SPECIFICATION

SPEC. NO. : SP0075 **REV :** A

DATE : JUN-28-2004

PRODUCT NAME : MINI SECURE DIGITAL MEMORY CARD

PUSH-PUSH CONNECTOR TYPE A

PRODUCT NO : MDAMF-011XXB0X0

金峰精密工業股份有限公司

Kingfont Precision Ind. Co., Ltd.

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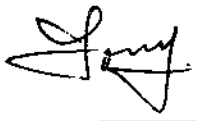
	APPROVED	CHECKED	PREPARED
NAME			

Product Part Number: MDAMF-011XXB0X0

Product Description: **MINI SECURE DIGITAL MEMORY CARD PUSH-PUSH CONNECTOR TYPE A**

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for MINI SECURE DIGITAL MEMORY CARD PUSH-PUSH CONNECTOR TYPE A 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
Finish : (a) Contact Area: Gold plated based on order information
(b) Solder Tail area: Tin Plating 100u" MIN. (Lead Free)
(c) Underplate: 50u" min. Nickel-plated all over
3.2.2. Shell : High performance copper alloy
Finish : (a) Solder Tail area: Gold Flash.
(b) Underplate: 20u" min. Nickel-plated all over

3.2.3. Housing : HIGH TEMPERATURE PLASTIC, UL94V-0,Color : Black

The above mentioned all comply to RoHS.

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.
ELECTRICAL		
Low-Signal Level Contact Resistance	100 mΩ maximum initial ΔR=20 mΩ maximum final	Mate subject connector with compatible connector as shown in. MIL-STD-202F, Method 302
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. MIL-STD-202F, Method 302
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. MIL-STD-202F, Method 301
MECHANICAL		
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. MIL-STD-1344A, Method 2012.1
Insertion Force	9.8Nmax(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. MIL-STD-1344A, Method 2012.1
Separation Force	9.8Nmax.(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. MIL-STD-1344A, Method 2012.1

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. MIL-STD-1344A, Method 2016
Vibration, Random	No electrical discontinuity greater than 1 μ second. 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. MIL-STD-1344A, Method 2005.1, Condition V,Test Condition letter A.
Physical Shock	No electrical discontinuity greater than 1 μ second. 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. MIL-STD-202F, Method 213B
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 245±5℃, for 3±0.5 seconds.
ENVIRONMENTAL		
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. MIL-STD-202F, Method 107G, Condition A

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^{th} 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.(MIL-STD-202F, Method 106E)
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

