TO

SPECIFICATION FOR APPROVAL

DESCRIPTION: Pitch 0.50mm ZIF FPC Connector, R/A, SMT Type Bottom Contact(Lead Free)

CUSTOMER PROD.NO/DWG.NO:

E&T PROD.NO: 6714K-YXXN-00X

APPROVAL SHEET NO:

E&T DWG. NO./DOCUMENT: 6714K-YXXN-00X

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.

ENTERY INDUSTRIAL CO., LTD.

Title : Pitch 0.50mm ZIF FPC Connector, R/A, SMT Type Bottom Contact(Lead Free)

Release History

Rev.	Description	Executor	Date
A0	First Release	JACKSON	2010/10/05
A1	ADD 4-3-12 COPLANARITY ≤0.1MM (BEFORE AND AFTER IR*2 TIMES)	JACKSON	2011/04/08

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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	FPC Retention 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 pitch 0.5 mm ZIF FPC connector series.

2. PRODUCT NAME AND PART NUMBER :

Product Name	E&T Part Number
0.50mm ZIF FPC Connector, R/A, SMT Type Bottom Contact	6714K-YXXN-00X

3. RATINGS :

Item	Standard	
Rated Voltage (MAX.)	50 V	DC
Rated Current (MAX.)	0.5A	
Operating Temperature Range	-40^0C ~ $+80^0$C	

*Including terminal temperature rise

4.PERFORMANCE :

4- 1 Electrical Performance

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Test Current: 1 mA Max. Test Voltage: 20mV Max Test Method:EIA-364-06B	50 mΩ MAX.
4-1-2	Insulation Resistance	Test Voltage: 100V DC. Test Duration: 1 minutes. Test Method:EIA-364-21C	Initial: 500 MΩ Min Final: 100 MΩ Min.
4-1-3	Dielectric Strength	Test Voltage: 200V AC. Test Time: 60 sec. Test Method:EIA-364-09C	No Breakdown

4-2 Mechanical Performance

Item		Test Condition	Requirement
4-2-1	FPC Retention Force	Test Speed: 25±3 mm/min. Test Method:EIA-364-38B	Refer to paragraph 6
4-2-3	Terminal / Housing Retention Force	Test Speed: 25mm/min.	0.08kgf (Min)

4-3 Environmental Performance and Others

Item		Test Condition	Requirement	
4-3-1	Durability	Insert and withdraw actuator up to 30cycles at the speed rate of less than 10 cycles/ minute. Test Method:EIA-364-09C	Contact Resistance	
			Initial Value	≦ 50 mΩ
			Final Value	≦80 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:EIA-364-28D	Appearance	No Damage
			Contact Resistance	≦80 mΩ
			Discontinuity	1μsec
4-3-4	Heat Resistance	Temperature: 80±2℃ Duration: 96 hours .	Appearance	No Damage
			Contact Resistance	≦80 mΩ
4-3-5	Cold Resistance	Temperature: -40±2℃ Duration: 96 hours	Appearance	No Damage
			Contact Resistance	≦80 mΩ
4-3-6	Humidity	Temperature: 40±2℃ Relative Humidity: 90~95% Duration: 96 hours Test Method:EIA-364-31B	Appearance	No Damage
			Contact Resistance	≦80 mΩ
			Insulation Resistance	≧100MΩ
			Dielectric Strength	Must meet 4-1-3

