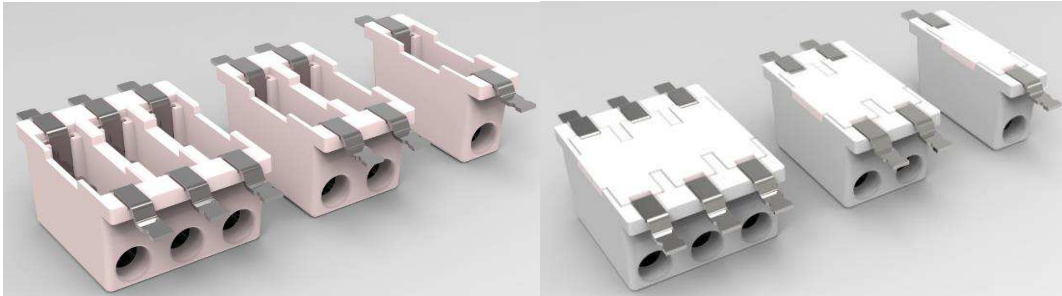


1. INTRODUCTION

This specification covers the requirements for application of 4.0pitch&6.5pitch ITB SMT Releasable Poke-in connector 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.



Connector

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Revision A2 – Update operating temperature.

2.2. Customer Assistance

Reference Product Base Part Numbers 2834313/2834334/2834331 are representative of the ITB SMT releasable poke in connector. 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 -55°C to 105°C

3.3. Material

Housing is made of UL94V-0 rated thermoplastic;

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

These connectors will accept 18 to 22 AWG range wire; The applicable wire size and type are list in table 1.

Table 1 RECOMMENDED WIRE

Wire Size	Wire Type		Insulation Diameter	Strip Length
18 AWG	UL1007-18	Solid	2.1mm max	8.0+/-0.5mm
	UL1007-18(16)	Stranded(Tin-dipped)		
20 AWG	UL1007-20	Solid		
	UL1007-20(7)	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.

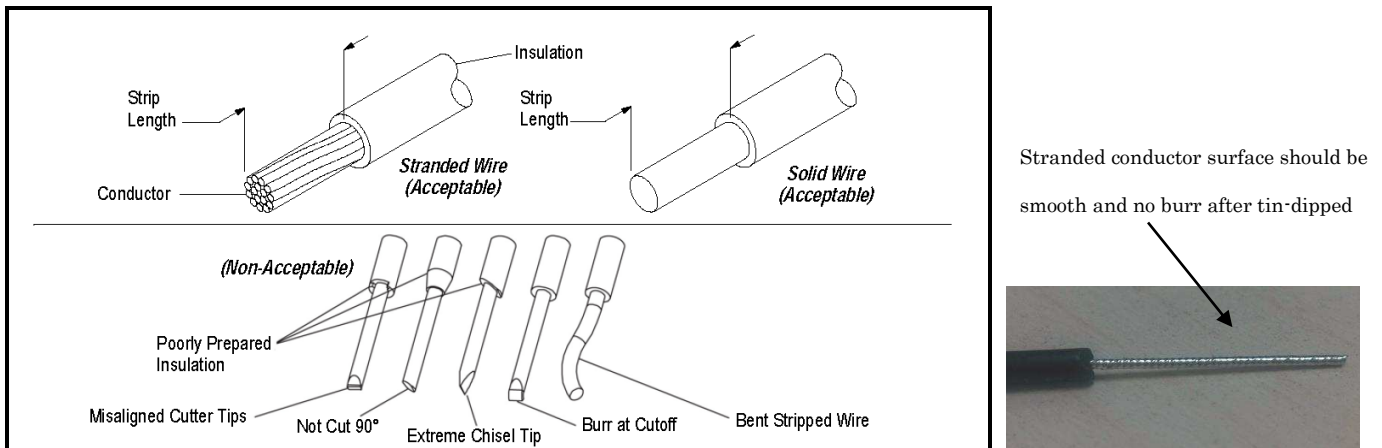


Figure 2

3.6 Wire Termination

The receptacles must be terminated according to the following instructions.

