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**TO**

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**SPECIFICATION FOR APPROVAL**

DESCRIPTION: Pitch 1.00mm NON/ZIF FPC Connector, V/T, DIP Type

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CUSTOMER PROD.NO/DWG.NO:

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E&T PROD.NO: 7100K-XXXX-0XX

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APPROVAL SHEET NO:

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E&T DWG. NO./DOCUMENT: 7100K-XXXX-0XX

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REV: A3

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APPROVED SIGNATURES			



**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 1.00mm NPN/ZIF FPC Connector,  
V/T, DIP Type

RELEASE  
HISTORY

Title: Pitch 1.00mm NON/ZIF FPC Connector, V/T, DIP Type

A3 11,17,2011'

This Document Contains Information That Is Proprietary To  
E&T And Should Not Be Used Without Written Permission

Rev Description

Document No.

7100K-XXXX-0XX

Prepared By: Hill Chang

Date: 09,11,2008'

Checked By:

Date:

Approved By:

Date: 11,24,2011'



# ENTERY INDUSTRIAL CO., LTD.

## PRODUCT SPECIFICATION

### 1. SCOPE :

This specification covers the pitch1.00 mm NON/ZIF FPC connector series.

### 2. PRODUCT NAME AND PART NUMBER :

Product Name	E&T Part Number
1.00mm NON/ZIF FPC Connector, V/T, DIP Type	7100K-XXXX-0XX

### 3. RATINGS :

Item	Standard	
Rated Voltage (MAX.)	125 V	(AC(rms/DC))
Rated Current (MAX.)	1A	
Operating Temperature Range	-40 <sup>0</sup> C ~ +85 <sup>0</sup> C	

\*Including terminal temperature rise

### 4.PERFORMANCE :

#### 4- 1 Electrical Performance

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Test Current: 10 mA Max. Test Voltage: 20mV Max	20 mΩ MAX.
4-1-2	Insulation Resistance	Test Voltage: 500V DC. Test Duration: 1 minutes. Test Method: MIL-STD-202, method 302	100 MΩ Min.
4-1-3	Dielectric Strength	Test Voltage:500V AC. Test Time: 60 sec. Test Method: MIL-STD-202, Method 301.	No Breakdown

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## 4-2 Mechanical Performance

Item		Test Condition	Requirement
4-2-1	FPC Insertion Withdrawal	Insert the actuator, pull the FPC at the speed rate of 25±3 mm/min. (EIA-364-38B)	Insertion force= Pos X 0.08kgf (MAX) Withdrawal force= Pos X 0.035kgf (min)
4-2-2	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	Insert and withdraw actuator up to 20cycles at the speed rate of less than 10 cycles/minute.	Contact Resistance	
			Initial Value	≤ 20 mΩ
			Final Value	≤ 40 mΩ
4-3-2	Vibration	Amplitude : 1.5 mm 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	≤ 40 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	≤ 40 mΩ
4-3-5	Cold Resistance	Temperature: -40±2℃ Duration: 96 hours Test Method: JIS C60068-2-1	Appearance	No Damage
			Contact Resistance	≤ 40 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	≤ 40 mΩ
			Insulation Resistance	≥ 40mΩ
			Dielectric Strength	Must meet 4-1-3

