

## 1. INTRODUCTION

This specification covers the requirements for application of ultraminiature bare poke-in contacts for use on lighting field. When corresponding with TE Connectivity Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

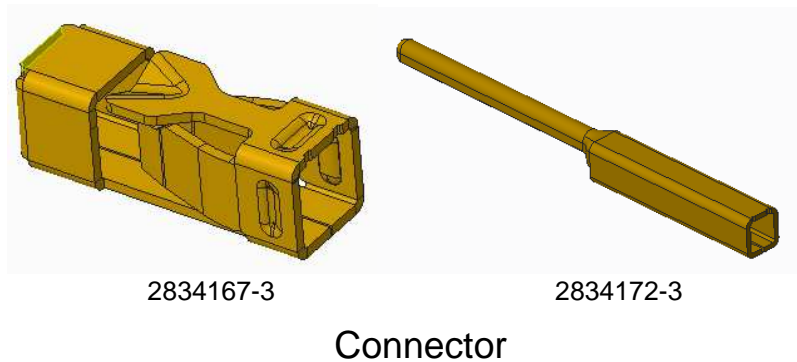


Figure 1

## 2. REFERENCE MATERIAL

### 2.1. Revision Summary

Revision A – First Version

### 2.2. Customer Assistance

Reference Product Base Part Numbers 2834167-3 & 2834172-3 are representative of the releasable poke-in bare contacts. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product information. Such information can be obtained through a local TE Connectivity Representative.

### 2.3. Drawings

Customer Drawings for specific products are available from the responsible TE Connectivity Engineering department via the service network. The information contained in the Customer Drawings takes priority if there is a conflict with this specification or with any other technical documentation supplied by TE Connectivity.

## 3. REQUIREMENTS

### 3.1. Safety:

**DO NOT** stack product shipping containers so high that the containers buckle or deform.

### 3.2. Limitations:

The connectors are designed to operate in a temperature range of  $-40^{\circ}\text{C}$  to  $105^{\circ}\text{C}$

### 3.3. Material

Contact is made of copper alloy;

Under-plated overall with nickel, and plated with tin;

### 3.4. Storage

#### A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the connector

material.

## B. Shelf Life

The contacts and connectors should remain in the shipping containers until ready for use to prevent deformation to components. The components should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

## C. Chemical Exposure

**DO NOT** store the contacts or connectors near any chemical listed below as they may cause stress corrosion cracking in the components.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur	Nitrites	Tartrates

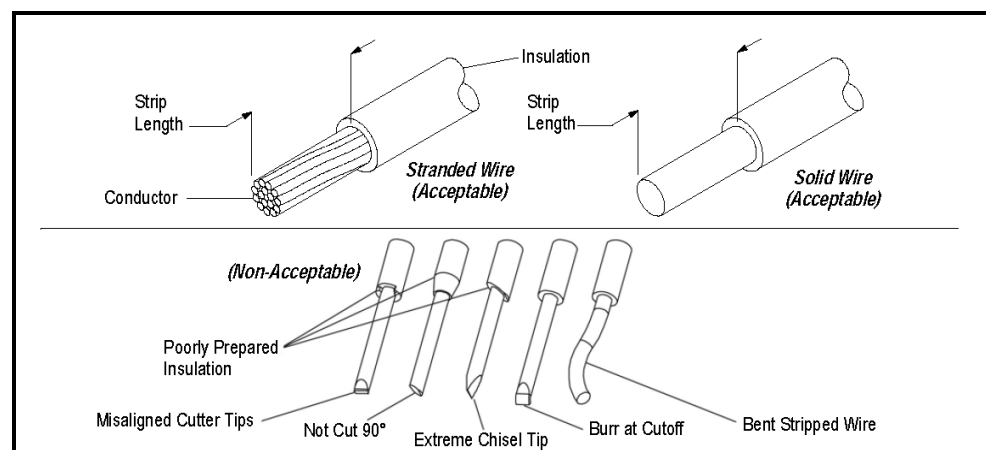
## 3.5. Wire Selection and Preparation

The applicable wire size and type are list in table 1.

