



# APPLICATION GUIDELINE

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THIS APPLICATION GUIDELINE IS STRICTLY FOR CUSTOMER'S REFERENCE ONLY WHICH MOLEX BELIEVES MAY PROVIDE USEFUL GENERAL PROCESSING GUIDELINES.

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DOCUMENT NUMBER: <b>AS-78588-001</b>	CREATED / REVISED BY: <b>DBFAN</b>	CHECKED BY: <b>FYANG05</b>	APPROVED BY: <b>SKTOH</b>



# APPLICATION GUIDELINE

## 1.0 SCOPE

This specification covers the processing guidelines and the requirements for the application of DDR3 Dual In-Line Memory Module (DIMM) 240ckts connector with through hole solder tail design. All dimensional values shown are in metric units. Any figures and illustrations found in this document are for graphical representation only and are not drawn to scale.

The connectors are available in 240 pins types with contact spacing on 1.00 mm pitch centerline. These connectors are designed to connect memory module cards of 1.27 mm thickness (Daughter Card) to Printed Circuit Boards (PCB).

When corresponding with Molex Personnel, kindly use the terminology provided in this document to facilitate your request for more information. Basic terms and features of this product are illustrated in Figure 1.

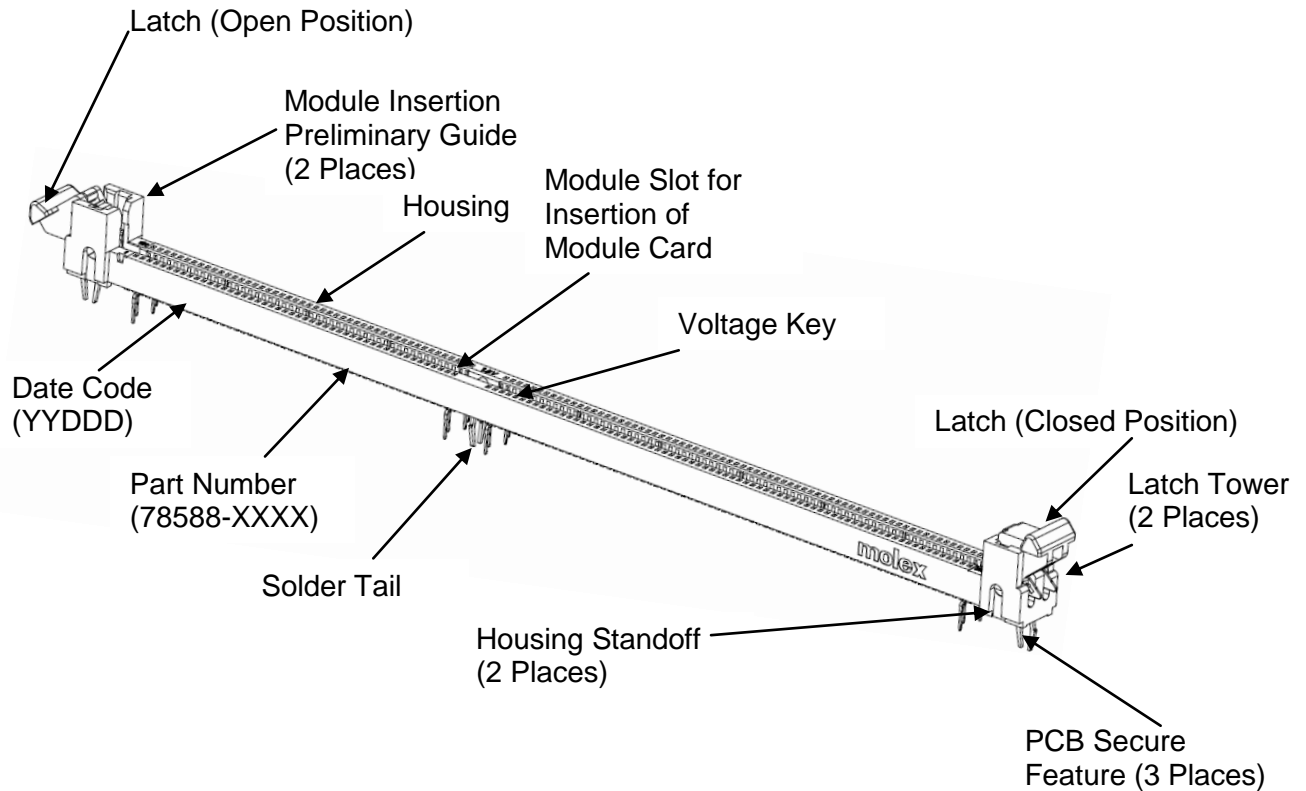


Figure 1: DDR3 DIMM 240ckts TH connector

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## 2.0 PRODUCT DESCRIPTIONS

### 2.1 PRODUCT DESCRIPTIONS AND PART NUMBERS

SERIES NUMBER	DESCRIPTIONS
78588	DDR3 DIMM, 240CKTS,T/H,VERT,110SP,LOW LLCR

The above series numbers are shown for reference only. This application specification applies to all products with part numbers that fall under the family of 78588.

This document is not intended to be the final process definition nor is it intended to constrain design.

## 3.0 REFERENCE DOCUMENTS

### 3.1 DRAWINGS

Sales Drawings are available from the Molex service network. See the appropriate Sales Drawings for information on dimensions, materials, plating and markings, recommended module outlines and footprint specifications.

In the event of any discrepancies between the information contained in the Sales Drawings and this specification or with any other technical documentation supplied, the Sales Drawings should take precedence.

