

TO

SPECIFICATION FOR APPROVAL

DESCRIPTION: Pitch 3.50mm Wire To Board Connector

CUSTOMER PROD.NO/DWG.NO:

E&T PROD.NO: 4100K-X02N-XXX

APPROVAL SHEET NO:

E&T DWG. NO./DOCUMENT: 4100K-X02N-XXX

REV: A1

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

APPROVED SIGNATURES			



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

ENTERY INDUSTRIAL CO., LTD.

Title :Pitch 3.50mm Wire To Board Connector,

Revised Max Lee		Title: Pitch3.50mm Wire To Board Connector	
A1	10,18,2011'	This Document Contains Information That Is Proprietary To E&T And Should Not Be Used Without Written Permission	
Rev	Description		
Document No.		Prepared By: Kaz Weng	Date: 10,19'2010
4100K-X02N-XXX		Checked By: <i>[Signature]</i>	Date: <i>11,20,2011'</i>
		Approved By: <i>[Signature]</i>	Date:

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PRODUCT SPECIFICATION

1. SCOPE :

This specification covers the 3.50 mm pitch Wire To Board connector series.

2. PRODUCT NAME AND PART NUMBER :

Product Name	E&T Part Number
3.50mm Wire To Board Connector	4100K-X02N-XXX

3. RATINGS :

Item	Standard	
Rated Voltage (MAX.)	1400 V	AC/DC
Rated Current (MAX.)	1A	
Ambient Temperature Range	-40 ⁰ C ~ +85 ⁰ C	

*Including temperature rise in applying electrical current

4.PERFORMANCE :

4- 1 Electrical Performance

Item	Test Condition	Requirement
4-1-1 Contact Resistance	Test Current: 10 mA Max. Test Voltage: 20mV Max Test Method: EIA-364-06B	10 mΩ MAX.
4-1-2 Insulation Resistance	Test Voltage: 500V DC. Test Duration: 1 minutes. Test Method: EIA-364-21C	Initial: 1000 MΩ Min.
		Final: 500 MΩ Min.
4-1-3 Dielectric Strength	Test Voltage: 3800V AC. Test Time: 60 sec. Test Method: EIA-364-20B	No Breakdown

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4-2 Mechanical Performance

Item		Test Condition	Requirement	
4-2-1	Insertion Force And Withdrawal Force	Test Speed: 25±3 mm/min. Test Method: EIA-364-13B	Insertion Force	2.55 kgf (Max)
			Withdrawal Force	0.5 kgf (Min)
4-2-2	Terminal / Housing Retention Force	Test Speed: 25mm/min.	1.02kgf (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. Test Method: EIA-364-13B	Contact Resistance	
			Initial Value	≤ 10 mΩ
			Final Value	≤ 20 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: EIA-364-28D	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ
			Discontinuity	1μsec
4-3-3	Heat Resistance	Temperature: 85±2°C Duration: 96 hours	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ
4-3-4	Cold Resistance	Temperature: -40±2°C Duration: 96 hours	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ
4-3-5	Humidity	Temperature: 40±2°C Relative Humidity: 90~95% Duration: 96 hours Test Method: EIA-364-31B	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ
			Insulation Resistance	≥ 500MΩ
			Dielectric Strength	Must meet 4-1-3
4-3-6	Solder Ability	Soldering Time : 3±0.5 sec Solder Temperature : 245±5°C Test Method: EIA-364-52	Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes

