朝貴電子股份有限公司
CKM ELECTRONICS CO., LTD.

PRODUCT SPECIFICA

CKM PN: 20050XX-XX

2.0 Pitch Header

REVISION HISTORY:

REV	REVISION DESCRIPTION	DATE	CREATED/REVISED
A	NEW RELEASE	2013.11.30	Winner

1.0 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

2.0 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 fo conflict between the requirements of this specification and the referenced documents, his specification shall take precedence.

3.0 REQUIREMENTS:

3.1 Material:

A. Receptacle Crimp Housing: Thermoplastic,UL94V-0,
B. Post Header Housing : Thermoplastic, UL94V-0,
C. Receptacle Crimp Contact: Copper Alloy, Tin plated over Nickel under plated all over
D. Post Header Contact : Copper Alloy, Tin plated over Nickel under plated all over

3.2 Ratings:

A. Current Rating: 3A
B. Voltage Rating: 100VDC
C. Operating temperature : -25℃ to +85℃
D. Current: AWG#24-3A ; AWG#26-2.5A ;
AWG#28-2 A; AWG#30-1.5A;

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.

3.5 TEST REQUIREMENTS AND PROCEDURES SUMMARY

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	TEST ITEM	REQUIREMENT	PROCEDURE
1	**Examination of Product**	**Meets requirements of product drawing. No physical damage.**	**Visual inspection**
	ELECTRICAL REQUIREMENT		
2	**Low Level Contact Resistance**	**30** mΩ Max (Initial) 50 mΩ Max (Final)	**Per** EIA-364-23 **The object of this test procedure is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur.** **Subject mated contacts assembled in housing to closed circuit current of 100mA maximum at open circuit at 20 mV maximum.**
3	**Dielectric strength**	**Connector must withstand teat potential of 500VAC for 1minute Current leakage < 5 mA**	**Per** EIA-364-20 **Measure by applying test potential between adjacent contacts, and between the contacts and ground in the mated connector assembly**
4	**Insulation Resistance**	**500M**Ω Min (Initial)	**Per** EIA-364-21 **The object of this test procedure is to detail a standard method to assess the insulation resistance of connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members.** **Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies.**
	MECHANICAL REQUIREMENT		
5	**Connector Mating / Un-mating Force**	**POS** / **Mating Force (kgf max)** / **Un-mating Force (kgf min)** **9** / **5.0** / **1.0** **12** / **7.0** / **1.0** **16** / **8.0** / **1.0**	**Per** EIA-364-13 **Subject connector to mate and unmate to measure the mechanical forces required to engage and disengage at a rate of 25+/-6 mm per minute Record by using autograph.**
	Test Items	Requirements	Procedure

6	Individual Pin Insertion/ Extraction Force	Insertion Force : 0.50kgf Max Extraction Force: 0.10kgf 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	1.0 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	Durability	100 mating/ unmating cycles at a maximum rate of 30 cycles per hour. No evidence of damage The contact resistance: 50 mΩ(Final)	Per EIA-364-09 The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.
9	Vibration	1) No discontinuities of 1 μs or longer duration. 2) Contact resistance: 30 milliohms maximum 3) No physical damage.	Per EIA-364-28 Condition VII Letter D. Test Duration: 15 minutes each axis.
10	Solderability	The contact solder tails should be covered by a continuous new solder coating for min 95% of affected area	Subject contacts to solderability testing ,as specified solder transfer at 245±5℃ for 3±0.5s
ENVIRONMENTAL REQUIREMENTS			
11	Resistance to Wave Soldering Heat	No physical damage shall occur	Subject product mounted on printed circuit board to solder bath at 250±5℃ for 5s
12	Thermal Shock	Contact resistance (low level) shall be met. Must meet requirement of 3&4	Subject mated connector assembly to 25 cycle at -55±3℃ for 30 min; +85±2℃ for 30 min
13	Humidity-Temperature cycle	Insulation resistance 500MΩ Min Termination resistance (low level) shall be met Dielectric strength shall be met	Subject mated connector to steady state humidity at 40℃ and 90-95%RH for 240hrs

14	Temperature Life (Heat Aging)	Termination resistance (low level)shall be met	Subject mated connector assemblies to temperature life at 85±2℃for 96 hours
15	Salt Spray	Termination resistance (low level) shall be met	Subject mated/unmated connectors to 5±1% salt concentration for 8 hours

4.0 PRODUCT QUALIFICATION AND REQUALIFICATION TEST Sequence

Test or Examination	Test Group						
	A	B	C	D	E	F	G
	Test Sequence（a）						
Examination of Product	1,9	1, 9	1,6	1,5	1,5	1,3	1,5
Low Level Contact Resistance	2,8	2	2,4,5	2,4			2 ,4
Dielectric strength		4,8					
Insulation Resistance		3,7					
Mating Force	3,6				3		
Un-mating Force	4,7				4		
Durability	5						
Vibration			3				
Solderability						2	
Resistance to Solder Heat					2		
Thermal Shock		5					
Humidity Temperature Cycling		6					
Temperature Life				3			
Salt Spray			N/A		N/A		3