the RoHS environment related substances list controlled.

MATERIALS		
NO.	**PART NAME**	**DESCRIPTION**
1	HOUSING	LCP E471i, UL94V-0, Black
2	CONTACT	Phosphor Bronze, C5191 Contact Area: Gold Flash, solder area: 100u" matte Tin, all under plated 50u" Nickel
3	HOLD DOWN	Brass, C2680, Solder area: 100u" matte Tin plated, under plated 50u" Nickel

RATING	
Rated Voltage	50V AC
Rated Current	0.5A
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Durability	50 cycles

ELECTRICAL		
Item	**Requirement**	**Test Condition**
Contact Resistance	Initial: 30mΩ Max. After test 20mΩ change max.	Solder connectors on PCB and mate them together, measure by applying closed circuit current of 100mA maximum at open circuit voltage of 20mV (max). (JIS C5402 5.4)
Insulation Resistance	Initial: 500Ω Min. After: 100MΩ Min.	Apply 500V DC between adjacent contacts, or contact and ground. (MIL-STD-202 METHOD 302)

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Dielectric Withstanding Voltage	No breakdown	Mate connectors; apply 250V AC at 60Hz (rms.) between two adjacent for 1 minute. (Trip current:0.5mA) (MIL-STD-202 METHOD 301)

MECHANICAL		
Item	**Requirement**	**Test Condition**
Contact Normal Force	50gf per pin Min.	The normal force of the individual contact shall be 50 gf minimum
Contact Retention Force	180gf per pin Min.	Place a connector on the push-pull machine, then apply a force on a contact head and push the contact to the opposite direction of the contact insertion at the speed of 25±3mm/min. (EIA364-29)
Durability	Finish 1.Contact Resistance: 50mΩ Max. 2.No Damage	After 50 mating and un-mating cycles with 1.0mm thick board at the rate of 25±3mm/min. The connector shall be of no damage to the housing or contacts. The connector shall also meet the requirements of contact resistance in the paragraph 5.1 (EIA364-09)
Shock	Finish 1. No electrical discontinuity more than 0.1μs. 2 .No Damage 3. Contact Resistance: 50mΩ Max.	Solder connectors on PCB and mate them together, subject to following shock conditions, 3 shocks shall be period along 3 mutually perpendicular axis, passing DC 1mA current during the test. 50G,11ms Half-sine (MIL-STD-202 METHOD 213)

ENVIRONMENTAL		
Item	**Requirement**	**Test Condition**

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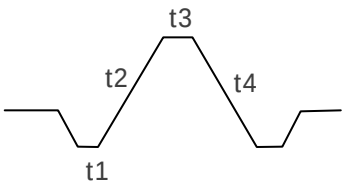
<table>
<tr><td>Humidity Test</td><td>Finish
1. Contact Resistance:
50mΩ Max.
2. Insulation Resistance:
100MΩ Min.</td><td>Humidity storage at 40±3°C with 90±5% RH for 96 hours.

(EIA364-31)</td></tr>
<tr><td>Salt Mist Test</td><td>Finish
1. Contact Resistance:
50mΩ Max.
2 .No Damage</td><td>5±1% salt solutions, at 35±2°C
duration 24 hours.
Connectors detached

(MIL-STD-1344)</td></tr>
<tr><td>Thermal Shock
 
</td><td>Finish
1. Contact Resistance:
50mΩ Max.
2. Insulation Resistance:
100MΩ Min.</td><td><table>
<tr><th>Stage</th><th>Temp</th><th>Time</th></tr>
<tr><td>t1</td><td>-55±5°C</td><td>30 min</td></tr>
<tr><td>t2</td><td>-55±5°C~+85±5°C</td><td>5 min</td></tr>
<tr><td>t3</td><td>+85±5°C</td><td>30 min</td></tr>
<tr><td>t4</td><td>+85±5°C~-55°C±5°C</td><td>5 min</td></tr>
</table>
Test time: 5 cycles
(MIL-STD-202 METHOD 107)</td></tr>
<tr><td>Heat Resistance</td><td>Finish
1. Contact Resistance:
50mΩ Max.
2. Insulation Resistance:
100MΩ Min.</td><td>Solder connectors on PCB and mate them together, expose to 85±2°C for 48hrs. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 of 2hrs, after which the specified measurements shall be performed.