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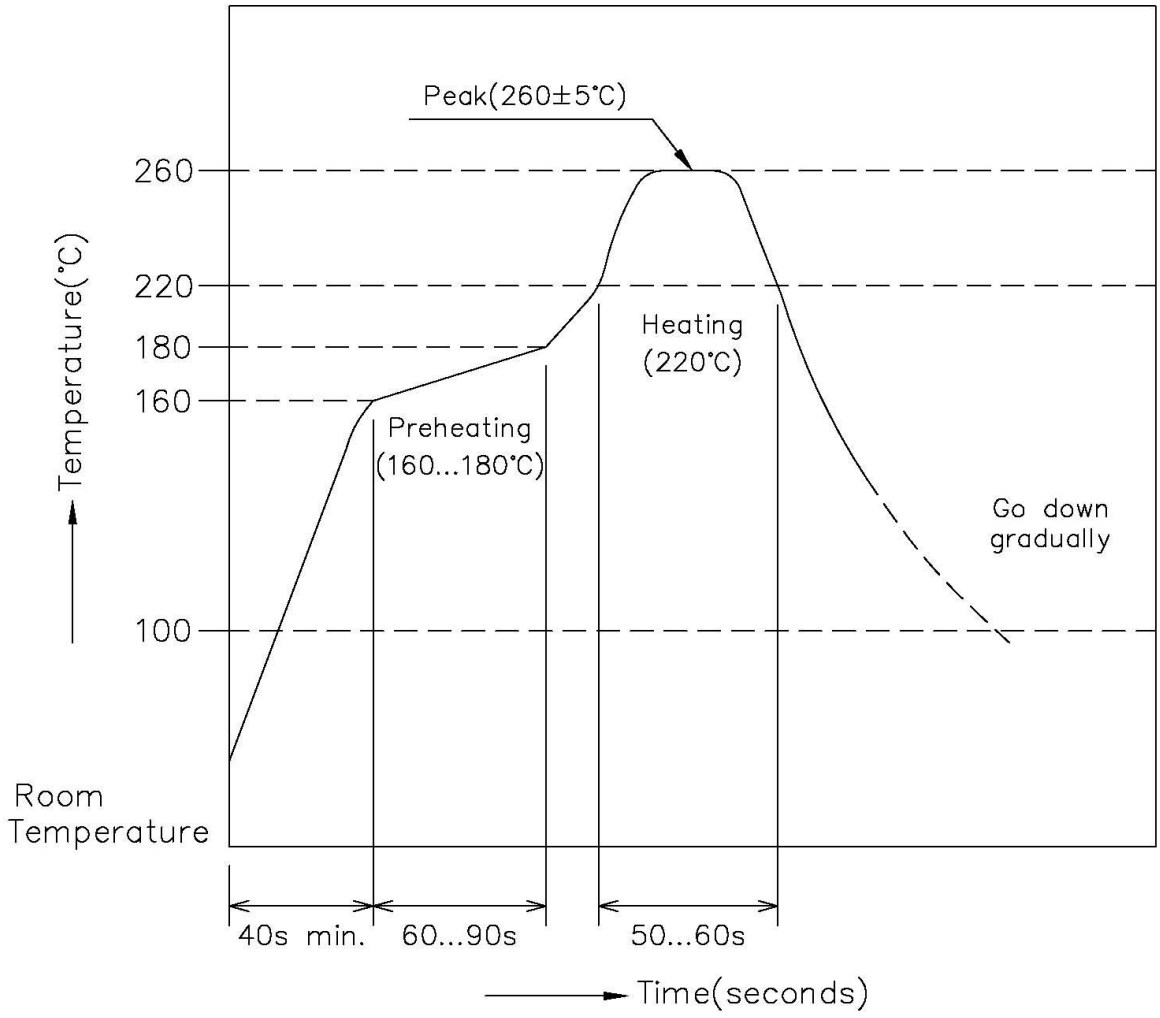
Item		Test Condition	Requirement	
4-3-7	Solder Ability	Soldering Time : 3±0.5 sec Solder Temperature : 245±5℃ Test Method:EIA-364-52	Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes
4-3-8	Resistance To Soldering Heat	Soldering Time : 10±0.5 sec Solder Temperature : 260±5℃ Test Method:EIA-364-56C	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:EIA-364-17B	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:EIA-364-26B	Appearance	No Damage
			Contact Resistance	≦ 80 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:EIA-364-31B	Appearance	No Damage
			Contact Resistance	≦ 80 mΩ
4-3-12	Coplanarity	Soldering Time : 10±0.5 sec Solder Temperature : 260±5℃ Test Method:EIA-364-56C (Before Test and After IR*2times)	Appearance	No Damage
			Coplanarity	≦ 0.10mm

5.INFRARED REFLOW CONDITION

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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6. 0.50mm FPC RETENTION FORCE SPEC

