TO

SPECIFICATION FOR APPROVAL

DESCRIPTION: Pitch 0.50mm Board To Board Connector, R/A, SMT Type Female

CUSTOMER PROD.NO/DWG.NO:

E&T PROD.NO: 1013K-XXXX-XXX

APPROVAL SHEET NO:

E&T DWG. NO./DOCUMENT: 1013K-XXXX-XXX

REV: A1

PLEASE RETURN TO US ONE COPY OF"SPECIFICATION FOR APPROVAL"WITH YOUR APPROVED SIGNATURES.

APPROVED SIGNATURES			

The Quality Connection

ENTERY INDUSTRIAL CO., LTD.
E&T ELECTRONICS (DONG GUAN) CO., LTD.
E&T ELECTRONICS (SU ZHOU) CO., LTD.
E&T ELECTRONICS (NANKEEN)CO.,LTD.

ENTERY INDUSTRIAL CO., LTD.

Title :Pitch 0.50mm Board To Board Connector, R/A, SMT Type Female

Release History

Rev.	Description	Executor	Date
A0	First Release	JACKSON	2010/12/03
A1	MODIFY PART NUMBER	JACKSON	2011/03/23

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GROUP AND TEST SEQUENCE

Test of Examination		Test Group										
		A	B	C	D	E	F	G	H	I	J	K
1	Examination of Product	1,9	1,6	1,5	1,5	1,5	1,4	1,5	1,3	1,3	1,5	
2	Contact Resistance	2,6	2,5	2,4	2,4	2,4		2,4			2,4	
3	Insulation Resistance	3,7										
4	Dielectric Strength	4,8										
5	Insertion Force And Withdrawal Force		3									
6	Terminal / Housing Retention Force											1
7	Durability		4									
8	Vibration			3								
9	Heat Resistance				3							
10	Cold Resistance					3						
11	Humidity	5										
12	Solder Ability						3		2			
13	Resistance To Soldering Heat									2		
14	Steam Aging						2					
15	Salt Spray							3				
16	Temperature Cycling										3	

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PRODUCT SPECIFICATION

1. SCOPE :

This specification covers the 0.5 mm pitch board To board SMT type connector series.

2. PRODUCT NAME AND PART NUMBER :

Product Name	E&T Part Number
0.50mm Board To Board Connector, R/A, SMT Type Female	1013K-XXXX-XXX

3. RATINGS :

Item	Standard	
Rated Voltage (MAX.)	50 V	AC
Rated Current (MAX.)	0.5A	
Ambient Temperature Range	-40^0C ~ $+85^0$C	

*Including terminal temperature rise

4.PERFORMANCE :

4- 1 Electrical Performance

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Test Current: 100 mA Max. Test Voltage: 20mV Max Test Method: MIL-STD-202F, Method 303	50 mΩ MAX.
4-1-2	Insulation Resistance	Test Voltage: 500VAC. Test Duration: 1 minutes. Test Method: MIL-STD-202, method 302	Initial: 500 MΩ Min Final: 100 MΩ Min.
4-1-3	Dielectric Strength	Test Voltage: 300V AC. Test Time: 60 sec. Test Method: MIL-STD-202, Method 301.	No Breakdown
4-1-4	Temperature rise	30℃ Max, Change allowed	Mate connector. Measure the temperature rise at rated current after:0.5 A/Power contact. The temperature rise above ambient shall not excees 30℃. The ambient condition is still air at 25℃ (EIA-364-70 METHOD 2)

4-2 Mechanical Performance

Item		Test Condition	Requirement
4-2-1	Insertion Force And Withdrawal Force	Test Speed: 25±3 mm/min. Test Method: MIL-STD-1344A, Method 2016.	Insertion Force Max : 0.09kgf X total terminals
			Withdrawal Force(Min): 0.01kgf X total terminals
4-2-3	Terminal / Housing Retention Force	Test Speed: 25mm/min.	0.2kgf (Min)