### 3.2 SPECIFICATIONS

Product Specifications provide detailed information on the product performance requirements and testing methodology. All test data collected will be used to compile test reports for evaluation purposes. Copies of these specifications are available upon request from a local Molex representative.

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## 4.0 PROCEDURE

### 4.1 GENERAL REQUIREMENTS

#### 4.1.1 PACKAGING FOR INCOMING CONNECTOR

As the DDR3 DIMM 240ckts TH connectors contain certain hygroscopic components, they will be sealed in moisture barrier bag with silica gel enclosed. A caution indicated hygroscopic part will be shown on the immediate package bag. For the packaging specification, please refer to the respective packaging specification as outlined in the sales drawings.

#### 4.1.2 CONNECTOR MATERIAL

The housing is made from high temperature polyamide. The contacts are made from copper alloy with gold over nickel plating on its contact area and tin over nickel on its tails. Forklocks are made from copper alloy and the latches are made from high temperature polyamide.

#### 4.1.3 PCB LAYOUT

The information on PCB layout can be found in the respective sales drawings.

#### 4.1.4 WAVE SOLDER REQUIREMENTS

Solder used shall be conforming to IPC/EIA/JEDEC J-STD-006. And the rosin flux used shall be conforming to IPC/EIA/JEDEC J-STD-004. The rosin used shall have a minimum acid value of 130 as determined by ASTM D-465.

Before putting the connectors into the wave soldering process, it is a good practice to ensure the latches are fully closed as shown below in Figure 2.

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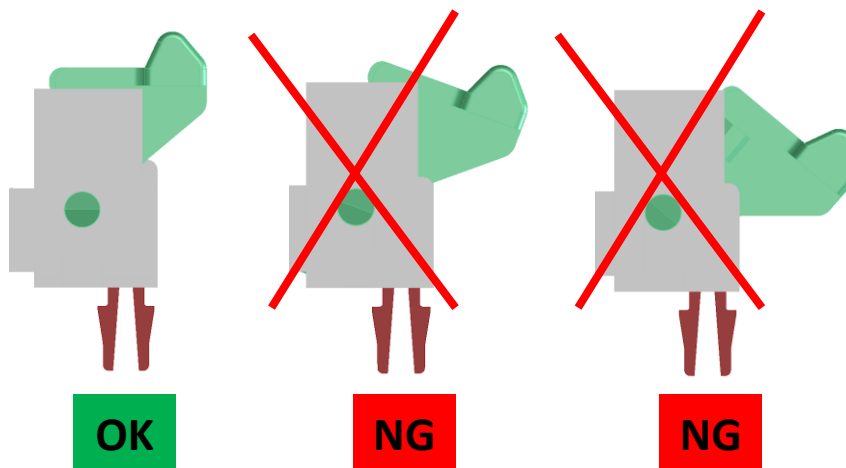


Figure 2: Latch in Closed Position

#### 4.1.5 CONNECTOR PLACEMENT

The connector will be supplied in trays. The connector should be only handled by the housing to prevent any unintentional damage to the solder tails below the housing. Carefully insert the connector pins into the PCB holes pattern. Connectors should be placed with enough pressure to overcome the forklock insertion force into PCB so as to ensure the connector in place during the assembly process. In every case, care should be taken to ensure the forklocks are completely engaged and the leads pushed down onto the copper pads.

