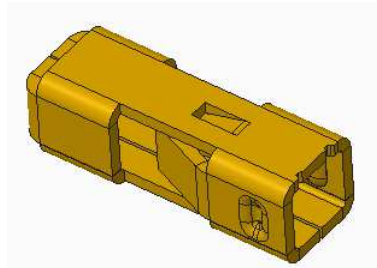


1. INTRODUCTION

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.



2834171-3

Connector

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Revision A2 – Update the wire spec

2.2. Customer Assistance

Reference Product Base Part Numbers 2834171-3 is representative of the ultraminiature 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°C to 105°C

3.3. Material

Contact is made of copper alloy;

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

3.4. Storage

A. 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.

B. 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 |
|-----------|-----------|----------------------|----------------------------|--------------|
| 2834171-3 | 20 AWG | Solid | Insulation out the contact | 6.0+/-0.5mm |
| | | Stranded(Tin-dipped) | | |
| | 22 AWG | Solid | | |
| | | Stranded(Tin-dipped) | | |
| | 24 AWG | Solid | | |

The maximum applicable diameter after tin dipping is Ø1.0mm.

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

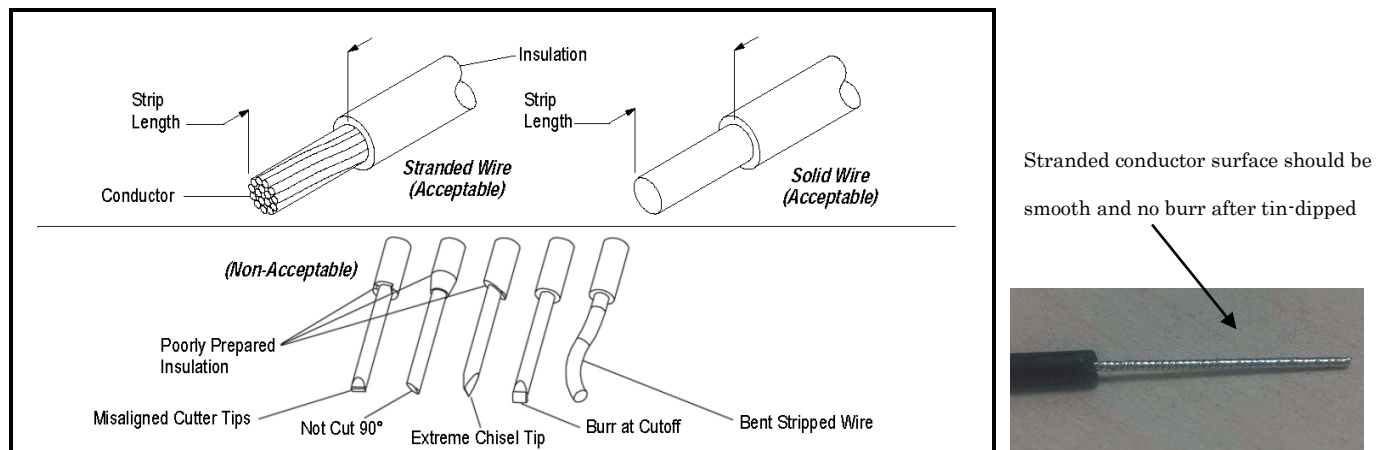


Figure 2

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 2834171-3 (Wire to Board)

1. Select the proper assembly for your production requirements.
2. Insert each stripped wire into the poke-in slot of the connector until the stripped wire is pushed to the rear stop position. The maximum allowed insertion angle is 5° .