4-3 Environmental Performance and Others

Item		Test Condition	Requirement	
4-3-1	Durability	The contacts of connector shall be subject to 30 cycles of mating and unmating.	Contact Resistance	
			Initial Value	≦ 50 mΩ
			Final Value	≦ 70 mΩ
4-3-2	Vibration	Amplitude : 1.5 ㎜ Frequency range: 10~55~10 Hz in 1 minute Duration: 2 hours in each X.Y.Z axes Current: 100mA. Test Method: MIL-STD-202F, Method 201	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ
			Discontinuity	1μsec
4-3-4	Heat Resistance	Temperature: 85±2℃ Duration: 96 hours Test Method: MIL-STD-202, Method 108.	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ
4-3-5	Cold Resistance	Temperature: -40±2℃ Duration: 96 hours Test Method: JIS C60068-2-1	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ
4-3-6	Humidity	Temperature: 40±2℃ Relative Humidity: 90~95% Duration: 96 hours Test Method: MIL-STD-202F , Method 103	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ
			Insulation Resistance	≧100MΩ
			Dielectric Strength	Must meet 4-1-3

Item		Test Condition	Requirement	
4-3-7	Solder Ability	Soldering Time : 3±0.5 sec Solder Temperature : 245±5℃ Test Method: MIL-STD-202F , Method 208	Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes
4-3-8	Resistance To Soldering Heat	Soldering Time : 10±0.5 sec Solder Temperature : 260±5℃ Test Method: MIL-STD-202F , Method 210A	Appearance	No Damage
4-3-9	Steam Aging	Steam Aging Temperature : 98±2℃ Duration: 8 hours Solder Temperature : 235±5℃ Soldering Time : 3±0.5 sec Test Method: MIL-STD-202F , Method 208	Appearance	No Damage
			Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes
4-3-10	Salt Spray	Chamber Temperature : 35±2℃ Air Tank Temperature : 47±1℃ Salt Solution：5 ± 0.5% Duration : 48 hours Test Method: MIL-STD-202 , Method 101D	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ
4-3-11	Temperature Cycling	5 cycles of : a) - 55 ±3℃ 30 minutes b) +25 ±3℃ 30 minutes c)+ 85 ±2℃ 30 minutes Test Method: JIS C0025	Appearance	No Damage
			Contact Resistance	≦ 70 mΩ

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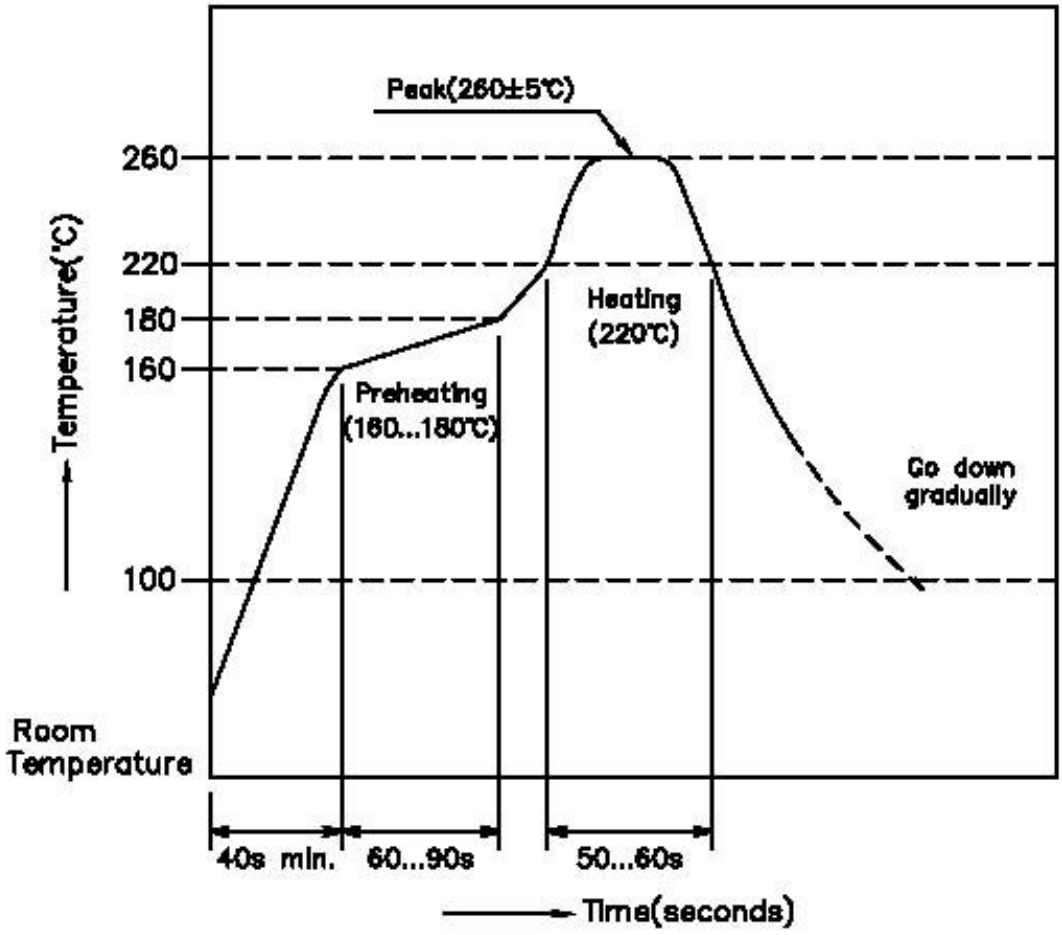
INFRARED REFLOW CONDITION (LEAD FREE)

