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# *Memory Module Handling Guide*

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Since 2005

*Module Process Engineering Group*



ELECTRONICS

# Overview

**Recently memory module failure related with TSOP, FBGA or 4 array resistor crack has increased.**

**Main root causes are mechanical damage caused by wrong handling method.**

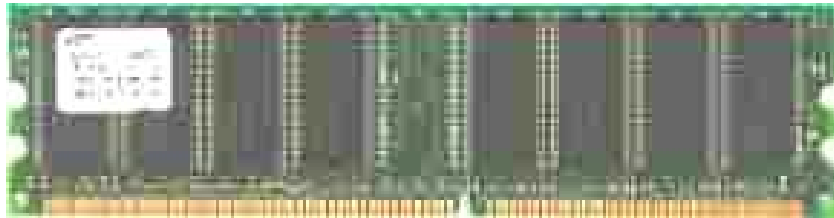
**Current products have more capacitors and resistors, those sizes are reduced and in addition, most of them are mainly located around edge parts of memory module PCB.**

**Because of the above characteristics, memory module should be handled more cautiously.**

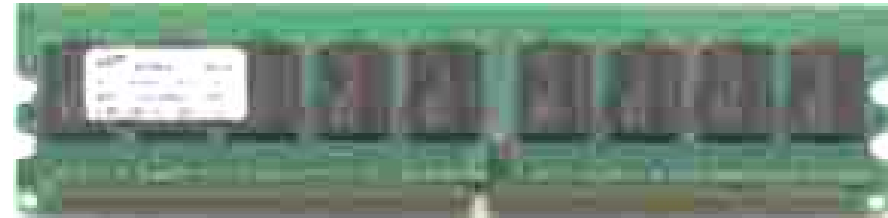
**Samsung recommend that customer should handle memory module in according to following handling guide**

# Classification

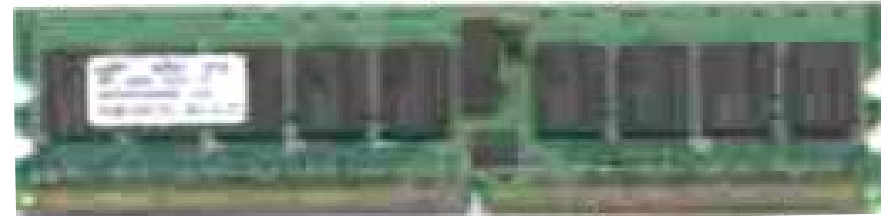
TSOP Type



FBGA Type



Unbuffered DIMM



Registered DIMM



SODIMM



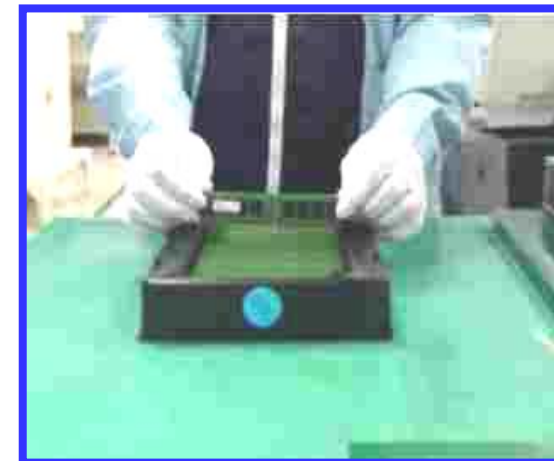
# Proper Handling

Anti - ESD Strap or ESD safe work mat should be applied.



Memory module should be picked up from packing tray only one by one.

Please hold it gently with two hands



# Proper Handling

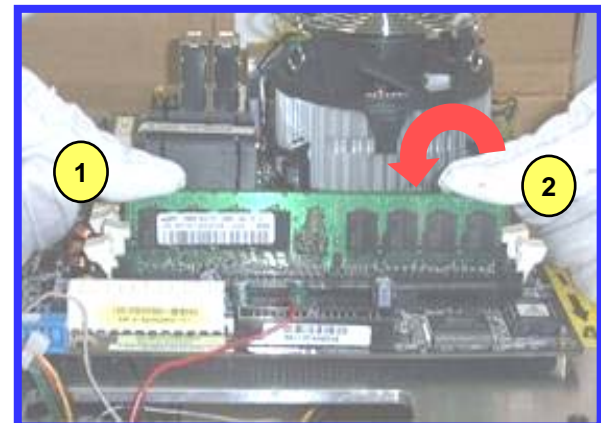
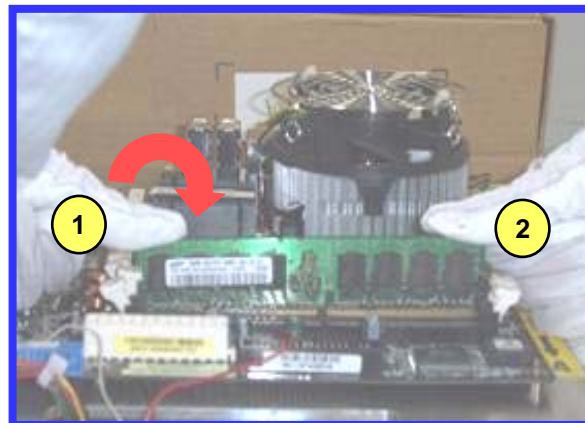


Place a memory module gently on the socket in both hands.