**Table 1 RECOMMENDED WIRE**

P/N	Wire Size	Wire Type		Insulation Diameter	Strip Length
2834167-3	18 AWG	UL1007-18	Solid	2.05mm max	6.6+/-0.5mm
		UL1007-18(16)	Stranded(Tin-dipped) OD:1.20mm max		
	20 AWG	UL1007-20	Solid		
		UL1007-20(26)	Stranded(Tin-dipped)		
	22 AWG	UL1007-22	Solid		
		UL1007-22(7)	Stranded(Tin-dipped)		

The typical unacceptable wire preparation example is shown on Figure 2.



**Figure 2**

Stranded conductor surface should be smooth and no burr after tin-dipped



## 3.6 Assembly Procedure

In the field, these kits must be assembled by a qualified electrician in accordance with national and local electrical codes and the following instructions.



Turn off power before removing or installing connector.

## For 2834167-3 (Wire to Board)

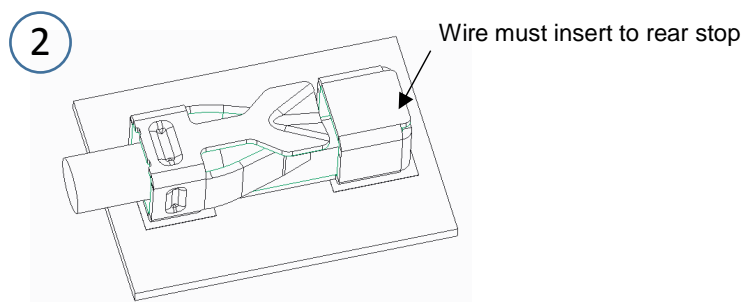
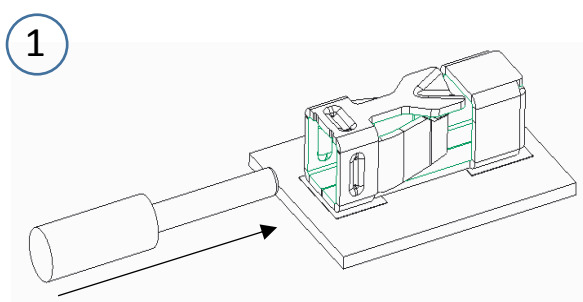
Wire insertion:

1. Select the proper assembly for your production requirements.
2. Insert each stripped wire into the slot of the connector until the stripped wire is pushed to the rear stop position. The wire insulation must be closed the inner bottom, and maximum allowed insertion angle is 5°