1) Ascending time to preheating temperature 170℃ shall be 40 seconds minimum.
2) Preheating shall be fixed at 160...180℃ for 60...90 seconds.
3) Heating shall be fixed at 220℃ for 50...60 seconds.
4) At 260±5℃ peak shall be 10 seconds maximum.



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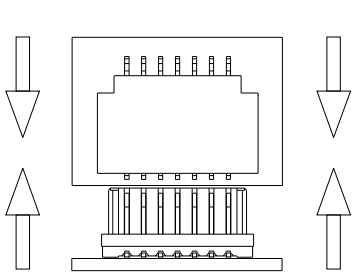
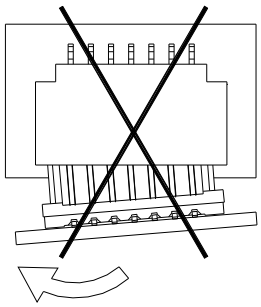
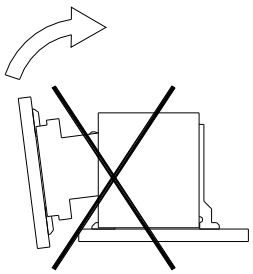
Precaution in the connector handing.

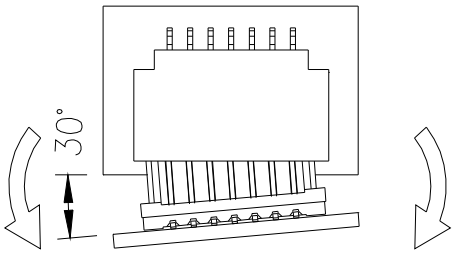
1. Mating (into the counterpart connector)
   At the time of mating please do not continue to mate the connector if there is one side in the gap.
   please mate the connectors when the both guides are guided.



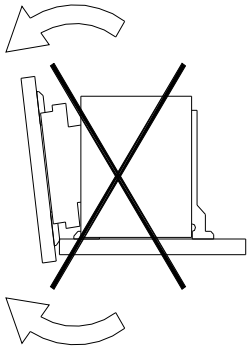




2. Unmating (from the counterpart connector)
   Please do extract the one side of the printed circuit board.
   please make unmating within an angle of 30 .



4. Please do not bend the printed circuit board in the arrow direction.



5. After mating connectors , fix the PCB/PWB in order not for them to disengage.