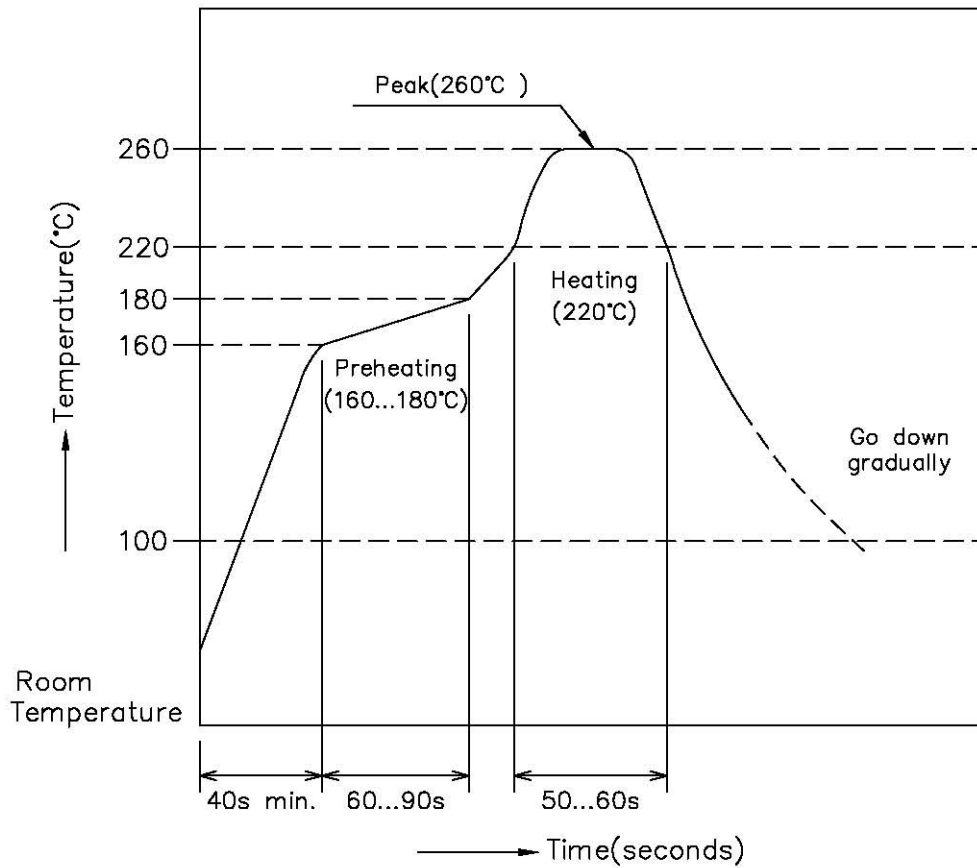
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Item		Test Condition	Requirement	
4-3-7	Solder Ability	Soldering Time : $3 \pm 0.5$ sec Solder Temperature : $245 \pm 5^\circ\text{C}$ Test Method: MIL-STD-202F , Method 208G	Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes
4-3-8	Resistance To Soldering Heat	Soldering Time : $10 \pm 0.5$ sec Solder Temperature : $260 \pm 5^\circ\text{C}$ Test Method: MIL-STD-202F , Method 210A	Appearance	No Damage
4-3-9	Steam Aging	Steam Aging Temperature : $98 \pm 2^\circ\text{C}$ Duration: 8 hours Solder Temperature : $245 \pm 5^\circ\text{C}$ Soldering Time : $3 \pm 0.5$ 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 : $35 \pm 2^\circ\text{C}$ Air Tank Temperature : $47 \pm 1^\circ\text{C}$ Salt Solution : $5 \pm 0.5\%$ Duration : 48 hours Test Method: MIL-STD-202 , Method 101D	Appearance	No Damage
			Contact Resistance	$\leq 40 \text{ m}\Omega$
4-3-11	Temperature Cycling	5 cycles of : a) $-55 \pm 3^\circ\text{C}$ 30 minutes b) $+25 \pm 3^\circ\text{C}$ 30 minutes c) $+85 \pm 2^\circ\text{C}$ 30 minutes Test Method: JIS C0025	Appearance	No Damage
			Contact Resistance	$\leq 40 \text{ m}\Omega$

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## 5. INFRARED REFLOW CONDITION

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



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Component - Plastics

E106764

**POLYPLASTICS CO LTD**

VECTRA DIV, 18-1 KONAN 2-CHOME, MINATO-KU, TOKYO 108-8280 JP

**E130i(d)(e)(f2)**

Liquid Crystal Polymer (LCP), thermotropic aromatic polyester, "Vectra", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI		RTI Str
					Elec	Imp	
ALL	0.2	V-0	-	-	130	130	130
	0.75	V-0	2	4	240	220	240
	1.5	V-0	1	4	240	220	240
	3.0	V-0	0	4	240	220	240

Comparative Tracking Index (CTI): 4

Dimensional Stability (%): 0

High-Voltage Arc Tracking Rate  
(HVTR): 0

High Volt, Low Current Arc Resis (D495): 5

Dielectric Strength (kV/mm): 39

Volume Resistivity (10<sup>8</sup> ohm-cm): 16

(d) - Virgin and regrind up to 50% by weight incl., have the same basic material characteristics in NC and BK with a minimum thickness of 0.80mm.

(e) - Regrind from 26-50% by weight inclusive has an Impact RTI of 180°C at thicknesses greater than 1.5mm.

(f2) - Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by UL.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 1992-08-19

Last Revised: 2008-07-03

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**IEC and ISO Test Methods**

Test Name	Test Method	Units	Thickness	
			Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.2	V-0 (ALL)
			0.75	V-0 (ALL)
			1.5	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m <sup>2</sup>	-	-
ISO Izod Impact	ISO 180	kJ/m <sup>2</sup>	-	-
ISO Charpy Impact	ISO 179-2	kJ/m <sup>2</sup>	-	-

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The materials covered in this database are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. THE FINAL ACCEPTANCE OF THE



## COPPER ALLOY SPECIFIC

Article	Standard NO	Dimension & Tempe
C5191	JIS H 3110	0.25mm X 16mm RH

Chemical Compositions (%)									
Element	Cu	Sn	P	Cu+Sn+P					
Spec.	—	5.5~7.0	0.03~0.35	99.5 ↑					
Actual	94.14	5.88	0.11	99.97					

Mechanical Properties.								
Item	Grain Size	Hardness	Tension Strength	Elongation	Electrical Conductivity	Bending Test	Surface Roughness	Camber
Unit	mm	HV	Kgf/mm	%	% IACS	180 °	Ra(μm)	mm/1M
Spec.	—	190~210	60~68	8↑	—	—	—	—
Actual	—	202	65.8	13.1	—	—	—	—

**ENTERY INDUSTRIAL CO., LTD.**

**RELEASE HISTORY**

<b>Rev.</b>	<b>Revisions</b>	<b>Date</b>	<b>Executor</b>	<b>Description</b>
A3	RE201111014	NOV-17-2011	JIMMY	UPDATE UL CARD