

TITLE ϕ 2.5 MINIATURE JACK	SPC. NO. KM03010/11/15	PAGE : 1 OF 7 DATE : 2004.02.03
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SPECIFICATION

1. Standard atmospheric condition :

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

Ambient temperature: 15°C to 35°C

Relative humidity : 25% to 75%

Air pressure : 86kPa to 106kPa

Operating temperature range: -20°C to 70°C

Storage temperature range : -25°C to 70°C

Humidity range : 85% MAX.

Operating temperature range is the range of ambient temperature for the component that can be operated continuously at rated voltage and rated current.

2. Electrical characteristics :

	Item	Condition	Specifications
1	Rated voltage Rated current		DC 12V 1A
2	Dielectric strength	A voltage of 250V AC (50 to 60Hz) shall be applied for 1 minute between open contact. Trip current : 2mA	Without damage to parts, arcing or breakdown, etc.
3	Insulation resistance	A voltage of 250V DC shall be applied for 1 minute between open contact. After which measurement shall be made.	100M Ω MIN.
4	Contact resistance	Measurement shall be made at 1000Hz with small current (100mA) Test voltage : 20mV	30m Ω MAX.

ISSUE	DATE	WRTN	CHKD	APVD	DESCRIPTIONS
Δ x 1	2012.11.15	李阮龍	郭素玲	郭遠峰	Add the item 4.3
Δ x 1	2012.11.15	李阮龍	郭素玲	郭遠峰	Add the item 6

TITLE ϕ 2.5 MINIATURE JACK	SPC. NO. KM03010/11/15	PAGE : 2 OF 7 DATE : 2004.02.03
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3. Mechanical characteristics :


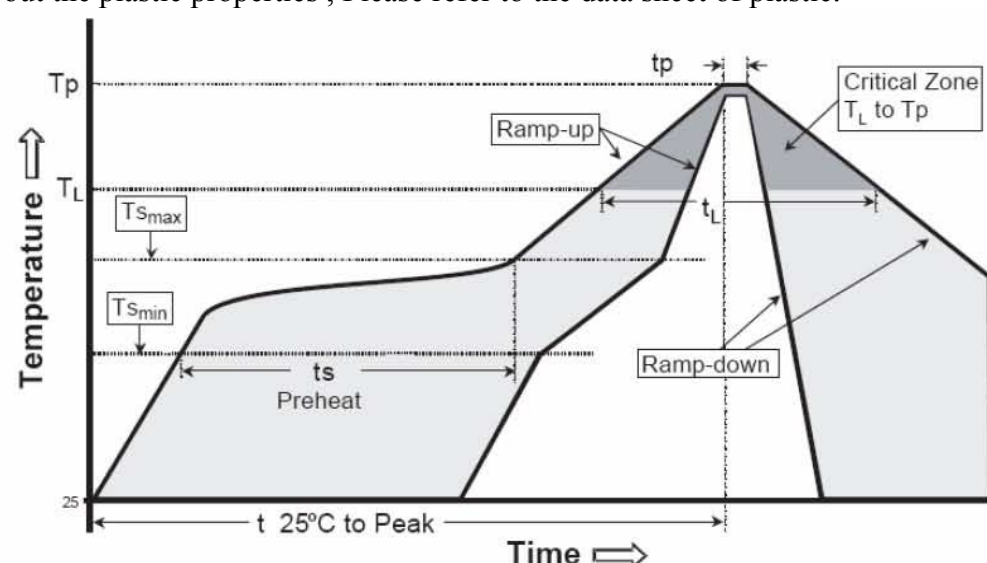
	Item	Condition	Specifications
1	Operating force	Insertion and withdrawal force shall be measured after inserting and withdrawing 3 times by using a gauge of standard dimensions (refer to clause 5) .	
		Insertion force	2.94N~24.5N
		Withdrawal force	(0.3kgf~2.5kgf)
2	Terminal strength	A static load of 0.49N (50gf) shall be applied to the tip of the terminals for 10 seconds in any direction.	Without cracks or excessive looseness to the terminal. Electrical and mechanical characteristics shall be satisfied. Bend of terminal is acceptable.
3	Contact strength	The contact strength of fix / main terminal shall be accepted.	0.49 N (50gf) MIN.
4	Contact gap	To measure the gap between non-contact to plug.	0.1mm MIN.