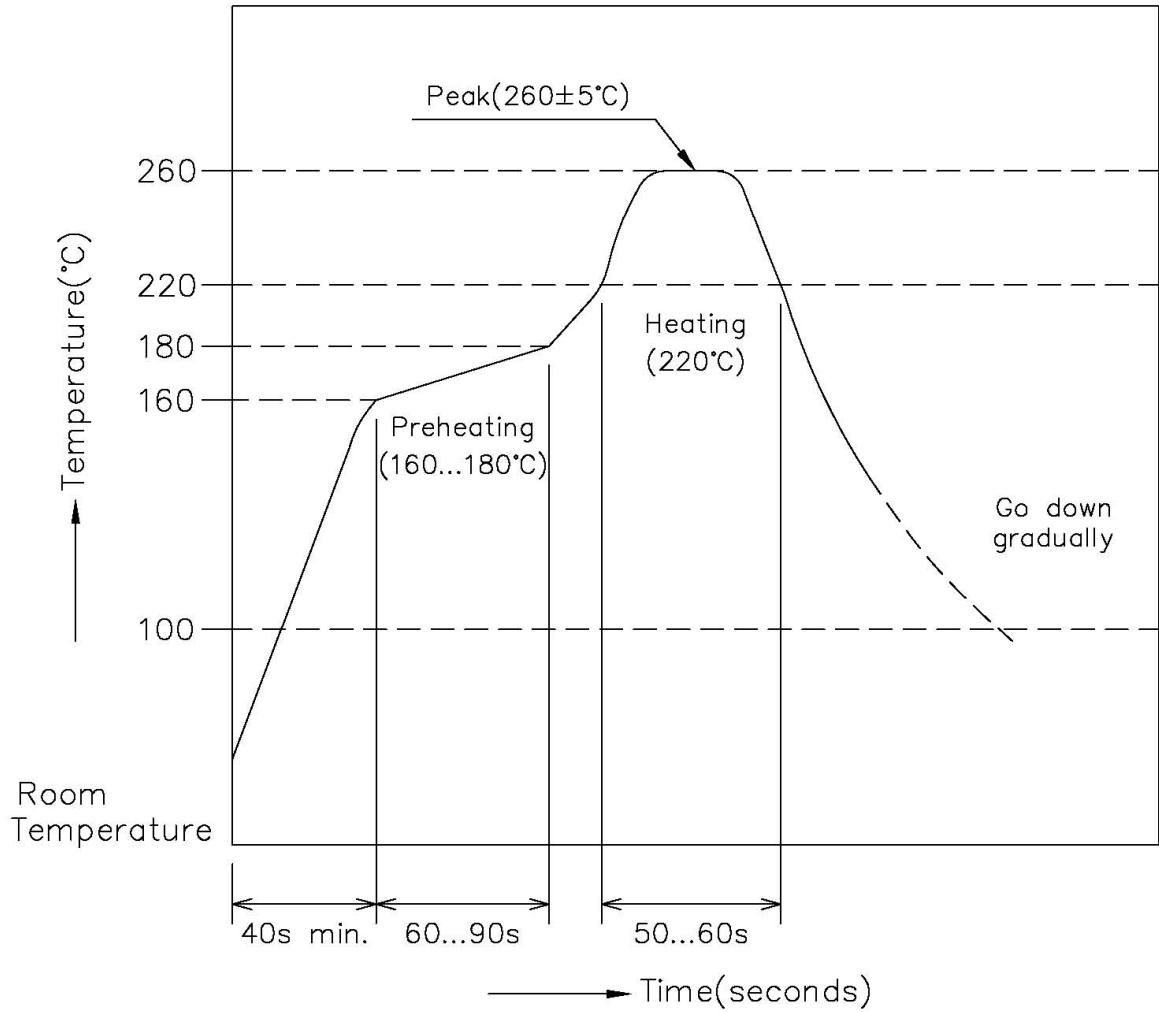
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Item		Test Condition	Requirement	
4-3-7	Resistance To Soldering Heat	Soldering Time : 10±0.5 sec Solder Temperature : 260±5°C Test Method: EIA-364-56C	Appearance	No Damage
4-3-8	Steam Aging	Steam Aging Temperature : 98±2°C Duration: 8 hours Solder Temperature : 245±5°C 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
4-3-9	Salt Spray	Chamber Temperature : 35±2°C Air Tank Temperature : 47±1°C Salt Solution : 5 ± 0.5% Duration : 48 hours Test Method: EIA-364-26B	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ
4-3-10	Temperature Cycling	5 cycles of : a) - 40 ±3°C 30 minutes b) +25 ±3°C 30 minutes c) + 85 ±2°C 30 minutes Test Method: EIA-364-31B	Appearance	No Damage
			Contact Resistance	≤ 20 mΩ

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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.