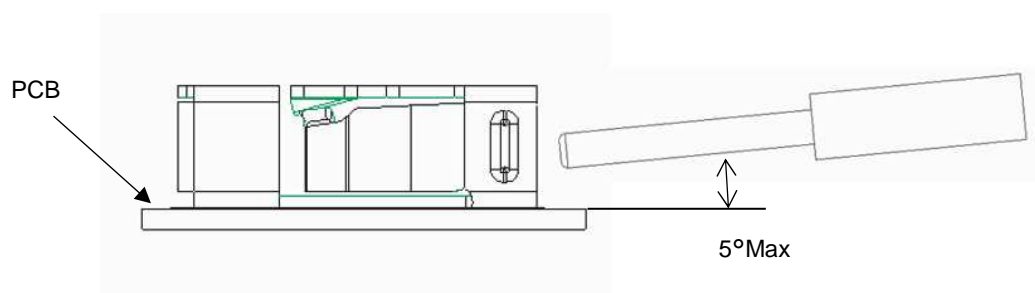
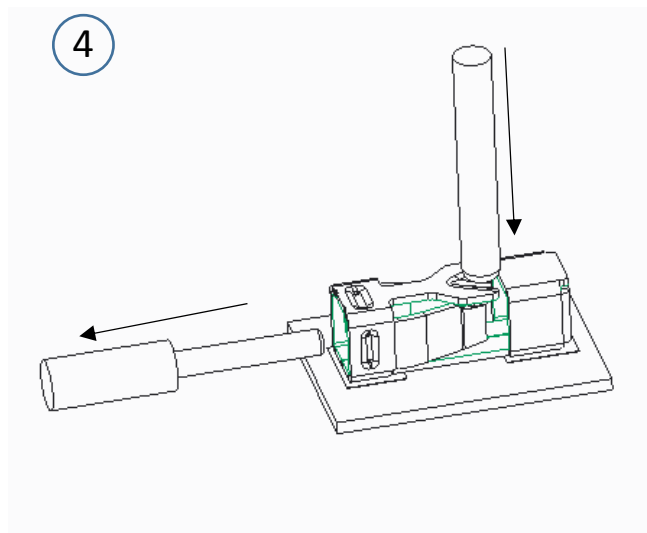
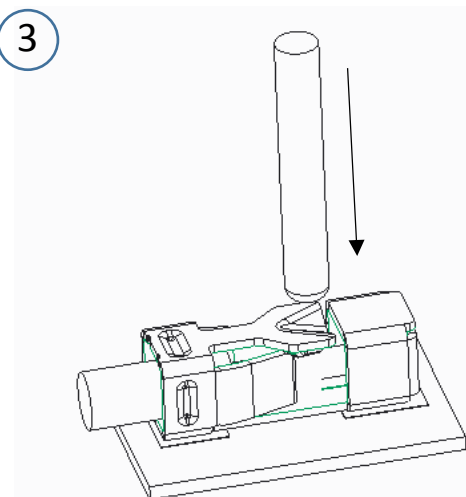
Wire releasing:

3. Push down the release structure with tool then extract out the wire from the contact.  
(Stranded wire should be twisted and extracted out due to different the tin-dipped quality)

