1.Scope :

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of SIM CONNECTOR PUSH-PUSH SUPER LOWPROFILE TYPE. Applicable product description and part numbers are as shown in 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 product 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 TE connectivity specification :

A. 109-5000 : Test specification, General
Requirements for test methods
B. 501-78497: Test report

2.2 Commercial standards and specification :

A. Military standard : MIL STD-202
B. International Electrotechnical Commision (IEC)
C. Electronic Industries Alliance (EIA)

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3. Requirements :

3.1 Design and construction :

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

3.2 Materials :

A. Contact :
Material : Copper alloy
Finish : Au plating at contact area ,prove area,and soldering area
Nickel plating under coat all over

B. Housing、Slider :
Material : Thermoplastic resin
Frammability : UL94V-0, Coror : Black

C. Cam rod
Material : Stainless steel

D. Coil spring
Material : SWP

E. Shell
Material : Stainless steel
Finish : Au plating at soldering area and switch contact area

3.3 Ratings :

A. Voltage rating : Max. 10 V DC

B. Current rating : Max. 0.5 A per contact

C. Operating environment

Operating temperature rating : -30 °C to +85 °C
Relative humidity: 95% Max.(non-condensing)
※High limit temperature includes raised temperature by operation.

D. Storage environment

Storage temperature rating : -5 °C to +40 °C(with packing)
Relative humidity: 15% to 70% RH

3.4 Performance requirements and test

Descriptions :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(5～35℃),relative humidity(45～85%)、air pressure(86～106kPa), and special case temperature(18～22℃),relative humidity(60～70%), unless otherwise specified.

3.5 Test requirements and procedures summary

Para.	Test items	Requirements	Procedures
3.5.1	Examination of product	No physical damage	Visual inspection No physical damage
		Electrical requirements	
3.5.2	Contact resistance (low level)	Initial contact resistance 100mΩ Max. Max contact resistance after group testing 100mΩ Max. Contact resistance includes also the bulk resistance due to terminal After any environmental test for every contact Detection switch: 300mΩ Max.	Mate connector with dry circuit (20mV, 100mA Max.) at min. deflection position 4-wire measurement required Measure resistance with minimum thickness memory card (or PWB) (IEC 60512-2-1)
3.5.3	Insulation resistance	1000MΩ Min.	Unmated connector with 500 VDC between adjacent contact for 1 minute (IEC 60512-3-1)
3.5.4	Dielectric strength	No voltage breakdown	Unmated connector with 500 VAC between adjacent contact for 1 minute (IEC 60512-3-1)
3.5.5	Temperature rise	30℃ Max under loaded rating Current (0.5A)	Contacts series-,apply test current of loaded rating current of the circuit , and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured

Fig. 1 （Cont.）

Para.	Test items	Requirements	Procedures
Mechanical requirements			
3.5.6	Peeling strength	25N Min. No loosening from PWB No mechanical damage	Every axis directions Load is applied to the whole side of the connector on PWB
3.5.7	Card locking force	2N Max. (before and after 3000 mating/unmating cycle with virgin card)	Card should not drop out during normal operation and normal handling and not to fly out during card removal
3.5.8	Durability (3000 cycle)	Contact resistance: 100 mΩ Max. at minimum deflection case No mechanical damage for connector as well as SIM cards Eject length : 2.8mm Ref.	Mating contacts at 4-10 cycles/minute, including pause between mate/unmate to 3000 cycles After every 10 (max.) cycles blow with dry air
3.5.9	Wrongly insertion test card upside down	25N Min.	No mechanical damage The card cannot be stuck in the reader
3.5.10	Retention force of contact	Solderable terminal 0.8N Min.	Per contact Pulling out a contact on the solder tail, away from the housing

Fig. 1 （Cont.）

Para.	Test items	Requirements	Procedures
		Environmental requirements	
3.5.11	Dry cold (steady state)	No mechanical damage No change to performance Contact resistance: 100mΩ Max.(Data)	- 40°C for 96hours; recovery period 1-2hours under ambient atmospheric conditions (IEC60068-2-1Ab)
3.5.12	Dry heat (steady state)	No mechanical damage No change to performance Contact resistance: 100mΩ Max.(Data)	+85°C for 96 hours; recovery period 1-2hours under ambient atmospheric conditions (IEC60068-2-2Bb)
3.5.13	Thermal shock (change of temperature)	No mechanical damage No change to performance Contact resistance: 100mΩ Max.(Data)	25 cycle at T_a = - 55 °C for 0.5 hours; then change of temp=25°C Max. 5 minutes; then T_b=+85°C for 0.5 hours; then cool to ambient Recovery: 2 hours at ambient atmosphere (IEC60068-2-14 Test Na)
3.5.14	Humidity - temperature cycling	No change to performance Contact resistance:100 mΩ Max. Insulation resistance should be measured Measure the resistance without opening the mating after test	Temp 25-65°C, RH 50-80% for 10 cycles Cold shock -10℃ performed Mated tests: standby mode (power on) 1.8V,10 mA (EIA-364-31)
		No corrosion on contact area after testing	Unmated tests: Connector with free contacts No power on Testing conditions are same