Wire To Board Handling Precautions

This manual is to describe basic precautions. When there are doubtful points in use of, please contact E&T.

1. Common Handling Precautions

- Do not expose E&T's wire to board connector, processing process product and processing product to corrosive substance, corrosive gas, high temperature and high humidity and direct sunshine. It causes corrosion of contact and deterioration of insulation performance of housing, etc., so that it causes motion defect of appliances.
- Do not apply external load to E&T's wire to board connector, processing process product and processing product . Deformation and breakage, etc. occur, and it causes performance defect of.
- There may be slight differences in the housing coloring, but there will be no influence on the product's performance.
- Please do not conduct any "washing process" on the connector because it may damage the product's function.
- E&T's wire to board connector is not designed for the mating and unmating of the connectors to be performed under the condition of an active electrical circuit. It may cause a spark and product defect if the connectors are mated and unmated in this way.

2. PC Board Precautions

- Exercise caution when handling boards with the connectors installed. Do not apply any forces affecting soldered joints. (see figure 1).
- The mounting specification for coplanarity does not include the influence of warpage of the printed circuit board. (see figure 1).
- Changing recommended pattern causes problems.

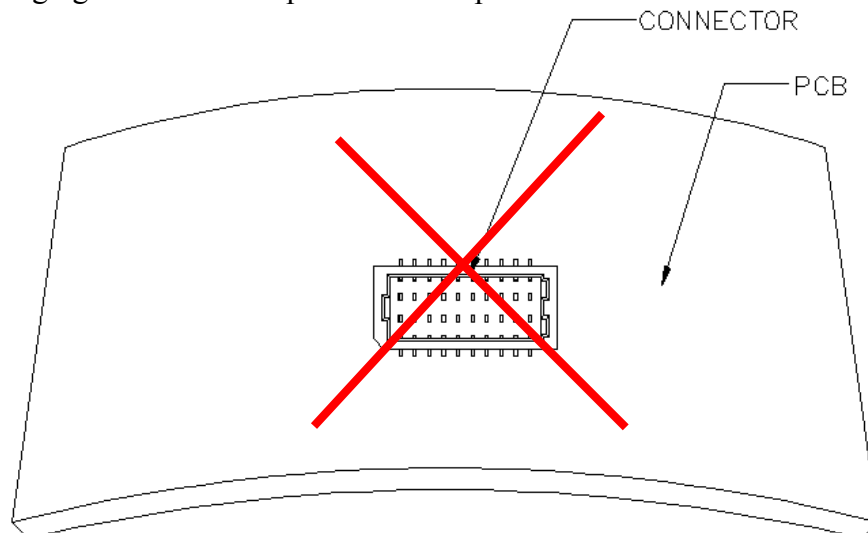


Figure 1.

3. Precautions Crimped Terminal Insertion

- Terminal must be inserted horizontally oriented (see figure 2).
- Do not attempt to insert crimped terminal in any other direction. (see figure 2).

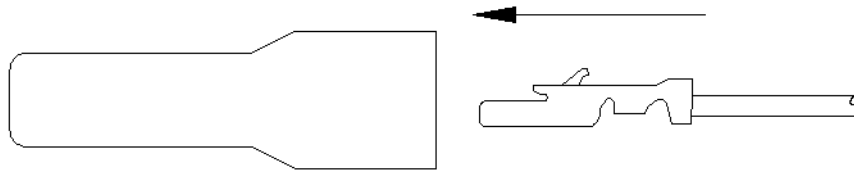


Figure 2.

4. Precautions When Inserting or Withdrawal Wire To Board

- Do not insert and remove at an angle of 25° or greater. Doing so will cause contact deformation or case damage. (see figure 3).
- Push the wire side connector until firmly closed. At this time, confirm that the wire side connector is mated securely.
- When mounting of connectors, its slant or aberration shall be 3° max.
- Do not insert and remove the connectors when the board side connector is not mounted on the PC board.
- Used Lock type, when removed to connectors, please released positive locks.