### wire insertion



### wire releasing



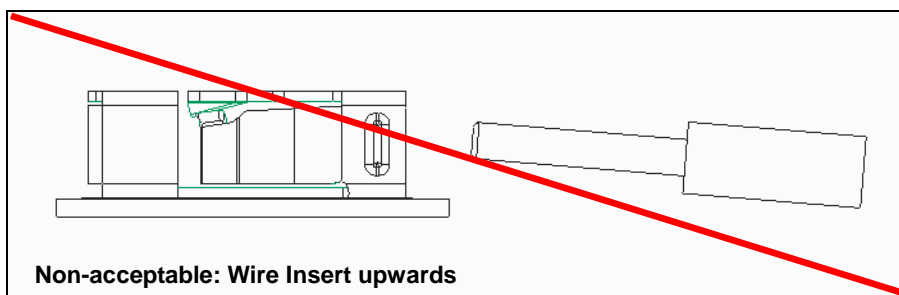


Figure 3

## For 2834167-3 (Board to Board)

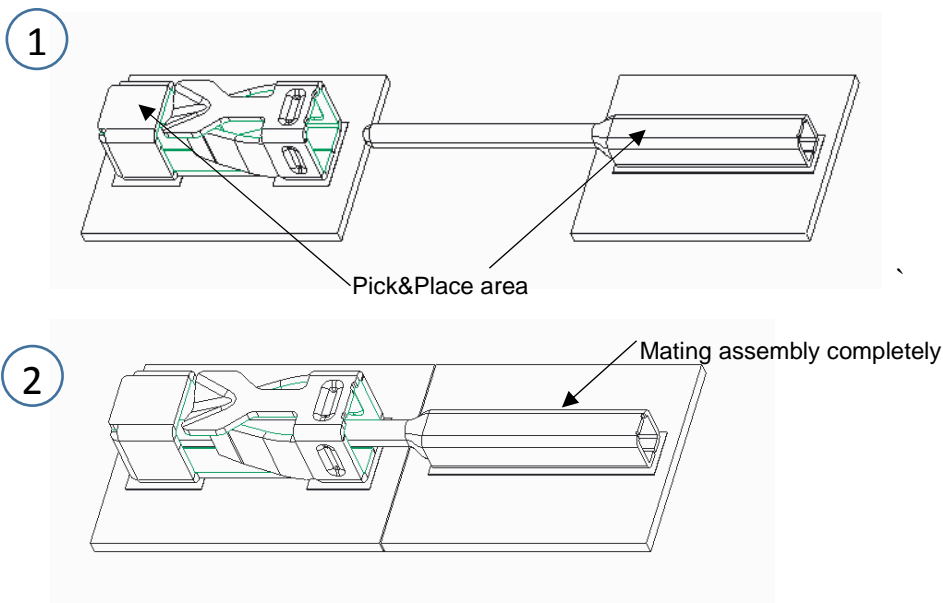
Mate pin assembly:

1. Select the proper assembly for your production requirements.
2. Fix the male PCB and female PCB with contact soldered in the right position, **0.30mm max offset between the relative position.**
3. Moving both contact with PCB till mating completely.

Mate pin releasing:

4. Push down the release structure with tool then extract out the female contact if user want to release the mating assembly