#### 4.1.6 CLEANING

It is recommended to use “no-clean” lead-free solder since no cleaning is required after processing.

Terminal contacts should be free from any flux to prevent any degrading performance of the connectors. The following should be observed;

- (a) PCB holes size should follow the dimension as stated in the SD drawing.
- (b) The feed rate and pressure for spraying the flux should be adjusted to ensure no over spraying onto the connectors. Care should be taken to ensure that the flux does not deposit at the functional areas of the contact.

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(c) The reheat temperature should be sufficient to vaporize the flux during the wave soldering process.

## 4.1.7 FLOOR LIFE

The recommended floor life of connectors is 24 hours at an ambient temperature of 30°C and a humidity level of 60% RH. For exposures at 35°C and more than 70% RH, floor life of 12 hours is preferred. It is advantageous to use the components within 24 hours from opening the sealed original package. Unused quantity should be vacuum sealed prior to storage for future use.

## 4.2 ASSEMBLY INSTRUCTIONS

### 4.2.1 POST APPLICATION INSPECTION

The connector may be examined visually for damage and cleanliness. The solder joints can be inspected both visually and by using X-ray equipment. The final testing would probably be using electrical test equipment for both in-circuit and application testing. However, care should be taken such that the design of this equipment does not cause damage to the housing or the terminals.

## 4.3 REWORK TOOLING

Preheater should be used to preheat the PCB prior to extracting the connector from the PCB during reworking.

## 4.4 MODULE CARD MATING AND UNMATING INSTRUCTIONS

### 4.4.1 MODULE CARD MATING

The module card should be mated to the connector according to the following sequences (graphically represented in Figure 3):

- A. The latches of the connector must be fully opened.
- B. The keying feature of the module card must be aligned with the voltage key of the connector.

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- C. The sides of the module card must slide along the module insertion preliminary guides and into the module slot. The latches are designed in such a way that upon correct insertion of the module card, they will rotate inwards to snap into the grooves located on the module card to secure it in place.
- D. Ensure that the module card is perpendicularly aligned to the connectors before insertion as any misalignment may cause potential damage to the housing or contacts.
- E. The module card must be fully seated and the latches should be in closed positions.

