

## 250 Series, Positive-Lock MK III Connector

The products described in this document has not been fully tested to ensure conformance to the requirements outlined blow. Therefore Tyco Electornics AMP Korea makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, Tyco Electrinics AMP Korea may change these requirements based on the results of additional testing and evaluation. Contact AMP Engineering for further details. In case when "product specification" is referred to in this document, it should be read as "Design Objectives" for all times as applicable.

1. Scope;

1.1 Contents

This specification covers general requirements for product preformance, test methods and quality

assurance provisions of 2 pos. 250 Positive Lock Connectors

Applicable product description and part numbers are as shown in Appendix1.

Product Part No.	Description			
1217094-1	Receptacle Positive-Lock, 250 Series			
1897016-1	250 2Pos. Plug HSG, MARK-III, Low profile			
1743330-X	250 2Pos. HDR Ass'Y, 11mm pitch			
Appendix 1				

2. Applicable Documents

The following documents form a part of this specification to the extent specified herein. In the event of

conflict between the requirements of this specification and the products drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 AMP Specification;

A. 109-5000: Test Specification, General Requirements for Test Methods

3. Requirements:

3.1 Design and Construction:

Product shall be of the design, construction and physical dimensions specified on the applicable products drawing.

3.2 Material used in the construction of this product shall be as spedified on the applicable product drawing.

3.3 Temperature Ratings: -40°C ~ +105°C (Including temperature rising)

3.4 Performance Requirements and Test Description:

The product shall be designed to meet the electrical, mechanical and environmental performance requirements

specified in Fig. 1. All tests shall be performed in the room temperature, unless otherwise specified.



## 3.5 Test Requirements and Procedures Summary

Para.	Test Items	Requiremensts	Procedures					
251	Examination of Product	Meets requirements of	Visual Inspection					
3.5.1		product darwing.	No physical damage					
Electrical Requirements								
3.5.2	Termination Resistance	3mΩ Max. (Initial) 6mΩ Max. (Final)	Subject mated contacts assembled in housing. Take the measurement at 1A(DC) Fig 1					
			AMP Spec 109-5311-2					
	Insulation Resistance	1000MΩ Min.	Impressed voltage 500V DC.					
3.5.3			Test between adjacent circuits of mated					
			connector.					
			AMP Spec. 109-5302					
	Dielectric withstanding Voltage	No creeping discharge nor flashover shall occur	2KV AC for 1 minute.					
354			Test between adjacent circuits of mated					
0.0.4		Current Leakage : 5mA MAX	connector.					
		Cultent Leakage : SINA WAX.	AMP Spec. 109-5301					
	Temperature Rising	30°C Max under loaded	Measure temperature rising by energized					
3.5.5		specified current	current. 18AWG, 7A(DC)					
			AMP Spec.109-5310-2					
	Γ	Mechanical Requireme	nts I Outrigent and the same entropy to 10, 55, 10, 10					
			Subject mated connectors to 10-55-10Hz					
		No electrical discontinuity	traversed in 1 minute at 1.5mm amplitude					
3.5.6	Vibration (Low Frequency)	greater than 1 usec shall	2 nours each of 3 mutually perpendicular					
		occur.	planes.					
			100mA applied					
	Contact Insertion Force		AMP Spec. 109-5201					
257		1 Elect May man contract	inter housing					
3.5.7		1.5kgt Max. per contact	INTO NOUSING.					
			AMP Spec. 109-5211					
	Contact Retention Force		Let the wire of 0.75 $m^2(\Lambda WG \#18)$ or greater					
3.5.8		6.0 kgf Min. per contact	Operation Speed : 100 mm/min					
3.5.9	Connector Mating/ Unmating Force	Insertion Force	Operation Speed : 100 mm/min					
		8 Kof Max	Measure the force required to mate/unmate					
		Extraction Force	connectors However Housing locking device					
		3 Kaf Min	is not being in effect when extraction					
	•	Environmental Requirem	ents					
			Mated connector					
	Thermal Shock	Δ6 mΩ Max.(Final)	−40℃/30 min., +105℃/30 min.					
3.5.10			Making this a cycle repeat 25 cycles.					
			AMP Spec. 109-5103 Condition A					
			The measurement is held after being left					
			indoor for 3hours.					
3.5.11	Humidity- Temperature Cycling	Δ6 mΩ Max.(Final)	Mated connector, 25~65°C,90~95% R.H					
			4 cycles					
			Cold shock −10°C performed					
			AMP Spec. 109-5106					
			The measurement is held after being left					
			indoor for 3 hours.					



## 4. Product Qualification Test Sequence

	Test Group			
Test Examination	1	2	3	4
	Test Sequence			
Examination of Product	1,6	1,4	1,4	1,4
Termination Resistance	4	5	2,5	2,5
Insulation Resistance			6	
Dielectric withstanding Voltage			7	
Temperature Rising		2		
Vibration (Low Frequency)		3		
Contact Insertion Force	2			
Contact Retention Force		6		
Connector Mating Force	3			
Connector Unmating Force	5			
Thermal Shock				3
Humidity-Temperature Cycling			3	



Fig. 1. Low Level Resistance Measurement