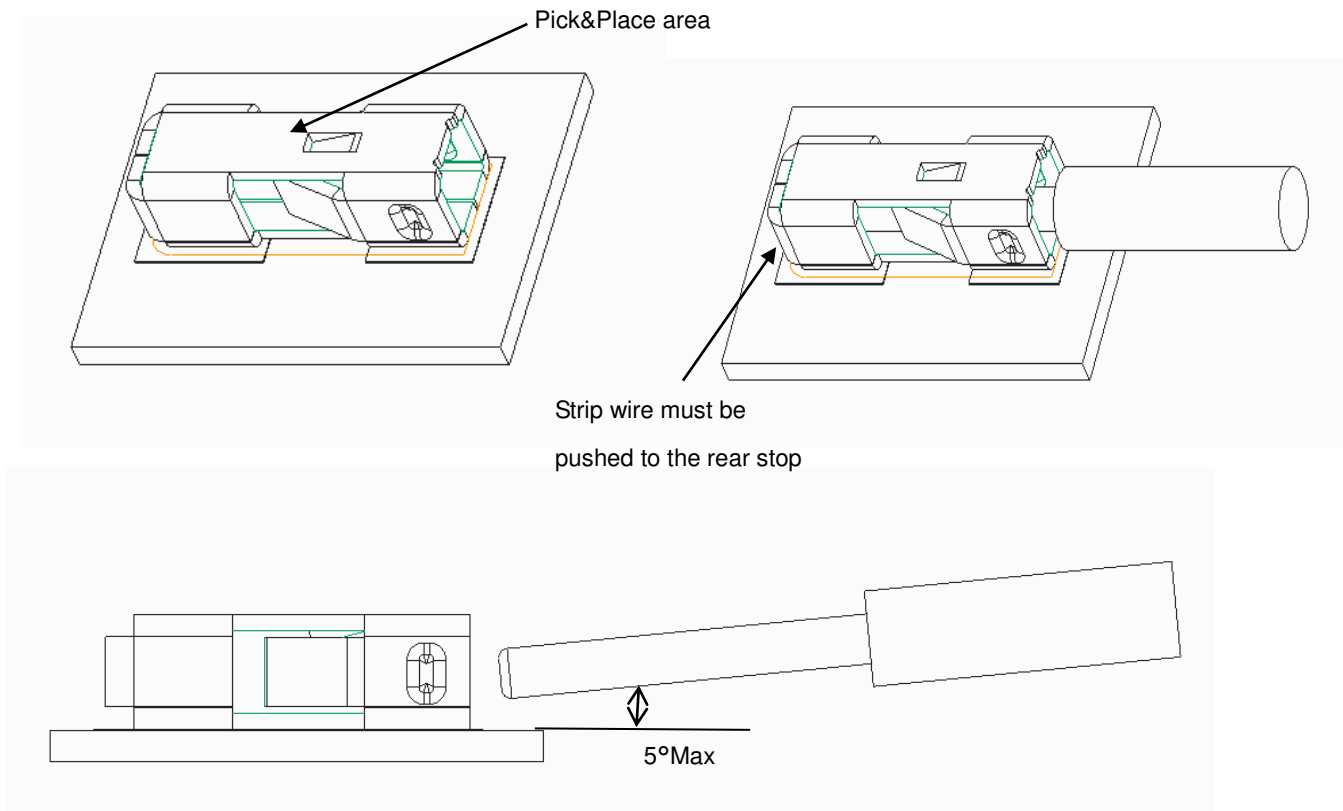


Figure 5

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-2834171 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 5×10^4 cp (centipoise).
- f. Minimum viscosity of stencil print shall be 7.5×10^4 cp (centipoise).
- g. The thickness of soldering paste: 0.10mm

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

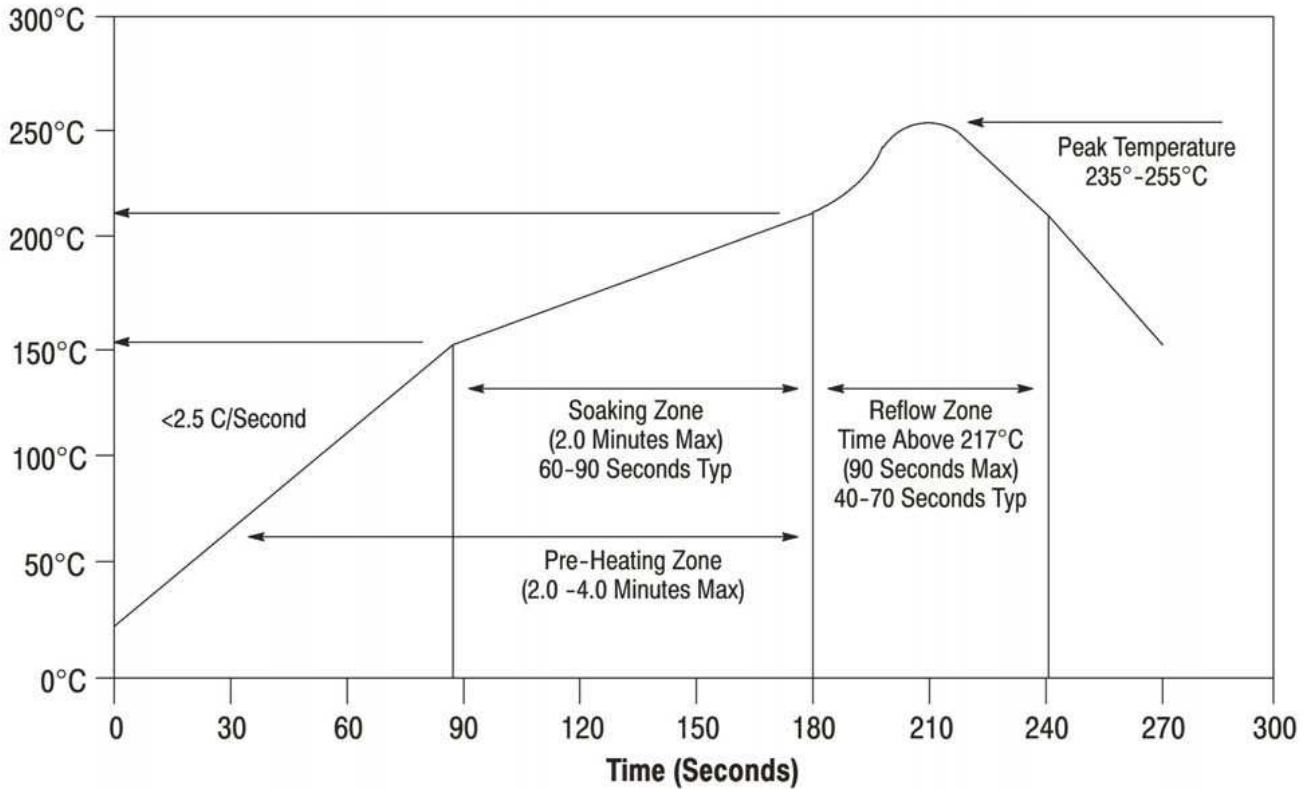


Figure 6

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