## Male pin assembly



## Male pin releasing

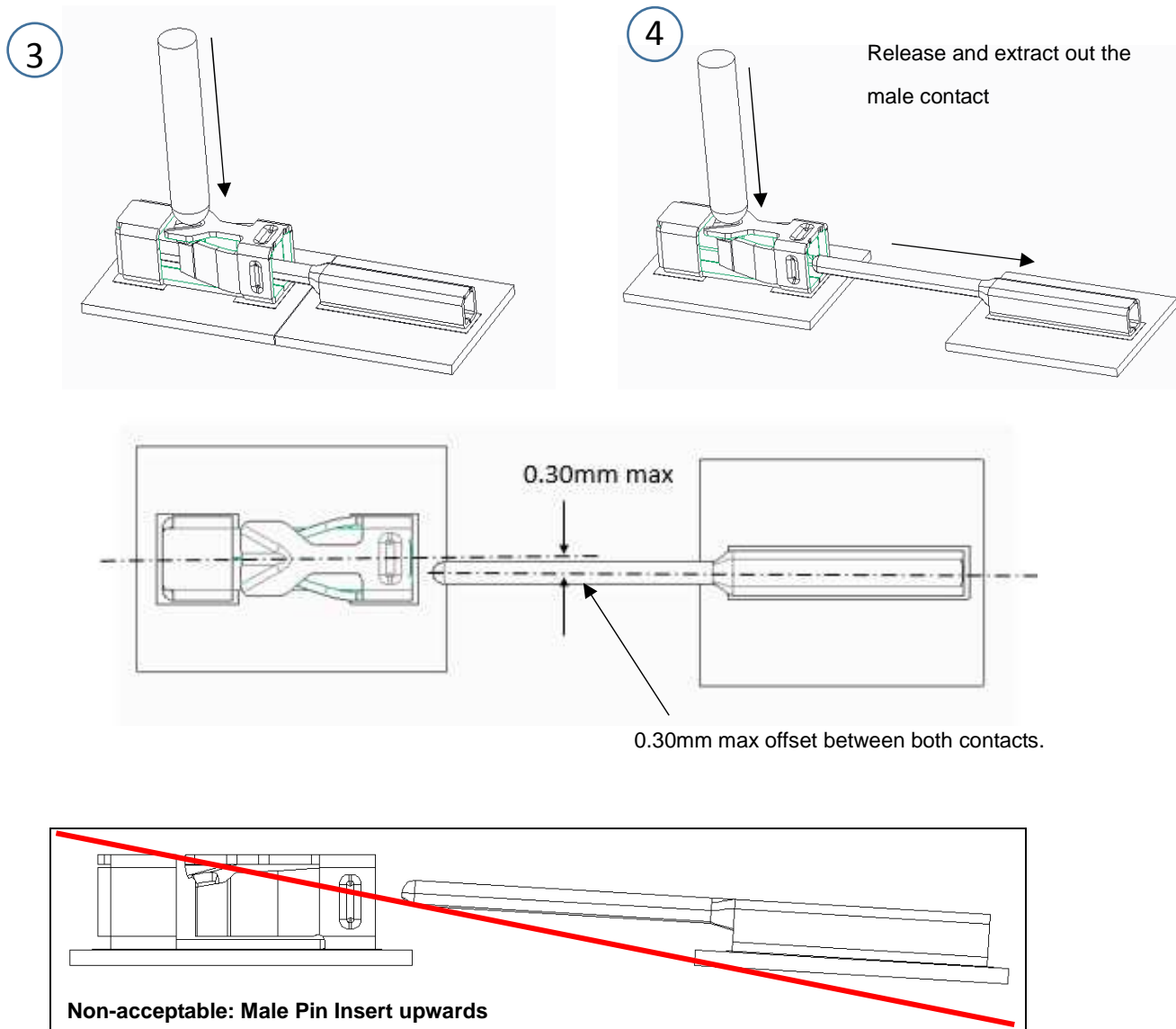


Figure 4

### 3.7. PC Board

#### A. Material and Thickness

Common pc board materials may be used such as glass epoxy (FR-4 or G-10), Aluminum-clad pc boards and flex circuits. The pc board thickness may vary to suit the end use thickness.

#### B. Tolerance

Maximum allowable bow of the pc board shall be 0.10 mm over the length of the connector.

#### C. Pads

The pc board circuit pads must be solderable in accordance with IPC J-STD-003.

#### D. Layout

The pc board layout must be designed using the dimensions provided on the customer drawing:

C-2834167& C-2834172 for the specific connector.

The layout should be located on the edge of the PCB for the wire easy inserting.

### **3.8. Replacement/Repair**

The Connector could not be reworked and replaced.

## **4. QUALIFICATION**

Qualification under process by Underwriters Laboratories Inc.

## **5. SOLDERING**

Observe guidelines and procedures when soldering contacts. Solder, clean, and dry all leads to contacts according to the following. The connectors should be soldered using vapor phase reflow (VPR), double-sided, non-focused infrared (IR), forced air convection, or equivalent soldering techniques. All solder joints should conform to the Workmanship Specification IPC-A-610 and IPC J-STD-001.

### **A. Flux Selection**

Contacts must be fluxed prior to soldering with a mildly active, rosin base flux. Selection of the flux will depend on the type of pc board and other components mounted on the board. Additionally, the flux must be compatible with the wave solder line, manufacturing, health, and safety requirements.

### **B. Connectors with SMT Contacts**

#### **1. Solderability**

The pc board pads must be solderable in accordance with IPC/EIA J-STD-003 and all other requirements for surface mount contacts specified in this document.

#### **2. Solder Paste Characteristics**

- a. Alloy type shall be SAC 305; Sn 96.5/Ag 3.0/Cu 0.5.
- b. Flux incorporated in the paste shall be rosin, mildly active (RMA) type.
- c. Paste will be at least 80% solids by volume.
- d. Mesh designation -200 to +325 (74 to 44 square micron openings, respectively).
- e. Minimum viscosity of screen print shall be 5x10% cp (centipoise).
- f. Minimum viscosity of stencil print shall be 7.5x10% cp (centipoise).

#### **3. Process**

Connectors with surface mount contacts should be soldered using vapor phase (VPR), double-sided, non-focused infrared reflow (IR) or equivalent soldering techniques. Due to many variables involved with the reflow process (i.e., component density, orientation, etc.), it is recommended that trial runs be conducted under actual manufacturing conditions to ensure product and process compatibility.