No of CKT	UNIT	Retention Forc(MIN) 1 st	Retention Forc(MIN) 10 th	No of CKT	UNIT	Retention Forc(MIN) 1 st	Retention Forc(MIN) 10 th
4	N Kgf	1.960 {0.200}	1.225 {0.125}	21	N Kgf	6.125 {0.625}	5.390 {0.550}
5	N Kgf	2.205 {0.225}	1.470 {0.150}	22	N Kgf	6.370 {0.650}	5.635 {0.575}
6	N Kgf	2.450 {0.250}	1.715 {0.175}	23	N Kgf	6.615 {0.675}	5.880 {0.600}
7	N Kgf	2.695 {0.275}	1.960 {0.200}	24	N Kgf	6.860 {0.700}	6.125 {0.625}
8	N Kgf	2.940 {0.300}	2.205 {0.225}	25	N Kgf	7.105 {0.725}	6.370 {0.650}
9	N Kgf	3.185 {0.325}	2.450 {0.250}	26	N Kgf	7.350 {0.750}	6.615 {0.675}
10	N Kgf	3.430 {0.350}	2.695 {0.275}	27	N Kgf	7.595 {0.775}	6.860 {0.700}
11	N Kgf	3.675 {0.375}	2.940 {0.300}	28	N Kgf	7.840 {0.800}	7.105 {0.725}
12	N Kgf	3.920 {0.400}	3.185 {0.325}	29	N Kgf	8.085 {0.825}	7.350 {0.750}
13	N Kgf	4.165 {0.425}	3.430 {0.350}	30	N Kgf	8.330 {0.850}	7.595 {0.775}
14	N Kgf	4.410 {0.450}	3.675 {0.375}	31	N Kgf	8.575 {0.875}	7.840 {0.800}
15	N Kgf	4.655 {0.475}	3.920 {0.400}	32	N Kgf	8.820 {0.900}	8.085 {0.825}
16	N Kgf	4.900 {0.500}	4.165 {0.425}	33	N Kgf	9.065 {0.925}	8.330 {0.850}
17	N Kgf	5.145 {0.525}	4.410 {0.450}	34	N Kgf	9.310 {0.950}	8.575 {0.875}
18	N Kgf	5.390 {0.550}	4.655 {0.475}	35	N Kgf	9.555 {0.975}	8.820 {0.900}
19	N Kgf	5.635 {0.575}	4.900 {0.500}	36	N Kgf	9.800 {1.000}	9.065 {0.925}
20	N Kgf	5.880 {0.600}	5.145 {0.525}	37	N Kgf	10.045 {1.025}	9.310 {0.950}

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No of CKT	UNIT	Retention Force (MIN) 1 st	Retention Force (MIN) 10 th	No of CKT	UNIT	Retention Force (MIN) 1 st	Retention Force (MIN) 10 th
38	N Kgf	10.290 {1.050}	9.555 {0.975}	50	N Kgf	13.230 {1.350}	12.495 {1.275}
39	N Kgf	10.535 {1.075}	9.800 {1.000}	51	N Kgf	13.475 {1.375}	12.740 {1.300}
40	N Kgf	10.780 {1.100}	10.045 {1.025}	52	N Kgf	13.720 {1.400}	12.985 {1.325}
41	N Kgf	11.025 {1.125}	10.290 {1.050}	53	N Kgf	13.965 {1.425}	13.230 {1.350}
42	N Kgf	11.270 {1.150}	10.535 {1.075}	54	N Kgf	14.210 {1.450}	13.475 {1.375}
43	N Kgf	11.515 {1.175}	10.780 {1.100}	55	N Kgf	14.455 {1.475}	13.720 {1.400}
44	N Kgf	11.760 {1.200}	11.025 {1.125}	56	N Kgf	14.700 {1.500}	13.965 {1.425}
45	N Kgf	12.005 {1.225}	11.270 {1.150}	57	N Kgf	14.945 {1.525}	14.210 {1.450}
46	N Kgf	12.250 {1.250}	11.515 {1.175}	58	N Kgf	15.190 {1.550}	14.455 {1.475}
47	N Kgf	12.495 {1.275}	11.760 {1.200}	59	N Kgf	15.435 {1.575}	14.700 {1.500}
48	N Kgf	12.740 {1.300}	12.005 {1.225}	60	N Kgf	15.680 {1.600}	14.945 {1.525}
49	N Kgf	12.985 {1.325}	12.250 {1.250}	80	N Kgf	20.335 {2.075}	19.60 {2.0}