



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of Super Card Edge Connector onto printed circuit (pc) boards for use in computer and electronic equipment. Super Card Edge Connector is designed to connect a module pc board (daughter card) to a main pc board (motherboard). The connector is in straddle-mount configuration with surface-mount contacts, and it has a double row of contact cavities with a centerline spacing of 5.08 mm [.200 in.] for power contacts and 1.27 mm [.050 in.] for signal contacts. The connector features a housing with a card slot which accepts 1.44 through 1.71 mm [.057 through .067 in.] thick daughter card.

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.

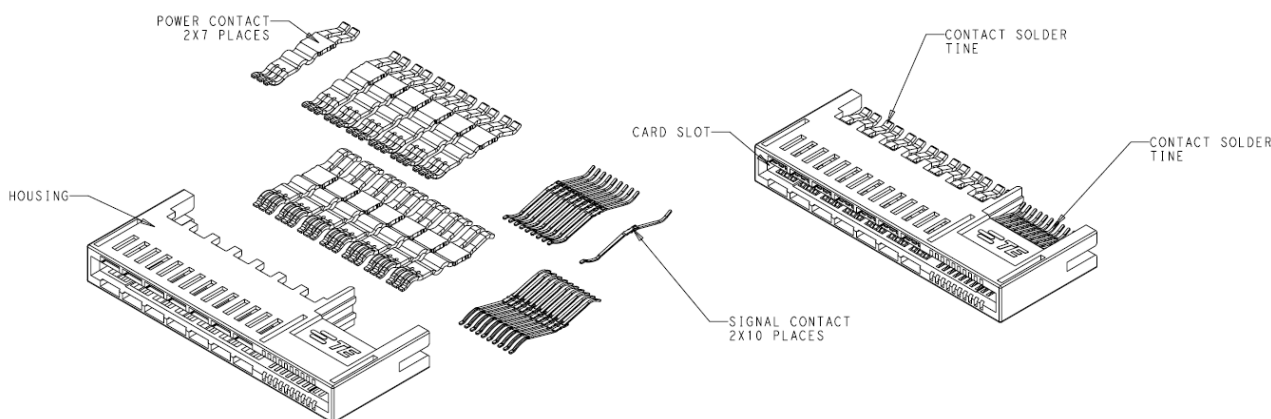


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Initial release of application specification

2.2. Customer Assistance

Reference Product Base Part Number 2204068 and Product Code EE24 are representative of Super Card Edge Connector. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call PRODUCT INFORMATION at the number at the bottom of page 1.

2.4. Manuals

Manuals (402-series) can be used as a guide to soldering. These manuals provide information on various flux types and characteristics with the commercial designation, flux removal procedures, and a guide for information on soldering problems. Documents available which pertain to this product are:

- 402-40 Solderability and Soldering
- 402-58-1 Lead-Free Soldering Guidelines for Wave Soldering Specific to Power Products
- 402-58-2 Lead-Free Soldering Guidelines for Reflow Soldering Specific to Power Products

2.5. Specifications

Product Specifications (108-series) provide product performance and test information. Documents available which pertain to this product are: 108-128053

Qualification Test Report (501-series) is a test report confirming successful qualification of the information in product specifications. Documents available which pertain to this product are: 501-128055

Test Specification 109-11 provides solderability requirements and evaluation methods, and Workmanship Specification 101-21 provides solder fillet requirements.

Customer drawings: 2204068

3. REQUIREMENTS

3.1. Safety

Do not stack component packages so high that the shipping containers buckle or deform.

3.2. Limitations

These connectors are designed to operate in a temperature range of -55° to 105°C [-67° to 221°F].

3.3. Material

The connector housing is made of glass-filled polyester. The contacts are made of copper alloy plated with nickel; contact areas are plated with gold, and solder tines are plated with tin.

3.4. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

B. Shelf Life

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

3.5. Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

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

3.6. PC Board (Motherboard)

A. Material and Thickness

The pc board material shall be glass epoxy (FR-4 or G-10). The pc board thickness range shall be 1.44 through 1.71 mm [.057 through .067 in.]



NOTE
Customer to decide the suitability of other board materials

B. Tolerance

Maximum allowable bow of the pc board shall be 0.03 mm [.001 in.] over the length of the connector.

C. Pads

For connectors with surface-mount contacts, the pc board circuit pads must be solderable in accordance with Test Specification 109-11.

