ATTEND
Connect to Your Success

SPECIFICATION AND PERFORMANCE	SERIES: 112A-TAAR-R03
	FILE: 112A-TAAR-R03_spec
	DATE: 2012/09/12

Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of 112A-TAAR-R03.

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 (E471i), Color Black. Slider：LCP (MG350), Color Black.
CONTACT	**Material**	Contact：Phosphor Bronze Alloy (C5210R–EH) Switch：Phosphor Bronze Alloy (C5191R–H)
	Plating	Contacts Plating: Contact area: Gold 10 micro inches (Min.) Solder area: Tin Plated All under-plated Ductile Nickel 50 micro inches (Min.) Switch Contacts Plating: Gold flash All under-plated Ductile Nickel 50 micro inches
SHELL OR COVER	**Material**	Shell：SUS304R-3/4H Spring：Piano Wire Drag Link：SUS304
	Plating	Solder area: Gold flash All under-plated Ductile Nickel 12 micro inches (Min.)
RATING	Operating Temperature: -40℃ to +90℃ Storage Temperature: -40℃ to +90℃	

ELECTRICAL

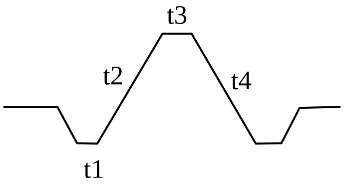
Item	Requirement	Test Condition
Rating Current	0.5A (Max.)/(1PIN)	
Rating Voltage	100V AC/DC	
Contact Resistance	Initial: 50 mΩ (Max)	Solder connectors on PCB and mate them together, measure by applying closed circuit current of 10mA maximum at open circuit voltage of 20mV (max). (JIS C5402 5.4)
Insulation Resistance	Initial:1,000 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 500V AC (rms.) between two adjacent for 1 minute. (Trip current:1mA) (MIL-STD-202 METHOD 301)

MECHANICAL

Item	Requirement	Test Condition
Contact Retention Force	2.5N 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: 80mΩ(Max) 2.No Damage	Solder connectors on PCB, then place them on the pull-push machine, and repeat mating and un-mating 10,000cycles repeatedly at a rate of 400~600 cycles/hour. (EIA364-09)
Vibration	Finish 1. No electrical discontinuity more than 0.1μs. 2 .No Damage 3. Contact Resistance: 80mΩ(Max)	Mate dummy card and subject to the following vibration conditions, for a period of 30 minutes in each of 3 mutually perpendicular axis, passing DC 1 mA during the test. Amplitude: 1.52 mm P-P or 19.6 m/s^2 Frequency: 10-55-10Hz Shall be traversed in 1minute. (MIL-STD-202 METHOD 201)

Shock	Finish 1. No electrical discontinuity more than 0.1μs. 2 .No Damage 3. Contact Resistance: 80mΩ(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. 1 axis, plus-minus direction, core 3 times.(total:18times) $490m/s^2$ (MIL-STD-202 METHOD 213)
Card Insertion / Eject Force	9.8N(Max)	Push the card at the speed rate 25±3 mm/minute.
Card Release Force	2N+/-1N	From the state of the card lock, Pull the card at the speed rate 25±3 mm/minute.
Push in strength	No Damage	The card inserted in positive and the opposite direction and the load of 19.6N is added

ENVIRONMENTAL

Item	**Requirement**	**Test Condition**
Temperature Cycle 	Finish 1. Contact Resistance: 80mΩ(Max) 2. Insulation Resistance: 100MΩ(Min)	Stage Temp Time t1 -55℃ 30 min t2 -55~+90℃ 3 min t3 + 90℃ 30 min t4 +90~-55℃ 3 min Test time: 6 cycles (JIS C0025)
Heat Resistance	Finish 1. Contact Resistance: 80mΩ(Max) 2. Insulation Resistance: 100MΩ(Min)	Solder connectors on PCB and mate them together, expose to 90 ± 2^0C for 96hrs. 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)
Cold Resistance	Finish 1. Contact Resistance: 80mΩ(Max) 2. Insulation Resistance: 100MΩ(Min)	Solder connectors on PCB and mate them together, expose to -55 ± 3^0C for 96hrs. 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. (EIA364-59)

Humidity	Finish 1. Contact Resistance: 80mΩ(Max) 2. Insulation Resistance: 100MΩ(Min)	Humidity storage at +40°C with 90~95% RH for 96 hours. Upon completion of the exposure period, the test specimens shall be conditions for 1 of 2 hrs, then 10 mating cycles while. (EIA364-31)
Salt Spray	Finish 1. Contact Resistance: 80mΩ(Max) 2 .No Damage	5±1% salt solutions, at 35±2°C duration 48 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±5℃) 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℃

Soldering temperature: 230℃

Preheating temperature: 150-180℃