

SPECIFICATION AND PERFORMANCE

Series	114B Series	File	114B_SPEC_3	Date	2021/ 03/ 30
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Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of 114B Series

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.

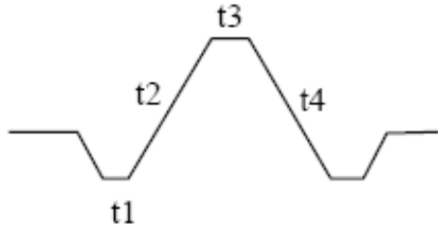
RoHS:

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

MATERIAL AND FINISH		
INSULATOR	Material	Plastic Body : LCP, Color Black.
CONTACT	Material	Phosphor Bronze Alloy (C5191R-H)
	Plating	Contact area: Gold 3 micro inches Solder area: Gold Flash All under-plated Ductile Nickel 50 micro inches (Min.)
SHELL OR COVER	Material	Latch : SUS304R-1/2H
	Plating	Solder area: Matte Tin
RATING		Rating Current: 0.3A max./Pin Rating Voltage: 25VAC Operating Temperature: -40°C to +90°C Storage Temperature: -40°C to +90°C Ambient Humidity: 90% ~95% R.H.

ELECTRICAL		
Item	Requirement	Test Condition
Contact Resistance	Initial: 30 mΩ (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: 500 MΩ (Max.) After: 100 MΩ (Min.)	Apply 500V DC between adjacent contacts, or contact and ground. (MIL-STD-202 METHOD 302)
Dielectric Withstanding Voltage	No breakdown	Mate connectors; apply 250V AC at 60 Hz(rms.) between two adjacent for 1 minute. (Trip current:0.5mA) (MIL-STD-202 METHOD 301)

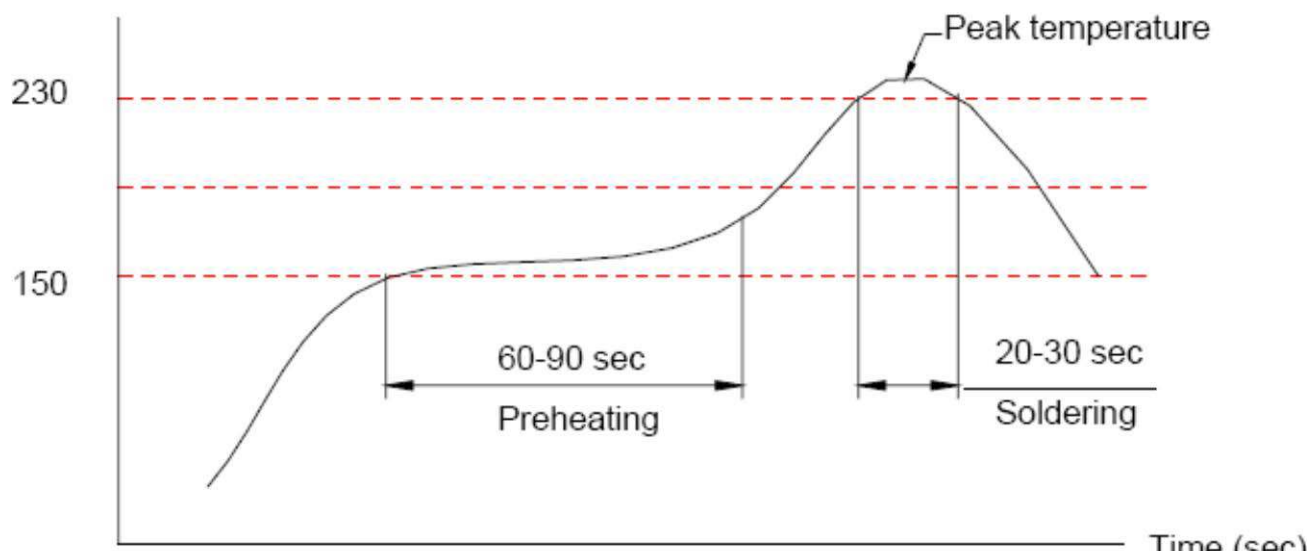
MECHANICAL		
Item	Requirement	Test Condition
Contact Normal Force	50 gf per pin (Min.)	The normal force of the individual contact shall be 50 gf minimum end of life.
Contact Retention Force	180 gf per pin (Min.)	Place a connector on the push-pull machine, then apply a force on a contact head and push 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 unmating 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 he following shock conditions, 3 shocks shall be period along 3 mutually perpendicular axis, passing DC 1mA current during the test. A(50G,11 ms Half-sine) (MIL-STD-202 METHOD 213)

ENVIRONMENTAL		
Item	Requirement	Test Condition
Temperature Shock	Finish 1.Contact Resistance: 50mΩ(Max) 2.InsulationResistance: 100MΩ(Min)	 <p>Stage Temp Time</p> <p>t1 -55±5°C 30 min</p> <p>t2 -55±5°C ~ +85±5°C 5 min</p> <p>t3 +85±5°C 30 min</p> <p>t4 +85±5°C ~ -55±5°C±5°C 5 min</p> <p>Test time: 5 cycles (MIL-STD-202 METHOD 107)</p>
Heat Resistance	Finish 1.Contact Resistance: 50mΩ(Max) 2.InsulationResistance: 100MΩ(Min)	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)
Humidity	Finish 1.Contact Resistance: 50mΩ(Max) 2.InsulationResistance: 100MΩ(Min)	Humidity storage at +40±3°C with 90±5% RH for 96 hours. (EIA364-31)
Salt Spray	Finish 1.Contact Resistance: 50mΩ(Max) 2.No Damage	5 ± 1% salt solutions, at 35 ± 2°C duration 24 hours. Connectors detached (MIL-STD-1344)

SOLDER ABILITY		
Item	Requirement	Test Condition
Solder ability	95% of immersed area must show no voids , pin holes.	Dip solder tails into the molten solder(held at $230\pm 5^{\circ}\text{C}$) 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)

Peak temperature: 260°C
 Soldering temperature: 230°C
 Preheating temperature: $150-180^{\circ}\text{C}$

Temperature ($^{\circ}\text{C}$)



The graph plots Temperature ($^{\circ}\text{C}$) on the y-axis against Time (sec) on the x-axis. The y-axis has marked values at 150 and 230. The curve starts at a low temperature, rises to a plateau between 150 and 180 $^{\circ}\text{C}$, then rises to a peak of 260 $^{\circ}\text{C}$ before cooling down. A horizontal dashed line is drawn at 230 $^{\circ}\text{C}$. Two vertical lines mark the start and end of the soldering phase, which occurs between 20-30 seconds at the 230 $^{\circ}\text{C}$ level. A horizontal double-headed arrow indicates a preheating phase of 60-90 seconds, occurring between 150 and 180 $^{\circ}\text{C}$. The peak of the curve is labeled 'Peak temperature'.

Time (sec)