D. Layout

The pads (for surface-mount contacts) on the pc board must be precisely located to ensure proper placement and optimum performance of the connector. The pc board layout must be designed using the dimensions provided on the customer drawing. Recommended pc board layout is shown in Figure 2

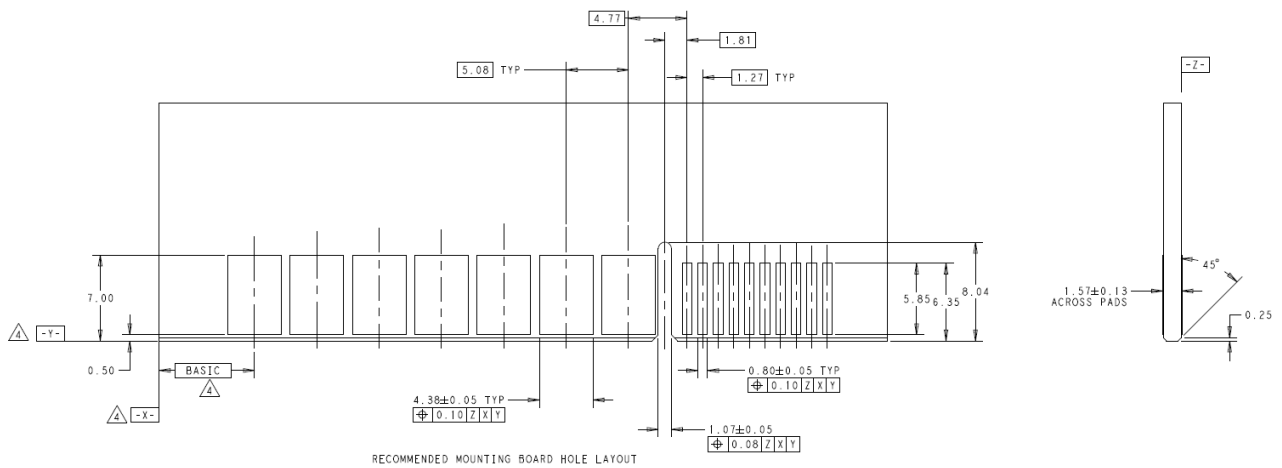


Figure 2

3.7. Daughter Card Configuration

The mating daughter card configuration must be in accordance with the dimensions and tolerances provided on the customer drawing for the specific connector. Recommended daughter card configurations are shown in Figure 3.

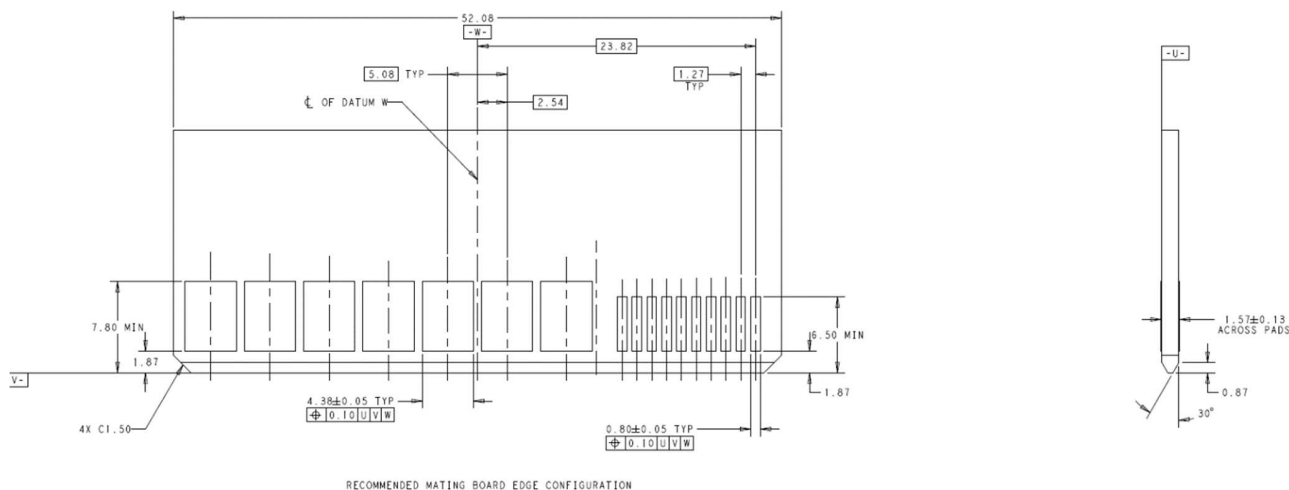


Figure 3

3.8. Soldering

Refer to 402-58-2.

3.9. Connector Placement

CAUTION Connectors should be handled only by the housing to avoid deformation, contamination, or damage to the contacts.