The lead-free reflow profile is shown in Figure 6

### Kester Lead-Free Reflow Profile Alloys: Sn96.5/Ag3.0/Cu0.5 and Sn96.5/Ag3.5

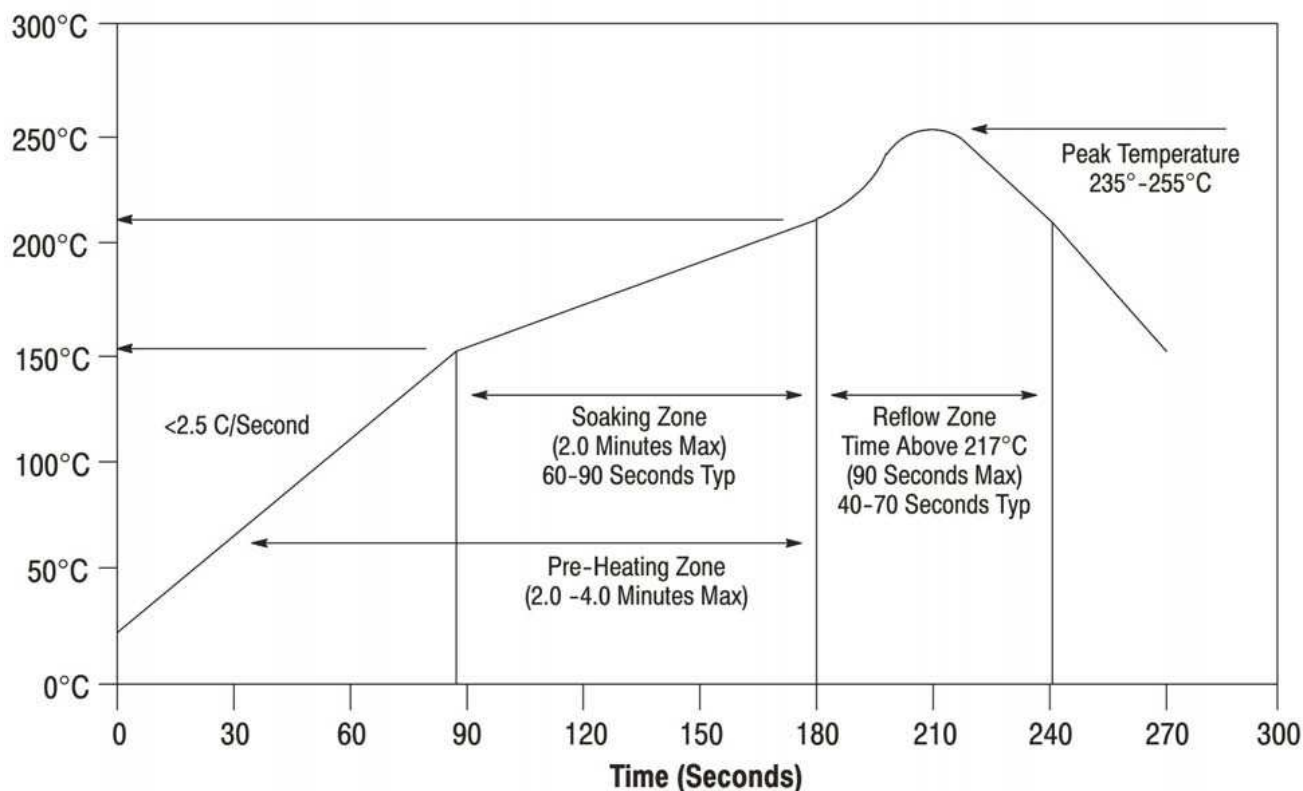


Figure 5

## 6. VISUAL AID

The illustration below shows a typical application of this Connector. This illustration should be used by production personnel to ensure a correctly applied product. Applications which **DO NOT** appear correct, should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product.

The stripped wire should be pushed to the rear stop position

