



## PRODUCT SPECIFICATION

2.0mm Pitch Wire to Board / Board to Board Connector

CKM 2004 / 2016 Series

### REVISION HISTORY:

REV	REVISION DESCRIPTION	DATE	CREATED/REVISED
A	NEW RELEASE	2013.12.01	GuoXiang Jiang
B	UPDATE OPERATING TEMPERATURE	2015.10.27	Guoxiang Jiang
C	UPDATE MATERIAL	2018.02.02	Jimmy Wang

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<b>DOCUMENT NUMBER:</b> PS-2004-001		<b>CREATED/REVISED</b> GuoXiang Jiang	<b>CHECKED BY</b> Jimmy Wang	<b>APPROVED BY</b> Angus Chen



## 1. SCOPE

This specification covers the requirements for product performance, test methods and quality assurance provisions of CKM Economic Metric Interconnect Series, 2.0mm Pitch Crimp Type

## 2. APPLICABLE DOCUMENTS

The following documents from a part of this specification to the extent specified herein.  
In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence

## 3. REQUIREMENTS

### 3.1 Material

- A. Housing: Thermoplastic, UL 94V-0
- B. Terminal: Copper Alloy, Gold plating over Nickel under plated all over
- C. Wafer Insulator: High Temperature Thermoplastic, UL 94V-0
- D. Wafer Contact: Copper Alloy, Gold plating over Nickel under plated all over

### 3.2 Ratings

- A. Current Rating: 1A
- B. Voltage Rating: 100 VDC
- C. Operating temperature: -40~85°C

### 3.3 Applicable Printed Circuit Board

- A. Board Thickness: 1.0mm~1.6mm
- B. Hole Diameter: 0.75mm~0.85mm

### 3.4 Performance Requirements and Test Descriptions

The product is designed to meet the electrical, mechanical and environmental performance requirements as specified in Figure 1.

Unless otherwise specified, all tests are performed at ambient environmental conditions.

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3.5 Test Requirements and Procedures Summary

TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection
<b>ELECTRICAL REQUIREMENT</b>			
2	Low Level Contact Resistance	10 mΩ Max (Initial) 20 mΩ Max (Final)	Subject mated contacts assembled in housing to closed circuit current of 50mA max at open circuit voltage of 50 mV max
3	Dielectric strength	Connector must withstand test potential of 800VAC for 1min Current leakage: 5.0mA max	Measure by applying test potential between adjacent contacts, and between the contacts and ground in the mated connector assembly
4	Insulation Resistance	1000MΩ Min (Initial)	Measure by applying test potential between adjacent contacts, and between the contacts and ground in the mated connector assembly
<b>MECHANICAL REQUIREMENT</b>			
5	Connector Mating /Un-mating Force	4 Pos	Subject terminated connector and header to mate and un-mate to measure the force required to engage and disengage by operating at a rate of 25±6mm minute
		Insertion force: 3.0 kgf (Max.) Extraction force: 0.6 kgf (min)	
6	Individual Pin Insertion/ Extraction Force	Insertion force : 0.50 kgf (Max.) Extraction force: 0.10 kgf (Min.)	Subject terminated contact and pin to mate and –mate to measure the force required to engage and disengage at the rate of 25+/-6 mm/min
7	Pin Retention Force	0.8 kgf min per pin	Apply axial put –off load to post contact mounted on housing and measure the force required dislodge post from housing
8	Tensile Strength of Wire termination	AWG #26: 1.8 kgf Min. AWG #28: 1.1 kgf Min. AWG #30: 0.8 kgf Min.	Apply an axial pull-off load to terminated wire of contact, At a rate of 25±3mm/minute, The load is applied in the axial and lateral directions
9	Terminal Retention Force	1.0kgf min. per contact	Apply axial load to terminated contact at a rate of 25±3mm/minute

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**ENVIRONMENTAL REQUIREMENTS**

10	Vibration	No electrical discontinuities greater than 1 micro sec. See Note	Subject mated connector to 10-55-10 HZ traversed in 1 minute at 1.52mm amplitude 2 hours in each of 3 mutually perpendicular planes
11	Temperature Life	Contact resistance(low level) Shall be met See Note	Subject mated connector assemblies to temperature life at 85°C±2°C for 96 hours
12	Resistance to cold	Contact resistance(low level) Shall be met See Note	Subject mated connector to cold testing atmosphere at -40°C±3°C, 48 hours
13	Humidity	Insulation resistance (Final): 500M ohms min Contact resistance (low level) shall be met. See Note	Subject mated connectors to steady state humidity at 40°C and 90-95% R.H for 240 hrs
14	Thermal Shock	Contact resistance (low level) shall be met. See Note	Subject mated connector assemblies on 25 cycle -40°C and 85°C for 30 minutes each duration at temperature extremes
15	Solder ability	The contact solder tails should be covered by a continuous new solder coating for 95% minimum of affected area. See Noted	Subject contacts to solder ability testing, as specified solder transfer at 245±5°C for 3 secs
16	Resistance to Soldering Heating	No physical damage shall occur. See Note (Wave Solder)	Subject product mouted on printed circuit board to solder bath at 260±5°C for 6±1seconds
17	Durability	Contact resistance (low level) shall be met. See Note	Subject connector assembly to 30 cycles of repeated mating / un-mating at a rate of 10 cycles a minute

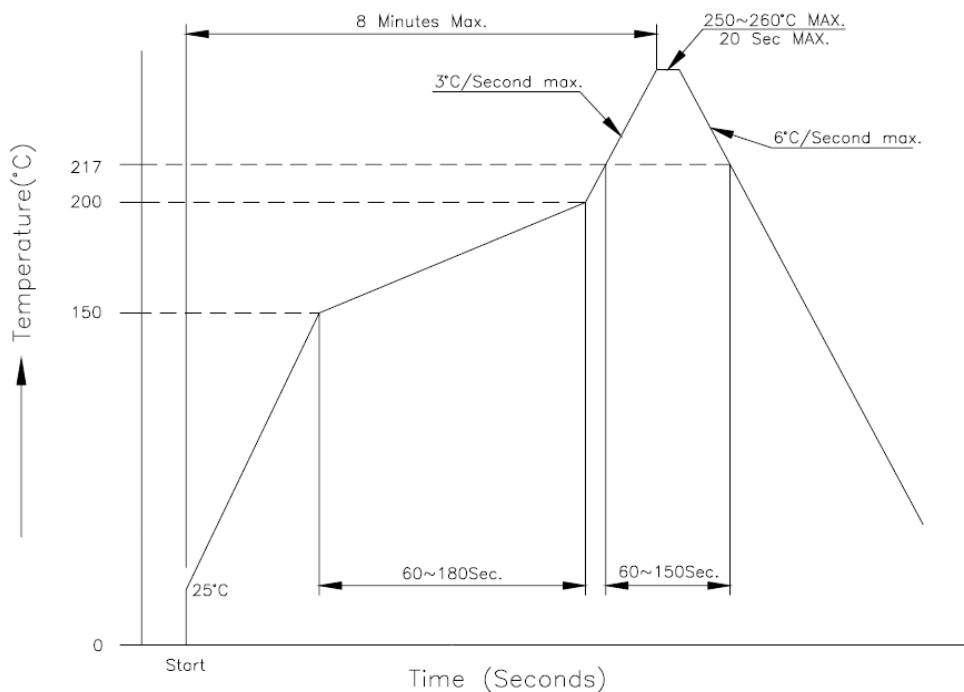
**Figure 1**

Note: Shall meet visual requirements, show no physical damages

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**4. Recommended Reflow Temperature Profile:  
Using Lead-Free Solder Paste**



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