4. Endurance characteristics :

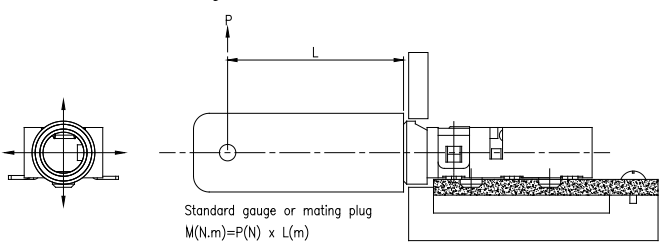
	Item	Condition	Specifications
1	Solderability	The following test of conditions shall be applied after flux. Temperature : $250\pm 5^{\circ}\text{C}$ Time : 3 ± 0.5 sec Length of dip : $2\pm 0.5\text{mm}$ (from top of terminal)	A new uniform of solder shall cover a minimum of 90% of the surface being immersed.
2	Humidity test	The jack shall be stored at a temperature of $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ and a humidity of 90%~95% for 96 hours immediately after which measurement shall be made.	Dimensional requirements electrical and mechanical characteristics shall be satisfied, and the jack shall not show remarkable failure.
		Insulation resistance	50MΩ MIN.

TITLE φ 2.5 MINIATURE JACK	SPC. NO. KM03010/11/15	PAGE : 3 OF 7 DATE : 2004.02.03
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4. Endurance characteristics

Item	Condition	Specifications
	Reflow Temperature Profile	
	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
		Electrical and mechanical characteristics shall be satisfied, and not show remarkable failure.
3	 Resistance to soldering heat	Reflow Temp Profile Temperature Profile are as below About the plastic properties , Please refer to the data sheet of plastic.
		
	Soldering Iron Test Temperature of soldering Iron : 380±10 °C Soldering time : 3±1 seconds	Same as Wave soldering Process
	Insertion force	2.94N~24.5N (0.3kgf~2.5kgf)
	Withdrawal force	2.94N~24.5N (0.3kgf~2.5kgf)

TITLE		SPC. NO.	PAGE : 4 OF 7
ϕ 2.5 MINIATURE JACK		KM03010/11/15	DATE : 2004.02.03
	Item	Condition	Specifications
4	Dry heat	The jack shall be stored for 96 hours at a temperature of $85\pm 2^{\circ}\text{C}$ immediately after which measurement shall be made.	Dimensional requirements electrical and mechanical characteristics shall be satisfied, and the jack shall not show remarkable failure.
		Insulation resistance	50M Ω MIN.
5	Cold test	The jack shall be stored for 96 hours at a temperature of $-40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ immediately after which measurement shall be made.	Dimensional requirements electrical and mechanical characteristics shall be satisfied, and the jack shall not show remarkable failure.
		Insulation resistance	50M Ω MIN.
6	Composite temperature / humidity cyclic test	The power sockets shall be subjected to the conditions as shown in below , and then shall be returned and allowed to remain in room ambient condition for 30 minutes .	Electrical and mechanical characteristics shall be satisfied.
		<p style="text-align: center;">Time in hours (h) (4 cycles)</p>	
		Contact resistance	50m Ω MAX.
		Insertion force	2.94N~29.4N (0.3Kgf~3Kgf)
Withdrawal force	2N~24.5N (0.2Kgf~2.5Kgf)		

TITLE		SPC. NO.	PAGE : 5 OF 7						
ϕ 2.5 MINIATURE JACK		KM03010/11/15	DATE : 2004.02.03						
Item	Condition	Specifications							
7 Operating endurance	Jack shall withstand 10000 cycles inserting and withdrawing shall be made by the following mating plug or standard dimension gauge, at a speed of 20 to 30 times / min.	Dimensional requirements electrical and mechanical characteristics shall be satisfied, and the jack shall not show remarkable failure.							
	Insertion force	1.96N~24.5N							
	Withdrawal force	(0.2kgf~2.5kgf)							
	Contact resistance	100m Ω							
8 Bending moment	<p>The jack should be fastened well by jig in four directions then do the test. The static load shall be applied to the mating or gauge plug in four directions for 5sec of one cycle.</p>  <p>Standard gauge or mating plug M(N.m)=P(N) x L(m)</p> <table border="1" data-bbox="427 1388 1069 1496"> <thead> <tr> <th>Size</th> <th>L (m)</th> <th>Condition</th> </tr> </thead> <tbody> <tr> <td>Mini (ϕ 2.5)</td> <td>0.02</td> <td>10N</td> </tr> </tbody> </table>	Size	L (m)	Condition	Mini (ϕ 2.5)	0.02	10N	The jack shall not be broken.	
	Size	L (m)	Condition						
	Mini (ϕ 2.5)	0.02	10N						
	Insertion force	1.96N~24.5N							
	Withdrawal force	(0.2kgf~2.5kgf)							
Contact resistance	100m Ω								