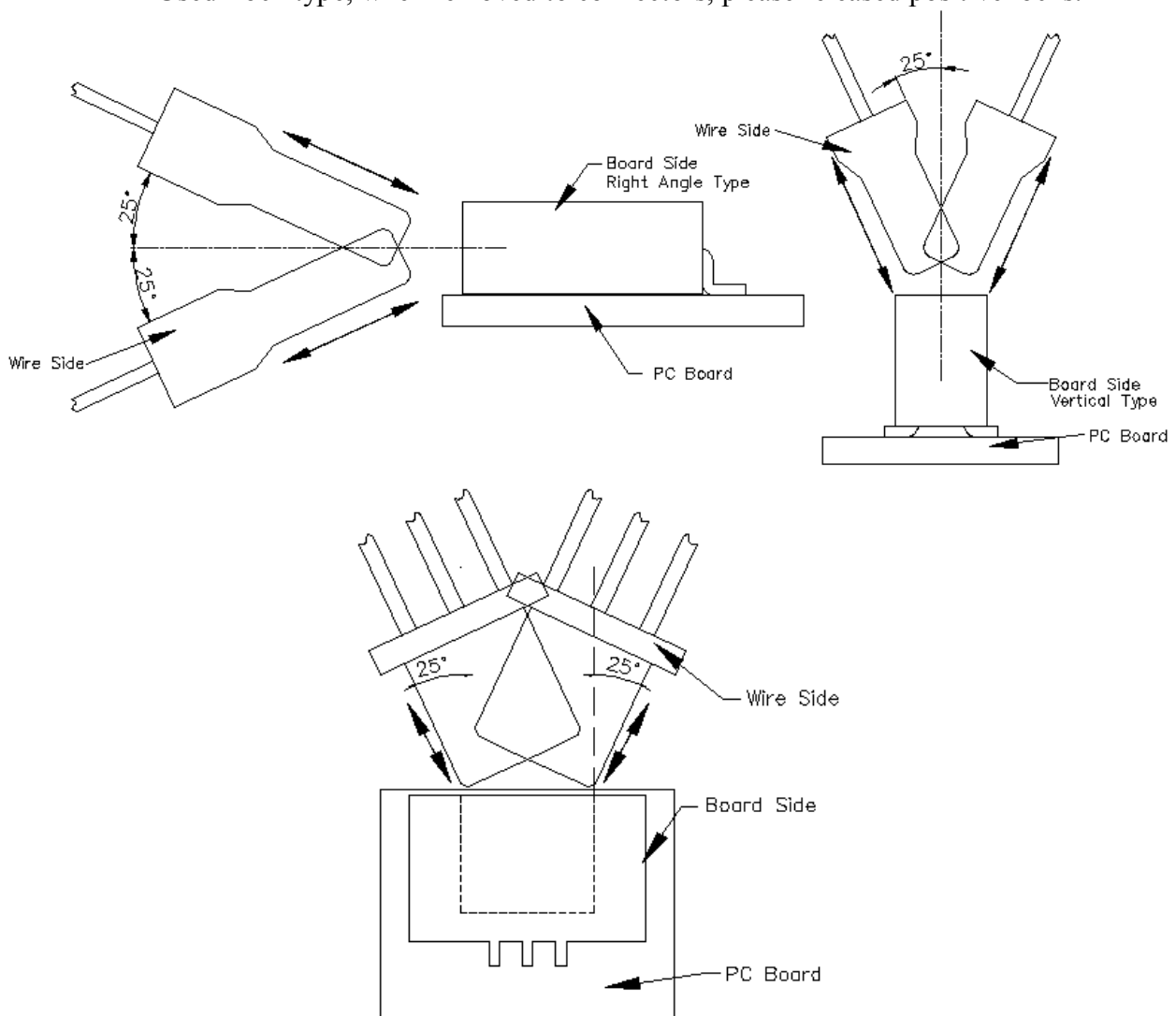


Figure 3.

5. Precautions Cable Assembly

- The cable assembly should not have a constant stress or pulling force applied on it when it is in the mated condition. Therefore, when designing the wire positioning, please ensure that there is enough length of wire to avoid stress on the connector. (see figure 4).