Fig. 1 （Cont.）

Para.	Test items	Requirements	Procedures
3.5.15	SO_2 gas	No mechanical damage No change to performance Contact resistance: 100mΩ Max. (Data)	10±3ppm, Damp 75% at 40±2℃, 48hours
3.5.16	Vibration (random)	Discontinuity during testing ＜ 1 μs with all contacts in series No mechanical damage No change to performance Contact resistance:100mΩ Max.	Frequency:10 - 100 Hz; 3 m^2/s^3 (0.0132 g^2/Hz) ;100 - 500 Hz; -3dB/Oct. for: 3 x 60 min (X- Y- and Z-axis) (IEC60068-2-64Fh)
3.5.17	Shock (specified pulse)	Discontinuity during testing ＜ 1 μs with all contacts in series No mechanical damage No change to performance Contact resistance:100mΩ Max.	Pulse shape=half sine Peak acceleration =50G Duration of pulse=11ms Apply 3 shocks in each direction along the 3 mutually perpendicular axes (18 shocks) (IEC60068-2-27Ea)

Fig. 1 （End）

The applicable product descriptions and part numbers are as shown in appendix. 1.

Product part no.	Description
2174918-1	SIM CONNECTOR PUSH-PUSH SUPER LOWPROFILE TYPE

Appendix 1

4. Product qualification test sequence

Para.	Test examination	Card thickness; minimum / maximum	Test group										
			1	2	3	4	5	6	7	8	9	10	11
3.5.1	Examination of product		1,7	1,5	1,5	1,5	1,5	1,7	1,6	1,3	1,3	1,3	1,3
3.5.2	Contact resistance (low level)	Min.		2,4	2,4	2,4	2,4	3,5	2,5				
3.5.3	Insulation resistance	Without card	2,5										
3.5.4	Dielectric strength	Without card	3,6										
3.5.5	Temperature rise	Nominal								2			
3.5.6	Peeling strength										2		
3.5.7	Card locking force	Nominal						2,6					
3.5.8	Durability (3000 cycles)	Maximum						4					
3.5.9	Wrongly Insertion test card upside down	Nominal										2	
3.5.10	Retention force of contact												2
3.5.11	Dry cold (steady state)	Min.		3									
3.5.12	Dry heat (steady state)	Min.			3								
3.5.13	Thermal shock (change of temperature)	Min.				3							
3.5.14	Humidity – temperature cycling	Min.	4										
3.5.15	SO_2 gas	Without card/Min					3						
3.5.16	Vibration (random)	Min.							3				
3.5.17	Shock (specified pulse)	Min.							4				

(a) Numbers indicate sequence in which the tests are performed.

Fig. 2

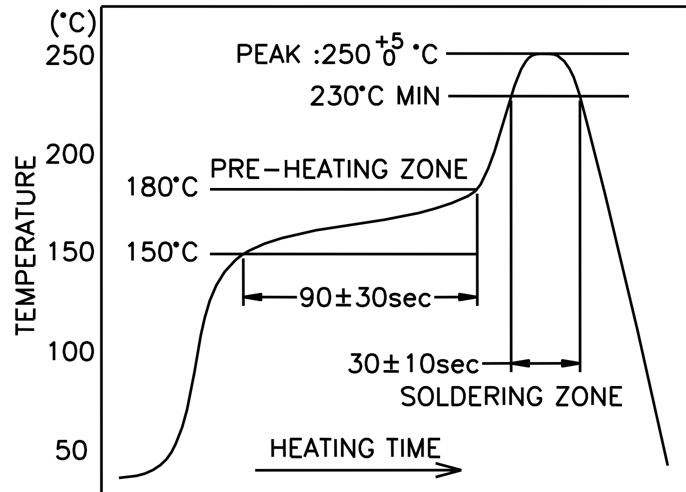

Fig.3 Reflow temperature profile