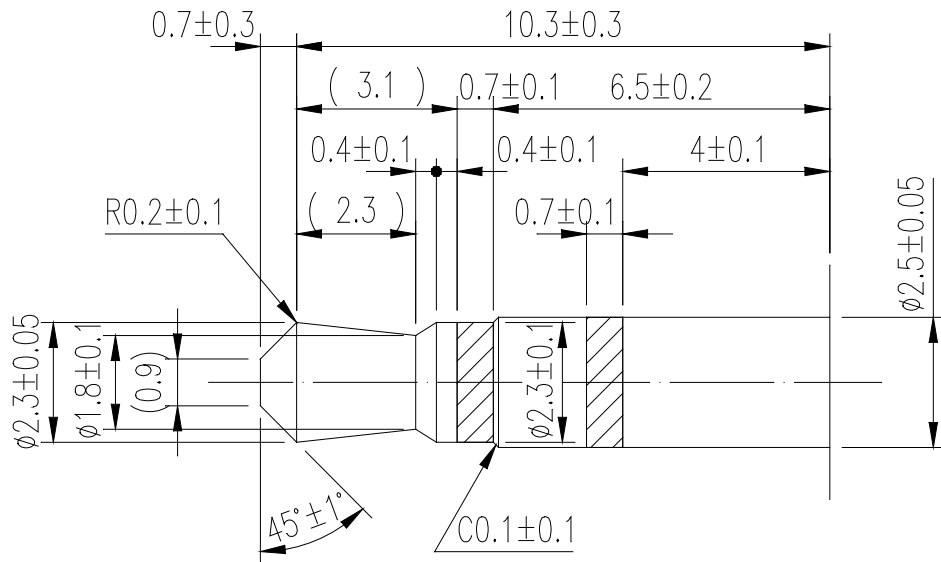
TITLE
φ2.5 MINIATURE JACK

SPC. NO.
KM03010/11/15

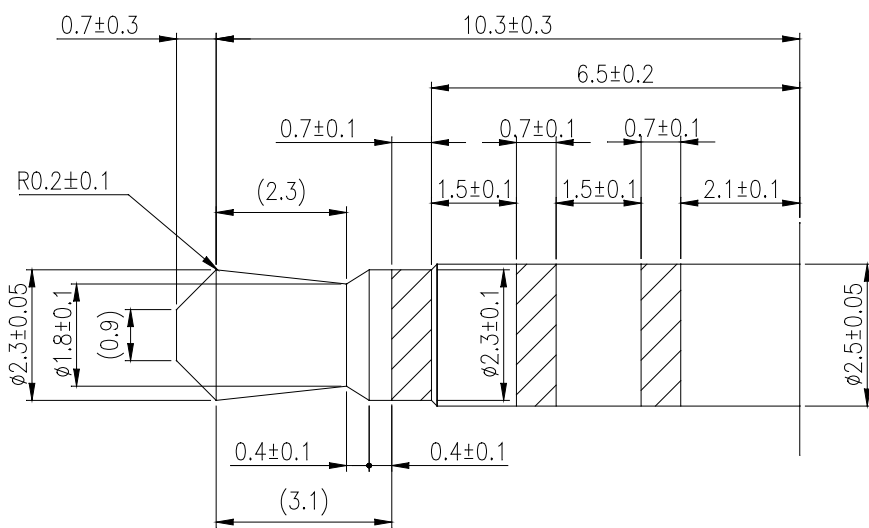
PAGE : 6 OF 7
DATE : 2004.02.03

5. Mating plug dimension(mm):

5.1 3 Conductors Type



5.1 4 Conductors Type



TITLE
φ2.5 MINIATURE JACK

SPC. NO.
KM03010/11/15

PAGE : 7 OF 7
DATE : 2004.02.03

△6. Endurance test sequence :

Test sequence Test Item		Test group									
		A	B	C	D	E	F	G	H	I	J
2.2	Dielectric strength				1,6	1,6	1,6	1,6	1,6	1	1,
2.3	Insulation resistance				2,7	2,7	2,7	2,7	2,7	2,6	2,
2.4	Contact resistance				3,8	3,8	3,8	3,8	3,8	3,7	3,6
3.1	Operating force				4	4	4	4	4,9	4,8	4,7
3.2	Terminal strength	1									
3.3	Contact pressure		1								
4.1	Solderability			1							
4.2	Humidity test				5						
4.3	Resistance to soldering heat					5					
4.4	Dry heat						5				
4.5	Cold heat							5			
4.6	Composite temperature / humidity cyclic test								5		
4.7	Operating endurance									5	
4.8	Bending moment										5

Test sample quality : 2 pcs min. / group