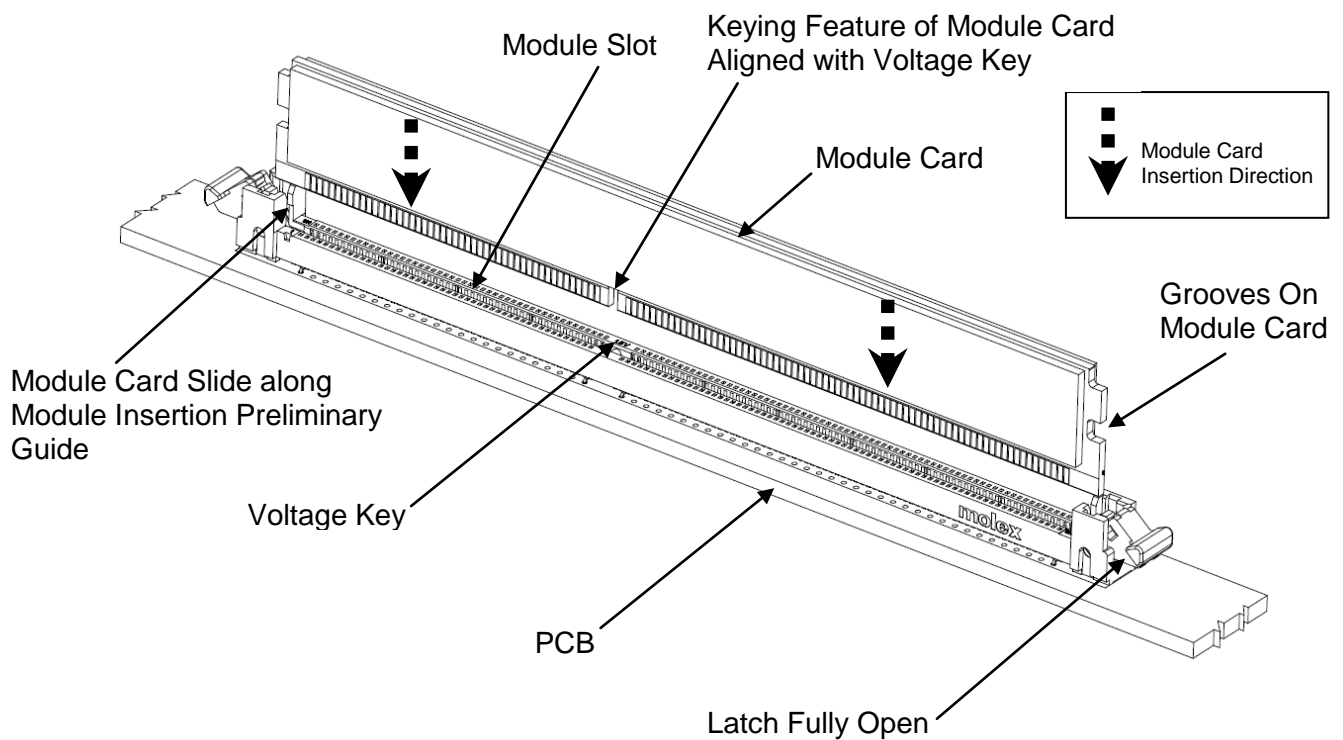


Figure 3: Graphical Representation of Proper Mating Layout

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## 4.4.2 MODULE CARD UNMATING

The module card should be unmated from the connector according to the following sequences (graphically represented in Figure 4):

A. Both latches of the connector must be rotated away from the module card simultaneously. As the latches rotate, the module card will be ejected out from its seated slot. Upon opening the latches to its maximum position, the module card should be fully disengaged from the connector.