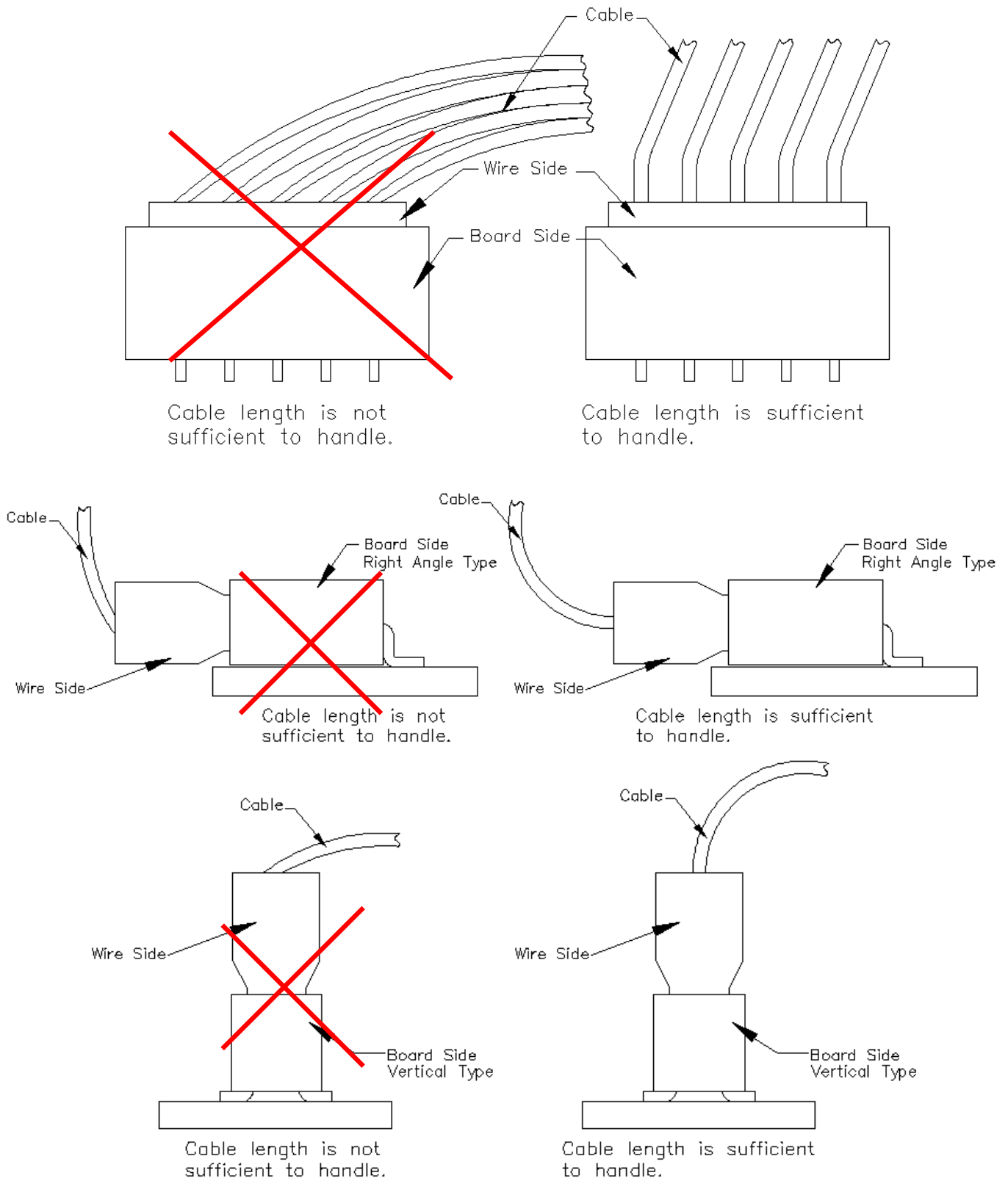


Figure 4.

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RELEASE HISTORY

Rev.	Revisions	Date	Executor	Description
A1	RE201110012 RE201111014 RE201111028	NOV-24-2011	Max	Add Handling Precautions LCP 6130LX Change LCP E130I Cancel Packaging Spec