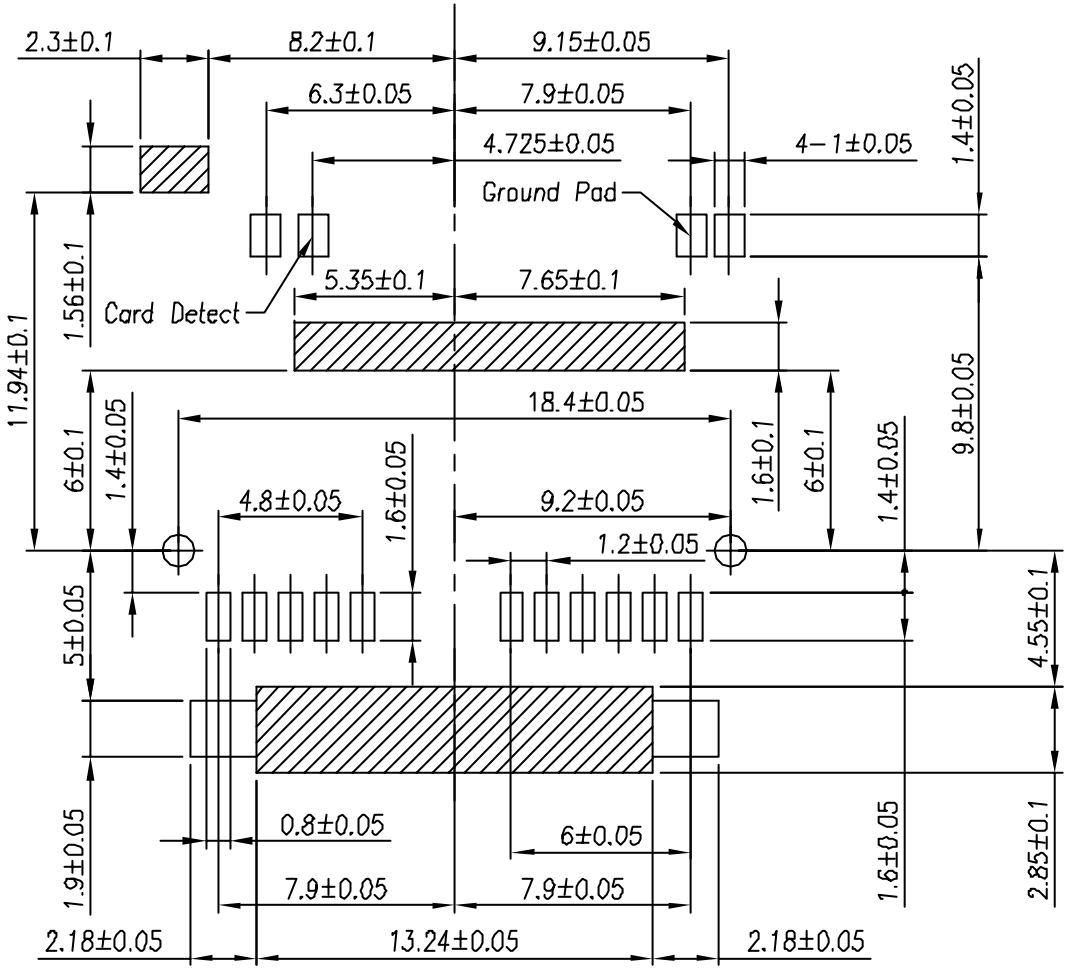
(a) Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 1.

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		
Sample Size	**8**	**8**	**4**	**8**	**8**	**8**		

Figure 1

REV	MODIFICATION	DATE	DRAW



NOTES:

1. ▨ : NO PATTERN AREA.

Ordering Information:

MDAMF-011XXB0XX

Contact Area Plating:

Package Type:
0 : TRAY
1 : TAPE REEL

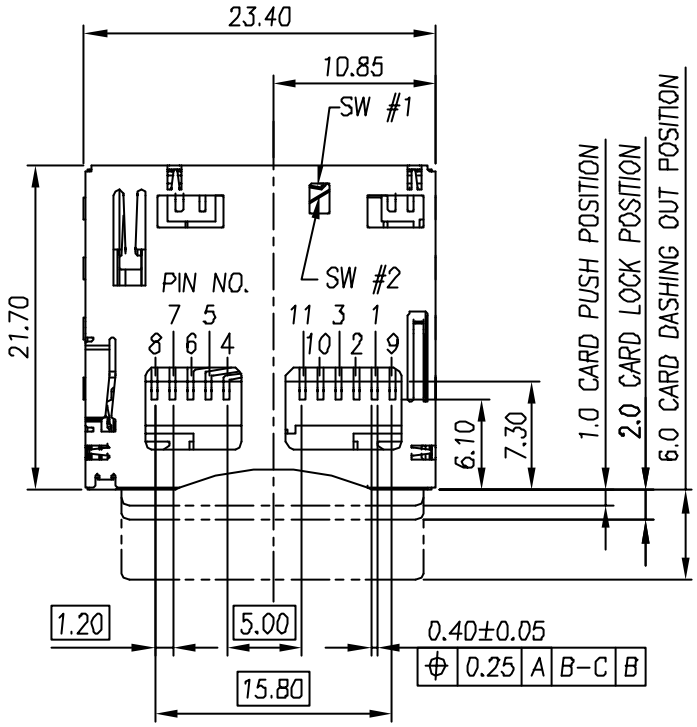
Plating Type:
T : Comply to RoHS

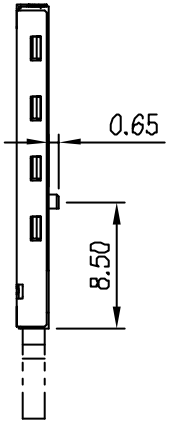
P.C.B Layout(TOP VIEW)