(MIL-STD-202 METHOD 108)</td></tr>
</table>

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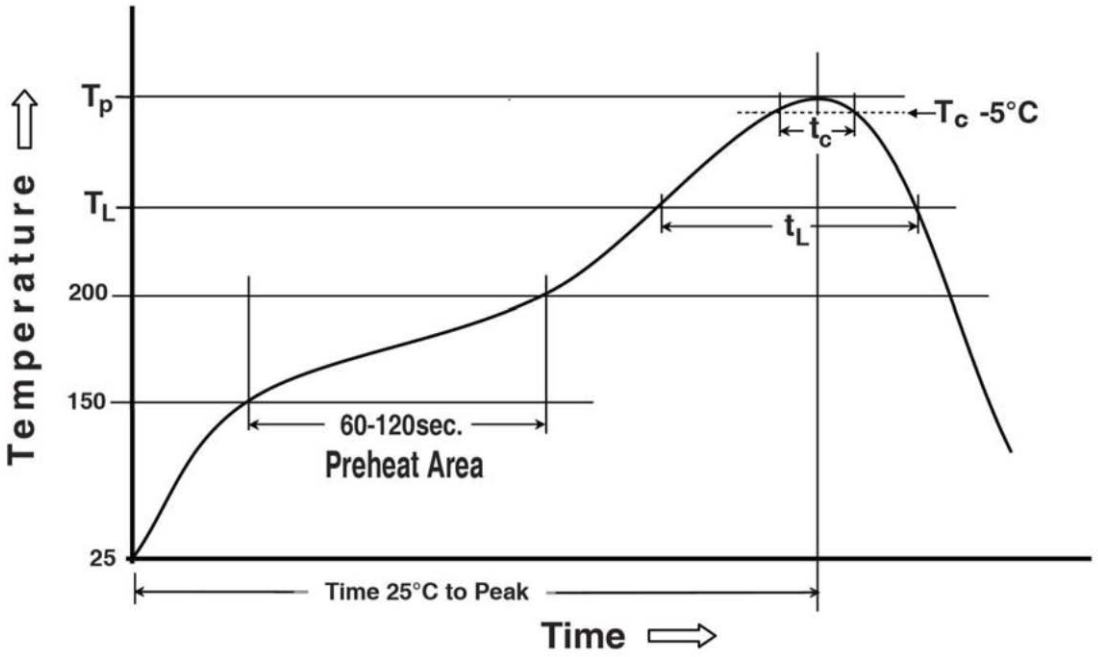
SOLDER ABILITY		
Solderability	95% of immersed area must show no voids , pin holes	Dip solder tails into the molten solder(held at 230±5 °C) up to 0.5mm from the tip of tails for 3±0.5 seconds. (MIL-STD-202 METHOD 208)
Resistance to soldering heat	No melting, cracks or functional damage allowed	All connectors designed for PCB soldering within this specification must be able to withstand the heat from solder oven according to the graph below. The cycle should be repeated twice. (MIL-STD-202 METHOD 210)



Preheating temperature: 150 ~ 200°C, 60~120 seconds
Liquidus temperature (TL): 217°C, 60~150 seconds
Peak temperature: 260°C
Time within 5 °C of peak temperature (Tc): 255°C, 30seconds

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TEST SEQUENCE

No.	Test Item	A	B	C	D	E	F	G	H	I	J
1	Contact Resistance			1,3	1,3	1,3	1,3	1,4	1,3		
2	Insulation Resistance							2,5			
3	Dielectric Withstanding Voltage										
4	Contact Normal Force	1									
5	Contact Retention Force		1								
6	Durability Life			2							
7	Shock				2						
8	Temperature Shock					2					
9	Heat Resistance						2				
10	Humidity							3			
11	Salt Spray								2		
12	Solder ability									1	
13	Resistance to Soldering Heat										1
	Sample Quantity	4	4	4	4	4	4	4	4	4	4