Products pecification

1. Scope

This specification applies to D-SUB high-current types (10A, 20A, 30A, 40A)

2. Related Documents

Specifications and drawings must be consistent. In case of conflict, the drawing shall prevail. If this specification conflicts with other reference documents, this specification shall take precedence.

3. Connector Dimensions

Refer to the drawing.

4. Materials and Plating

Housing： PBT+30%G.F (UL 94V-0)

Color :Refer to the drawing

Contacts：Copper alloy

Finish：Nickel underplating + Gold plating

Shell：Iron alloy

Finish：Nickel or Tin plated

Bracket：Copper alloy（Provide according to customer requirements）

Finish：Nickel or Tin plated

Screws/Nuts：Copper alloy（Provide according to customer requirements）

Finish：Nickel or Tin plated

5. Applicable P.C.B. Layout

Refer to the drawing

6. Rating

Current rating: High current: 10A, 20A, 30A, 40A etc. tested accordingly

Voltage rating: 300V AC

Contact resistance: 30mΩ Max.

Insulation resistance: 3000MΩ Min.at 500v DC

Dielectric withstand voltage: 1000V AC rms

7 Other Technical Parameters

Screw torque: 4.5 kgf·cm Min. (for products with screws)

Operating temperature: -55℃ to +105℃ (including temperature rise due to current)

Terminal retention force (between contact and housing)：5kgf MIN

8. Performance

Test Item	Requirement	Test Condition
Electrical Performance		
Contact resistance	30mΩ Max.	Mated connectors, test with open circuit voltage ≤ 20mV, current ≤100mA
Insulation resistance	3000 MΩ Min.	Apply 500V DC between adjacent terminals for 1 minute
Withstanding Voltage	No breakdown, flashover, or arcing	Apply 750V AC rms between adjacent contacts for 1 minute

Mechanical Performance

Insertion Force	⌀3.6:2 ~ 7 N /Pin		Mating force between plug and receptacle
Withdrawal force	⌀3.6:0.5 N /Pin MIN		Separation force between plug and receptacle
Mechanical life	Appearance	No damage	500 cycles/hour, 500 cycles
	Contact resistance	50mΩ Max.	
Vibration	Appearance	No damage	Amplitude：15Gs Frequency：10-20000Hz 2 hours in X,Y,Z directions, total 5 cycles
	Contact resistance	50mΩ Max.	
	Discontinuity	1μs Max	
Physical shock	Appearance	No damage	Acceleration：490M/S2 Waveform: half sine Duration:11 ms
	Contact resistance	50mΩ Max.	
	Discontinuity	1μs Max	

Environmental & Other Performance

Damp heat	Contact Resistance	50mΩ Max.	Temperture：40±2℃ Relative humidity：90-95% Duration：96 H
Thermal shock	Contact Resistance	50mΩ Max.	Mated connectors, 10 cycles: -55℃ for 30 min → +85℃ for 30 min
Temperature life	Contact Resistance	50mΩ Max.	Mated connectors, 105℃ for 250 hours
Solderability	≥95% solder coverage, no voids, cold joints, etc.		Dwell time：3±0.5 seconds Solder temperature：230±5℃
Salt Spray	Appearance	No damage	Mated connectors, 35±2℃, 5±1% NaCl, 24 hours (or as customer required)
	Contact Resistance	50mΩ Max.	

9. Test Sequence

Test Item	Test Group					
	1	2	3	4	5	6
	Test Sequence					
Visual inspection	1,11	1,9	1,11	1	1,5	1,4
Contact resistance	2,4,6,8,10	2,6	2,4,6,8,10	2,4,6	2	2,5
Insulation resistance		7				
Withstanding Voltage		8				
High-frequency impedance						
Insertion force					3	
Withdrawal force					4	
Mechanical life	3		3	3		
Vibration			9			
Physical shock			7			
Damp heat	9	5(1)	5	5		
Thermal shock	5	3				
Temperature life	7	4				
Solderability					6	
Salt spray						3

Note: Numbers indicate test sequence.
(1) – perform insertion/withdrawal once after damp heat test.