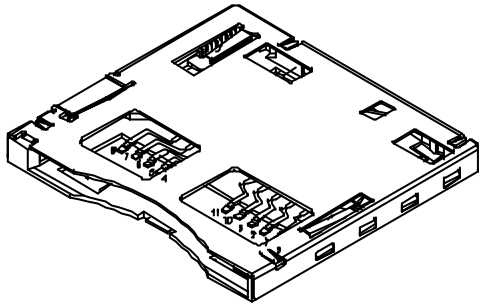
DIMENSION IN mm [Inch]		PROD. SPEC. SP0075	KINGFONT PRECISION INDUSTRIAL CO., LTD.
TOLERANCE UNLESS OTHERWISE SPECIFIED		PKG. SPEC. PPP-MDA-001	TITLE: MINI SECURE DIGITAL MEMORY CARD PUSH-PUSH CONNECTOR TYPE A — CUSTOMER DRAWING
.X±0.30	X.'±	APPROVE	FILE NO. KFP-075 — DWG NO. MDAMF-011XXB0XX
.XX±0.20	.X'±	CHECK	SIZE A4 — PROJ. — SHEET 2/2
.XXX±0.05	.XX'±	DRAW	SCALE 4:1 — REV A

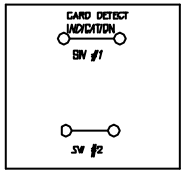
8F-06-R02

REV	MODIFICATION	DATE	DRAW

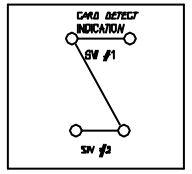




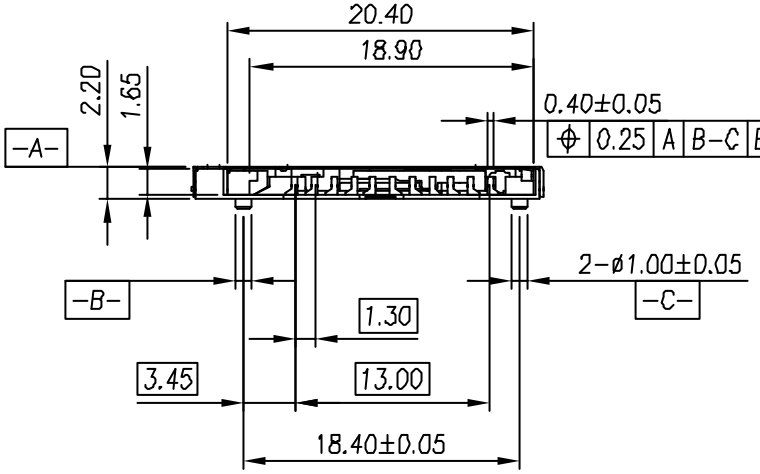




WITHOUT CARD



CARD INSERTED



Ordering Information:

MDAMF-011XXB0XX

Contact Area Plating:

PACKAGE Type:
0 : TRAY
1 : TAPE REEL

Plating Type:
T : Comply to RoHS

MINI-SD	
PIN	NAME
1	CD/DAT3
2	CMD/DI
3	VSS1
4	VDD
5	CLK/SCLK
6	VSS2
7	DAT0
8	DAT1
9	DAT2
10	
11	

DIMENSION IN mm [Inch]

TOLERANCE UNLESS OTHERWISE SPECIFIED

.X±0.30 X.'±

.XX±0.20 .X'±

.XXX±0.05 .XX'±

PROD. SPEC. SP0075

PKG. SPEC. PPP-MDA-001

APPROVE

CHECK

DRAW

KINGFONT PRECISION INDUSTRIAL CO., LTD.

TITLE: MINI SECURE DIGITAL MEMORY CARD PUSH-PUSH CONNECTOR TYPE A — CUSTOMER DRAWING

FILE NO. KFP-075

DWG NO. MDAMF-011XXB0XX

SIZE A4

PROJ.

SHEET 1 / 2

SCALE 2:1

REV A

8F-06-R02