B. The module card will be guided by the module insertion preliminary guides and slide out of the latch tower.

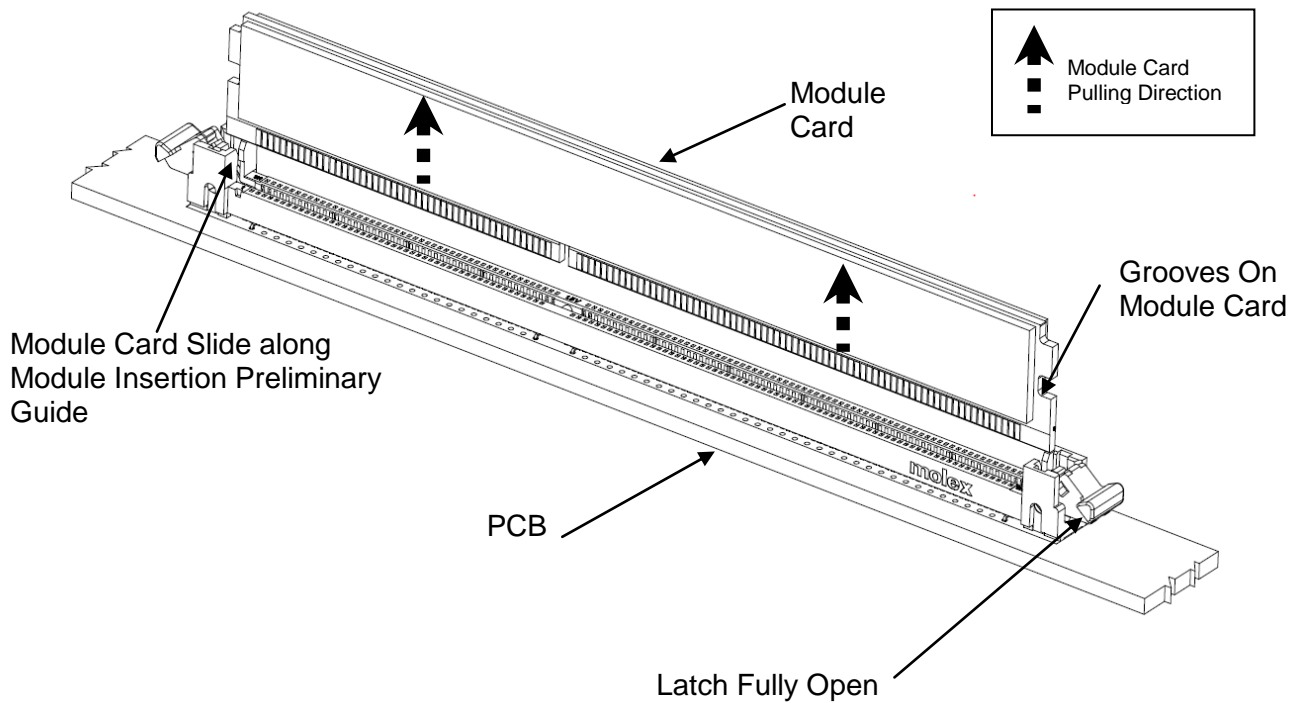


Figure 4: Graphical Representation of Proper Unmating Layout

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## 5.0 VISUAL INSPECTION

The following Figure 5 illustrates the correct application of a DDR3 DIMM 240ckts Through Hole connector with the PCB and module card. Several key points shown below in the picture as a guide to ensure correct application of this connector.

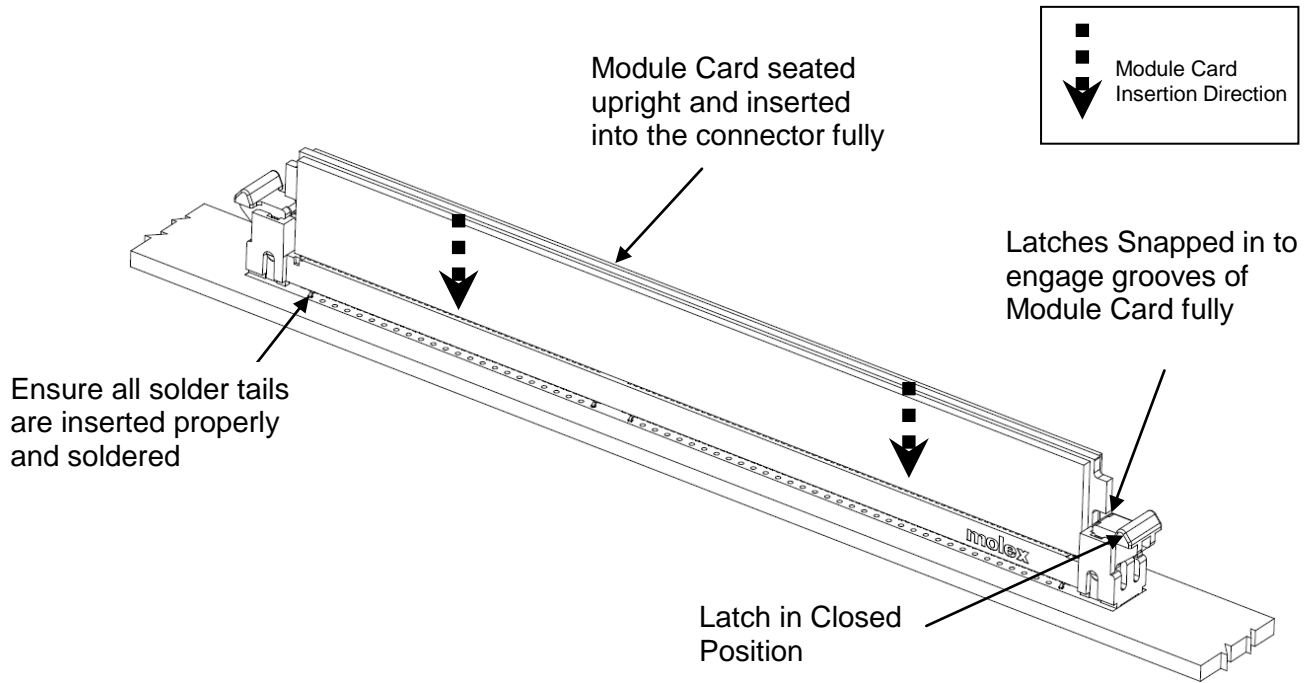


Figure 5: Correct Application of the DDR3 DIMM 240ckts TH Connector, PCB and Module Card Assembly

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