A. Workmanship



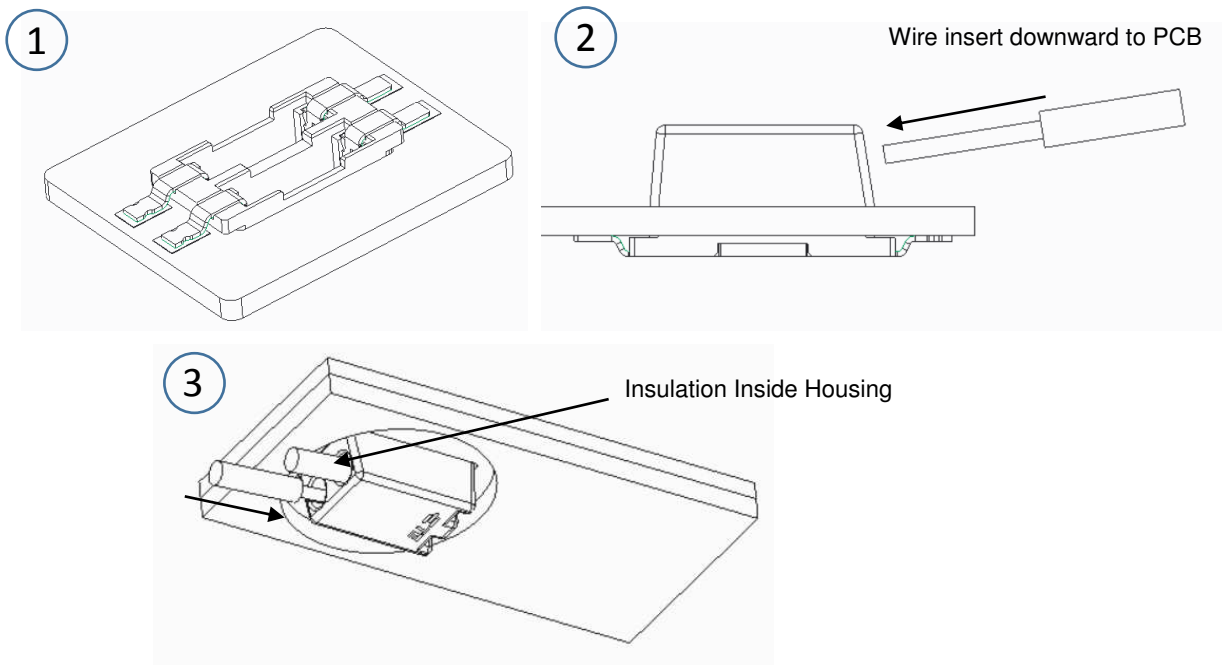
CAUTION

The housing must not be damaged in any way. There shall be no bending of the contacts. There shall be no

exposed copper wire or broken or bent conductor strands.

B. Wire Insertion

The wires must be fully inserted to the end so that the wire insulation is inserted into and surrounded by housing. Refer to Figure 3



Key point

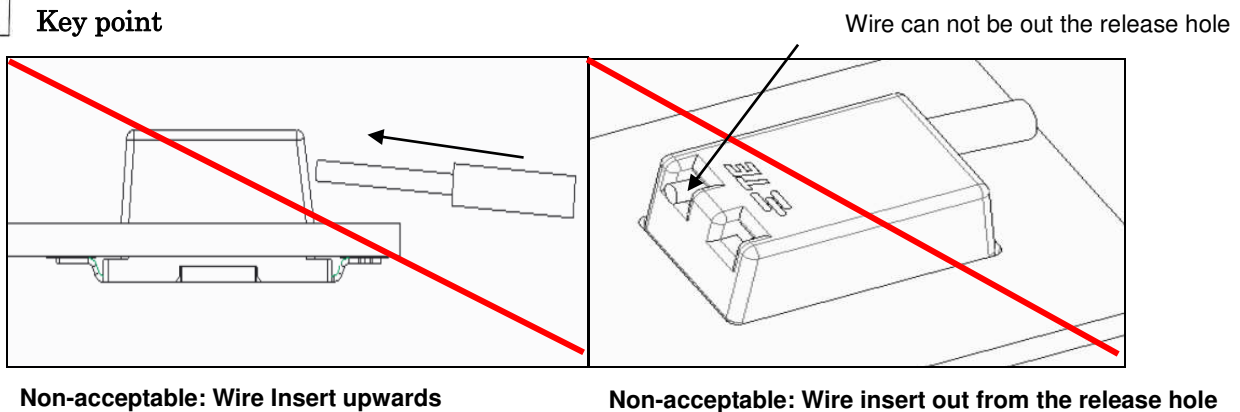


Figure 3

C. Wire Extraction

A fully inserted wire can be extracted from the connector using the releasing tool on the side wall of the connector housing. Using up to a 0.7mm thickness * 1.3~1.4mm width strip device (Refer the below tool dimension) and insert into the release window horizontally, then the wire could be extracted from the connector along the axis of wire insertion direction.

Refer to Figure 4.

CAUTION

Extraction device to be free from burrs and sharp edges to ensure no damage is done to connector terminals.

A new stripped wire must be re-inserted into cavity after extraction of existing wire. DO NOT re-use extracted wire.

Stranded 18AWG wire (Tin-dipped) must be twisted and extracted out from the connector.