Optimally, the contact solder tines should be centered on the pads; however, slight misalignment is permissible as long as the entire solder tine is on the pad. Refer to Figure 4

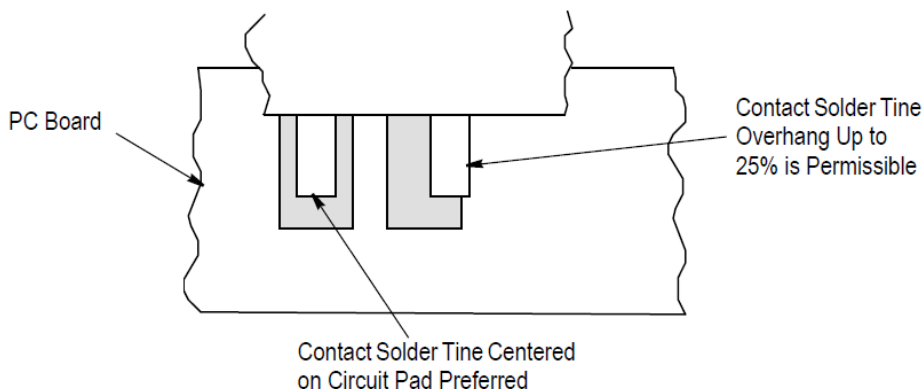


Figure 4

3.10. Polarization

Super card edge connector can be polarized to the pc board with slot feature. This ensures that the connector is placed onto the intended pc board and that the connector is properly oriented to the pc board.

Super card edge connector cannot be polarized to the mating daughter card correctly. The daughter card can be incorrectly inserted into the Super card edge connector. Users must pay attention to the direction when insert the daughter into connector.

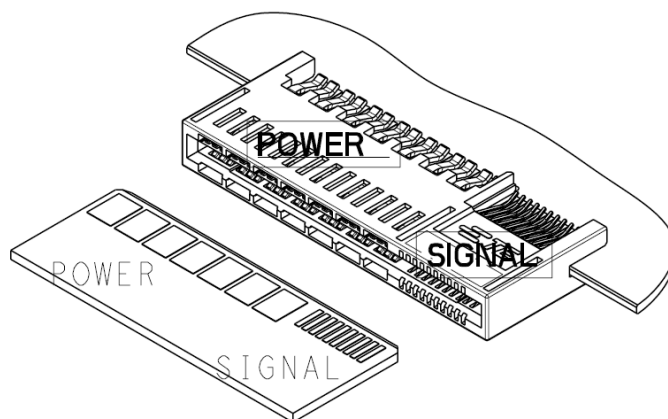


Figure 5

3.11. Checking Installed Connector

It is imperative that the contact solder tines are sufficiently pressed into the solder paste.

3.12. Daughter Card Mating and Unmating



When mating or unmating the daughter card, care should be taken to prevent longitudinal rocking of the daughter card with respect to the connector. Angles greater than 3° could cause damage to the housing or misregistration of the contacts and daughter card circuit pads.

The daughter card must be inserted straight into the connector card slot until the card is seated. To remove the daughter card from the connector, the daughter card must be pulled straight out of the connector card slot.

3.13. Connector Removal

The connector must be removed from the pc board using standard de-soldering methods, then removed from the pc board using a push bar (or flat rock) covering all contacts protruding through the board. A housing support and pc board support must also be used during removal.

3.14. Repair

Super Card edge connector is not repairable. Damaged connectors must be removed, discarded, and replaced with new ones. DO NOT re-use connector after being removed from the pc board.

4. QUALIFICATION

Super Card Edge Connector is recognized by Underwriters Laboratories Inc. (UL) in File E28476

5. TOOLING

No tooling is required for manual placement of the connectors onto the pc board. Customers could customize the appropriate auxiliary tools to install the connectors (Customer Supplied)

6. VISUAL AID

The illustration below shows a typical application of this product. 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.

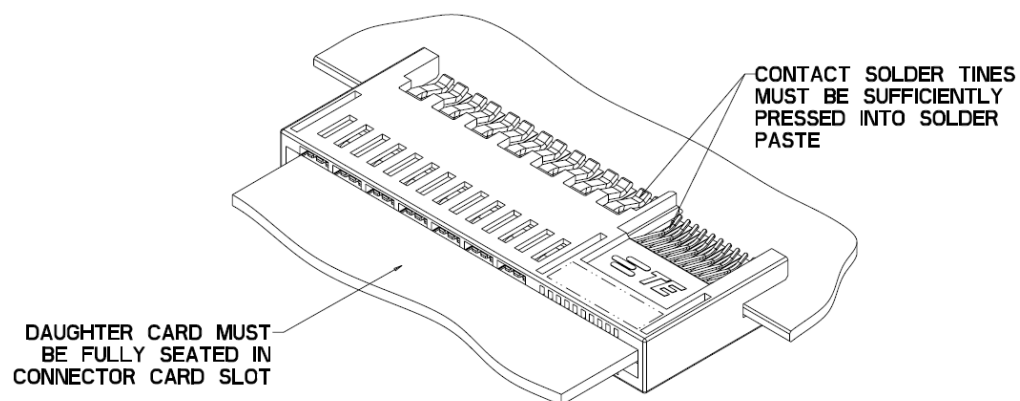


Figure 6 *VISUAL AID (END)*