

# SPECIFICATION

SPEC. NO.  SP0A24 REV  B

DATE  MARCH-26-2004

PRODUCT NAME  MULTI MEDIA MEMORY CARD  
CONNECTOR

PRODUCT NO  ~~SDCMF-X07XXW1XX~~

***Kingfont Precision Ind. Co., Ltd.***

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Product Part Number: [SDCMF-X07XXW1XX](#)

Product Description: [MUTI MEDIA MEMORY CARD CONNECTOR](#)

## 1. SCOPE

### 1.1. Content

This specification covers performance, tests and quality requirements for [MUTI MEDIA MEMORY CARD CONNECTOR](#). These connectors are [provide space savings and improved functionality to system signal transfer](#).

## 2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, latest edition of the specification applies. In the event of conflict between requirements of this specification and product drawing, product drawing shall take precedence.

### 2.1. Commercial standards, specifications and report

2.1.1. MIL-STD-1344A

2.1.2. MIL-STD-202F

## 3. REQUIREMENTS

### 3.1. Design and Construction

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

### 3.2. Materials and Finish

3.2.1. Contact : High performance copper alloy ([Phosphor Bronze](#))  
Finish : (a) Contact Area: [Gold plated based on order information](#)  
(b) Solder Tail area: [tin-lead 90/10 100u" MIN.\(Lead Free\)](#).  
(c) Underplate: [80u" min. Nickel-plated all over](#)

3.2.2. Housing : [LCP+30%G.F, UL94V-0,Color : White](#)

### 3.3. Ratings

3.3.1. Voltage : [100 Volts DC,AC\(rms\)100 Volts \(per pin\)](#)

3.3.2. Current : [0.5 Amperes DC \(per pin\)](#)

3.3.3. Operating Temperature : [-25° TO 90°](#)

### 3.4. Performance and Test Description

Product is designed to meet electrical, mechanical and environmental performance

requirements specified in Paragraph 3.5. All tests are performed at ambient environmental conditions per MIL-STD-1344A unless otherwise specified.

### 3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure				
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.				
<b>ELECTRICAL</b>						
Low-Signal Level Contact Resistance	100mΩ maximum initial ΔR=20 mΩ maximum final	Mate subject connector with compatible connector as shown in. <b>MIL-STD-202F, Method 307</b>				
Insulation Resistance	1000 MΩ minimum initial ΔR=100 MΩ maximum final	Apply DC 500±10% Volts between adjacent contacts of mated connectors for one minute. <b>MIL-STD-202F, Method 302</b>				
Dielectric Withstanding Voltage	500 VAC initial and 250 VAC final at sea level for 1 minute. No discharge, flashover or breakdown. Current leakage: 0.5 A max.	Test between adjacent contacts of mated/unmated connectors. <b>MIL-STD-202F, Method 301</b>				
<b>MECHANICAL</b>						
Retention Force	100 Gram(0.98N) minimum(per pin)	Mate connector with a suitable gauge for each pin at rate of 25 mm/min. Measure force when gauge reaches surface of connector. <b>MIL-STD-1344A, Method 2012.1</b>				
Insertion Force	4077 Gram (40N)max(For One Product)	Mate connector with a suitable gauge for each pin at rate of 25 mm/min. Measure force when gauge reaches surface of connector. <b>MIL-STD-1344A, Method 2012.1</b>				
Separation Force	200 Gram (2.0N)min.(For One Product)	Mate connector with a suitable gauge for each pin at rate of 25 mm/min. Measure force when gauge reaches surface of connector. <b>MIL-STD-1344A, Method 2012.1</b>				
Durability	10000 cycles. Exchange the actually card every 2000 cycles. See Note (a).	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 25mm/min. <b>MIL-STD-1344A, Method 2016</b>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">SPEC NO.: <b>SP0A24</b></td> <td style="width: 17%;">REV.: B</td> <td style="width: 26%;">ECN NO. : EN-04-0317</td> <td style="width: 24%;">PAGE : 2 / 4</td> </tr> </table>			SPEC NO.: <b>SP0A24</b>	REV.: B	ECN NO. : EN-04-0317	PAGE : 2 / 4
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Vibration, Random	No electrical discontinuity greater than 1µsecond. See Note (a).	The electrical load condition shall be 100 mA maximum for all contacts. The specimen shall then be subjected to the vibration specified by the test-condition letter for the duration as specified 1.5Hours in each of three mutually perpendicular directions. <b>MIL-STD-1344A, Method 2005.1, Condition V, Test Condition letter A.</b>	
Physical Shock	No electrical discontinuity greater than 1µsecond. See Note (a).	Subject mated connectors to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. <b>MIL-STD-202F, Method 213B</b>	
Solderability	Solderable area shall have minimum of 95% solder coverage.	Subject the test area of contacts into flux for 3±0.5 seconds and then into solder bath, controlled at 230±5°, for 3±0.5 seconds.	
<b>ENVIRONMENTAL</b>			
Temperature Cycling (Thermal shock)	See Note (a).	Subject mated connectors to 5 cycles between -55±3° and 85±2°, 30 minutes duration at both temperature extremes. <b>MIL-STD-202F, Method 107G, Condition A</b>	
Moisture resistance (Humidity-Temperature Cycling)	See Note (a).	Mate dummy card and subject to the conditions specified on per(6) for 9 cycles. The test specimens shall be exposed to STEP 7a during only 5 out of 9 cycles. A 10 <sup>th</sup> cycles consisting of only step 1 through 6 is then performed, after which the test specimens shall be conditioned at ambient room conditions for 24 hours. <b>(MIL-STD-202F, Method 106E)</b>	
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Salt Spray	See Note (a).	Subject mated/unmated connectors to 5±1% salt-solution concentration, 35 ±2 for 48 hours. MTL-STD-1344A, Method 1001.1, Condition B	
Temperature Life (Heat Aging) (Heat Resistance)	See Note (a).	Subject mated connectors to temperature life at 85 ±2 for 96 hours. MTL-STD-202F, Method 108A, Test Temperature Condition 2, Test Time Condition A	
RESISTANCE TO REFLOW SOLDERING HEAT :	NO PHYSICAL ABNORMALITIES SUCH AS CRACK AND DEFORMATION OF HOUSING, SHALL BE PRESENT AFTER THE TEST.	TEST CONNECTOR ON PCB PRE-HEAT 150~200 : 60 SEC. MAX. HEAT 260 MIN. : 20 SEC. HEAT PEAK : 265 MAX.	
(a) Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 1.			
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### 3.6. Product Qualification and Test Sequence

Test or Examination	Test Group							
	1	2	3	4	5	6		
	Test Sequence							
Examination of Product	1,7	1,6	1,3	1,10	1,5	1,9		
Low-Signal Level Contact Resistance	3,6	2,5		2,7	2,4	2,6		
Insulation Resistance				3,8		3,7		
Dielectric Withstanding Voltage				4,9		4,8		
Vibration		3						
Physical Shock		4						
Bounce Force	2,5							
Durability	4							
Solderability			2					
Temperature Cycling				5				
Humidity-Temperature Cycling				6				
Salt Spray					3			
Temperature Life (Heat Aging)						5		
IR Reflow	8	7		11	6	10		
<b>Sample Size</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>6</b>		

Figure 1