

<b>Cian Shin Industrial Co., LTD</b>	TITLE <b>R/A EDGE CARD CONNECTOR PRODUCT SPEC.</b>	
NUMBER : DOC-SPEC-010-0002-522	AUTHROIZED BY : B.C.	
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## **1.0 Objective**

This specific defines the performance, test, quality and reliability requirements of right angle (R/A) Edge Card Connector.

## **2.0 General**

The Specification is composed of the following section.

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## **3.0 Applicable Documents**

The following document of the issue in effect on the date of the latest revision of this specification, shall form a part of this specification to the extent specified herein.

### **3.1 Cian Shin Industrial Co., LTD Specifications**

- 010-0002-522 Cian Shin Industrial Co., LTD Engineering Drawing

### **3.2 Other Standard and Specification**

- UL 94, Tests for flammability of plastic materials
- EIA 364, Electrical connector/socket test procedures include environmental classification

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## **4.0 Requirements**

### **4.1 Design and Construction**

Connectors shall be of the design construction and physical dimensions specified on the applicable product drawing as shown in Para 3.1

### **4.2 Material**

The Material for each part shall be as specified herein or equivalent, the substitute material shall meet the performance requirement of this specification

#### **4.2.1 Housing dielectric material**

- Plastic raw material : PA6T (Halogen Free)
- Flame level : UL 94V-0
- Color of housing : Black

#### **4.2.2 Contact**

- Material : Copper Alloy
- Finishing : 15  $\mu$ ” gold on mating area; 100  $\mu$ ” tin on soldered tail, all over nickel underplated

### **4.3 Operating Temperature Range**

- -50°C ~ +105°C

### **4.4 Mechanical Characteristics**

#### **4.4.1 Contact Retention**

- Test condition: per EIA-364-29, full assembly connector
- Requirement: 4.9N min.

#### **4.4.2 Durability**

- Test condition: per EIA-364-09  
1000 mating/unmating cycles test requested by customer
- Requirement: After 1000 mating/unmating cycles, there shall be no damage to the housing or contacts, and meet all electrical and mechanical characteristics.

#### **4.4.3 Mating/Unmating Force**

- Test condition: per EIA-364-13, full assembly connector.
- Requirement: Mating force 35N Max.

Unmating force 7N Min. initial; 3N Min. final

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#### 4.5 Electrical Characteristics

##### 4.5.1 Current Rating:

- Test Condition: Measuring the temperature changes at the mating point with test current 10A applied.
- Requirement: The maximum temperature rise of contacts should no more than 30°C

##### 4.5.2 Contact Resistance

- Test condition: per EIA-364-23
- Requirement: 50m $\Omega$  (initial); 100m $\Omega$  (final)

##### 4.5.3 Dielectric Withstanding Voltage

- Test condition: per EIA-364-20. Apply with a test voltage of 1000V<sub>DC</sub> for 60 seconds between the closet adjacent contacts.
- Requirement: There shall no short circuit or insulation break down.

##### 4.5.4 Insulation Resistance

- Test condition: per EIA-364-21. Apply with a test voltage between the closet adjacent contacts.
- Requirement: The insulation resistance shall be 5,000M $\Omega$  min.

##### 4.5.5 Solderability

- Test condition: per EIA-364-52
- Requirement: There shall have a solder coverage of 95% minimum.

#### 4.6 Environmental Conditions

##### 4.6.1 Thermal Shock

- Test condition: per EIA 364032, Cycle the connector between -40°C to + 105°C. Dwell time of 30 minutes at extreme temperature. Temperature transition time shall be within 5 minutes max.
- Requirement: No physical damages and meets sequenced tests

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## **5.0 Product Qualification Provisions**

### **5.1 Equipment Calibration**

All test equipment and inspection facilities used in the performance of any test shall be maintained a calibration system in accordance with TL-9000

### **5.2 Inspection Conditions**

Unless otherwise specified herein, all inspections shall be performed under the following ambient condition.

- (a) Ambient Temperature:  $25\pm 3^{\circ}\text{C}$
- (b) Ambient Humidity:  $55\pm 20\%$  RH
- (c) Barometric pressure: local ambient

### **5.3 Sample Quantity and Description**

Samples shall be selected at random from current production. The sample size shall be according to test sequence needed.

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**6.0 Packaging and Shipping**

- 6.1 Packing the packing and packaging shall be in accordance with industry standard practice in a manner to insure carrier acceptance and safe delivery to destination per Cian Shin Industrial Co., LTD packaging
- 6.2 Packaging marking each shipping container shall be clearly marked with the name of the contents, the amount of contained, the Cian Shin Industrial Co., LTD part number, and the name of the receiving part, as listed in the procurement.

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**7.0 Revision Record**

Rev	Page	Description	Date
A	All	Release	07/13/'15