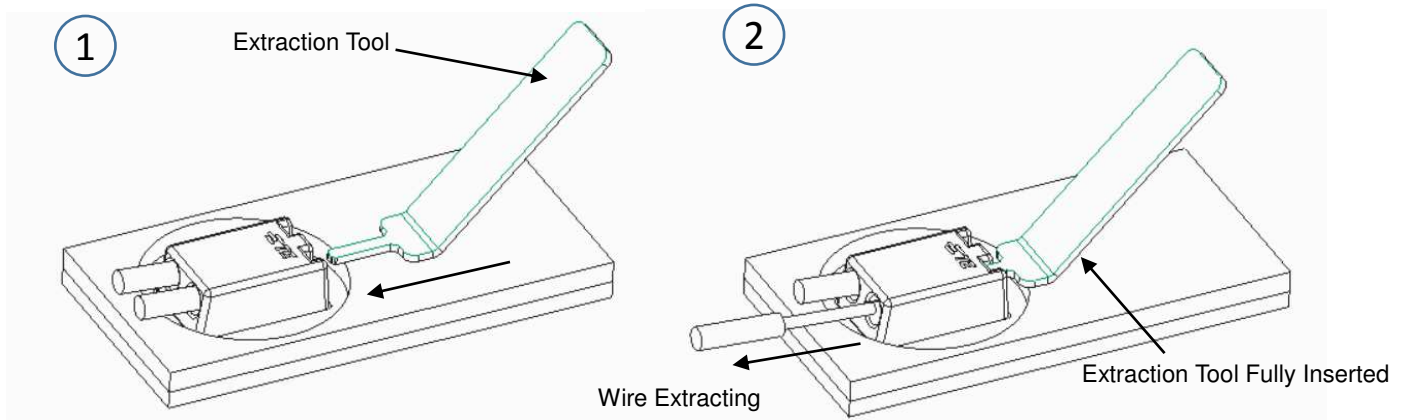


Figure 4

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 for the specific connector.

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

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.



And for this ITB type, please add the N2 protection during the SMT soldering process to avoid the oxidation effect.

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 5

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

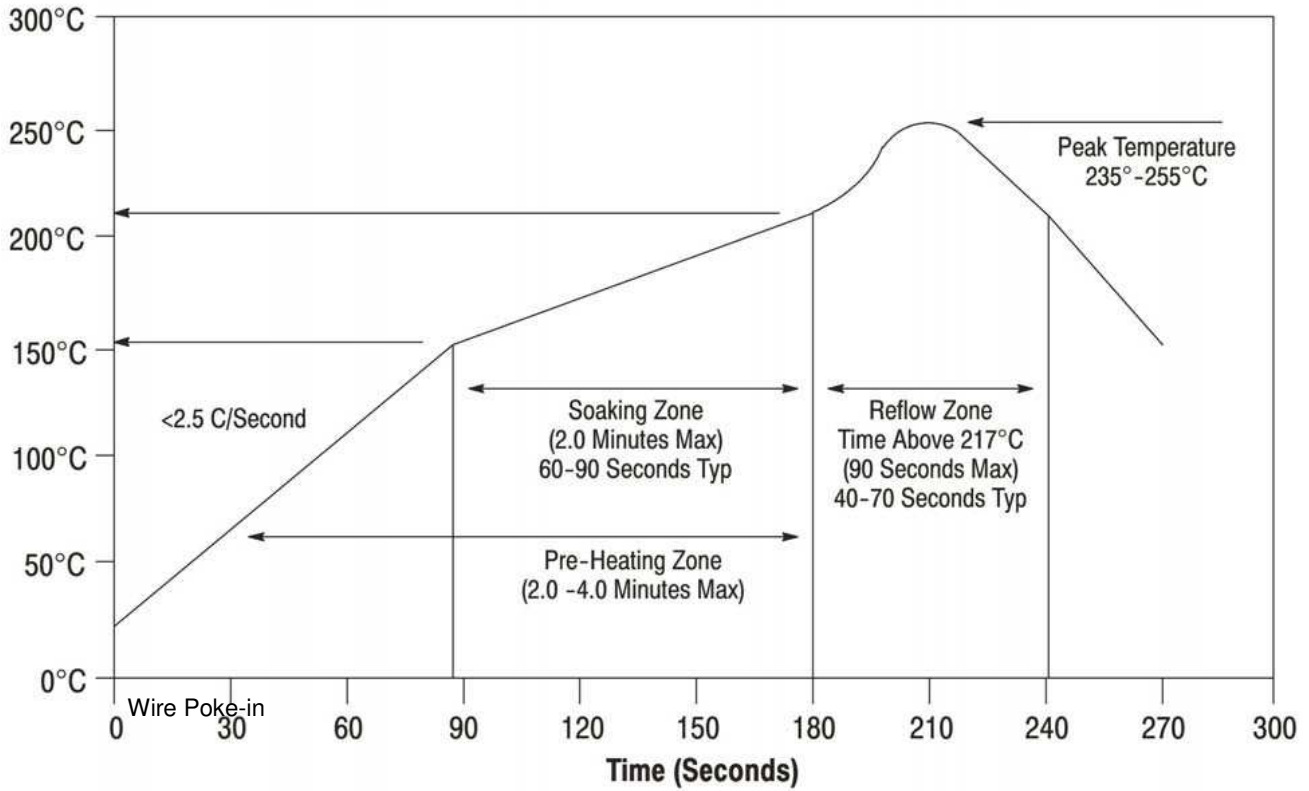


Figure 5