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SPECIFICATION

1. Scope

This specification applies to unified polarity type DC jack used in electronic equipment.
For DC input use.

2. Standard atmospheric condition :

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests are as follows :

Ambient temperature : 5°C to 35°C

Relative humidity : 45% to 85%

Air pressure : 85kPa to 106kPa

If there is any doubt about the results, measurements shall be made within the following limits :

Ambient temperature : 20±1°C

Relative humidity : 60% to 70%

Air pressure : 86kPa to 106kPa

Operating temperature range : -10°C ~ 65°C

Storage temperature range : -25°C ~ 75°C

Humidity range : 85% RH MAX.

Operating temperature : -10°C ~ 65°C

Storage temperature : -25°C ~ 75°C

ISSUE	DATE	WRN	CHKD	APVD	DESCRIPTIONS
	2014.01.23	郭素玲	郭遠峰	郭遠峰	To revise the specification from KM02023(001).

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3. Electrical characteristics

	Item	Condition	Specifications
1	Rated voltage/ Rated current		DC 16V 3A
2	Insulation resistance	A voltage of 500V DC shall be applied for a minute. Between conductors which should not make contact under normal conditions after which measurement shall be made.	100 M Ω MIN.
3	Contact resistance	Measurement shall be made at with small current 1000 Hz (1A MAX.)	30 m Ω MAX.
4	Dielectric strength	Between conductors which should not make contact under normal conditions. 500V AC (50 to 60Hz) for 1 minute. (Trip current 2mA)	Without distinct damage.

4. Mechanical characteristics

	Item	Condition	Specifications
1	Operating force	Measurement shall be made after insertion and withdrawal using standard plug gauge 3 times.	
		Insertion force	2.94~29.4N (0.3~3kgf)
		Withdrawal force	2.94~29.4N (0.3~3kgf)

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5. Endurance characteristics

Item	Condition	Specifications	
1	Reflow Temperature Profile	Electrical and mechanical characteristics shall be satisfied, and not show remarkable failure.	
	Profile Feature		Pb-Free Assembly
	Average Ramp-up Rate (T _{Smax} to T _p)		3 °C/second max
	Preheat -Temperature Min(T _{Smin}) -Temperature Max(T _{Smax}) -Time (T _s min to max)		150 °C 200 °C 60-180 seconds
	Time maintained above -Temperature (T _L) -Time (T _L)		217 °C 60-150 seconds
	Peak/Classification Temperature(T _p)		250 °C
	Time within 5°C of actual Temperature (t _p)		20-40 seconds
	Ramp-Down Rate		6 °C/second max
	Time 25°C to Peak Temperature		8 minutes max
	Resistance to soldering heat		Reflow Temp Profile Temperature Profile are as below
Soldering Iron Test Temperature of soldering Iron : 380±10 °C Soldering time : 3±1 seconds		Same as Wave soldering Process	
Insertion force		2.94N~29.4N (0.3Kgf~3Kgf)	
Withdrawal force		2.94N~29.4N (0.3Kgf~3Kgf)	

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Item	Condition		Specifications		
2	Solderability	The following test of conditions shall be applied after flux. Temperature : $250\pm 5^{\circ}\text{C}$ Time : 3 ± 0.5 sec Length of dip : $2\pm 0.5\text{mm}$ (from top of terminal)		A new uniform of solder shall cover a minimum of 90% of the surface being immersed.	
3	Cold	The jack shall be stored at a temperature of $-40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 96 hours. And then it shall be subjected to the controlled recovery conditions for 0.5 hours after which measurement shall be made.		Electrical and mechanical characteristics shall be satisfied, and not show remarkable failure.	
4	Dry heat	The jack shall be stored at a temperature of $70^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 96 hours. And then it shall be subjected to the controlled recovery conditions for 1 hour after which measurement shall be made.		Electrical and mechanical characteristics shall be satisfied, and not show remarkable failure.	
5	Humidity test	Temperature : $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ Relative humidity : 90% ~95% for 96 hours. The testing jack shall be left alone for 30 minutes in a room ambient, before measurement shall be made.		Electrical and mechanical characteristics shall be satisfied.	
		Insulation resistance		30M Ω MIN.	
		Contact resistance		50m Ω MAX.	
6	Operating endurance	Insertion and withdrawal shall be made with the mating plugs and jacks for 5000 cycles at a speed of 10~30 cycles/minute.			
		Insertion force		29.4N MAX (3Kgf)	
		Withdrawal force		1.96~29.4N (0.2~3kgf)	
		Contact resistance	Between plug and contact		100m Ω MAX.
Each closed contact			60 m Ω MAX.		

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6. Soldering condition shelf life about 6 months depend on storage condition of humidity, temperature and others factors.

7. Endurance test sequence :

Test sequence		Test group					
		A	B	C	D	E	F
Examination of product on board		1					1
3.2	Insulation resistance	1,6		1,6	1,6	1	2,7
3.3	Contact resistance	3,8		3,8	3,8	3	4
3.4	Dielectric strength	2,7		2,7	2,7	2,6	3,8
4.1	Operating force	4		4,9	4,9	4,7	5
5.1	Resistance to soldering heat	5					
5.2	Solderability		1				
5.3	Cold			5			
5.4	Dry heat				5		
5.5	Humidity test					5	
5.6	Operating endurance						6

Test sample quality : 2 pcs min. / group