Press both top sides of PCB as left thumb, separately.

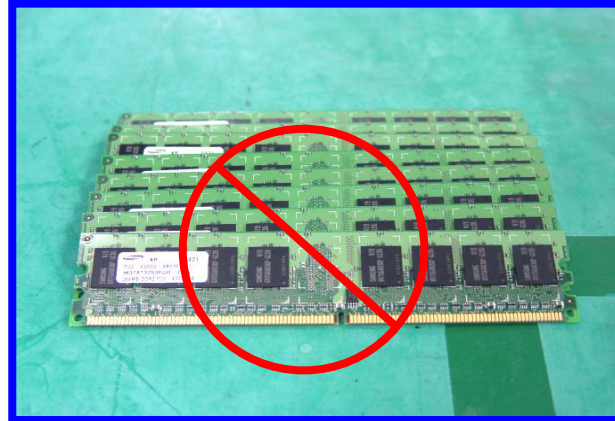
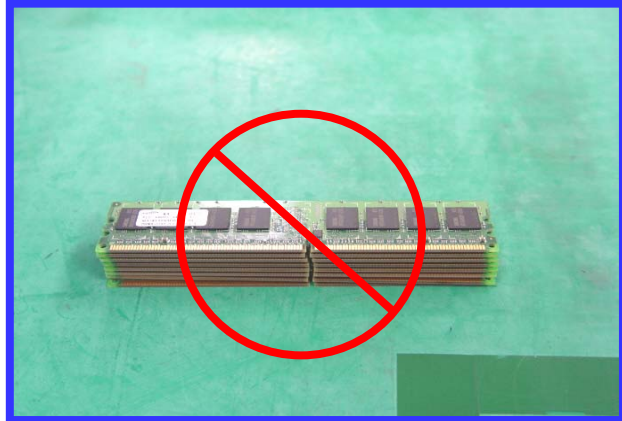
Insert one top side of PCB and then insert the other side.

( ex (1) → (2) or (2) → (1) )



# Wrong Handling

Do not stack two or more memory modules



Do not grasp two or more memory modules at one time.

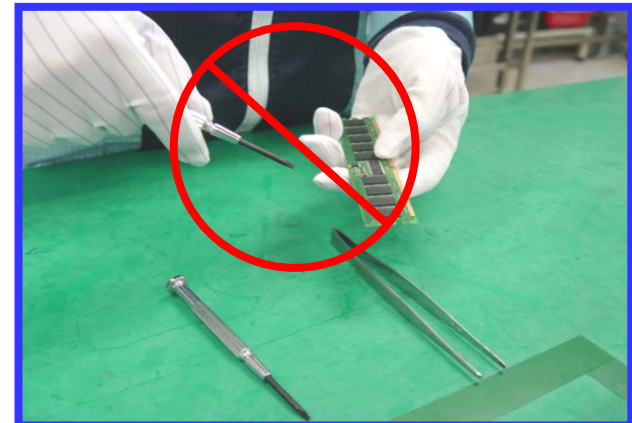


# Wrong Handling



Do not drop memory modules to the floor.

Handling memory modules near to tool jig is prohibited because Rigid Metals can give memory modules damage.

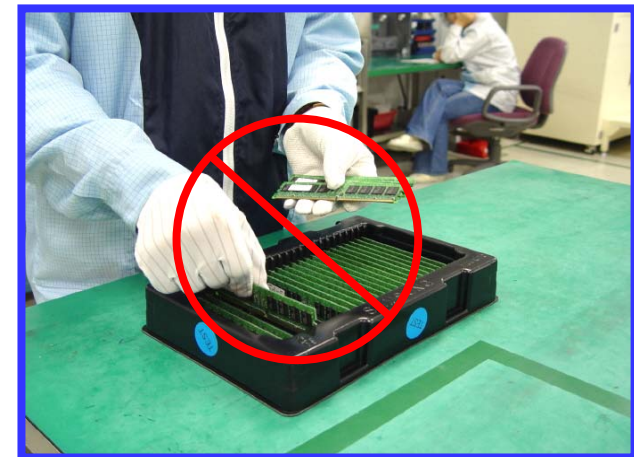


# Wrong Handling

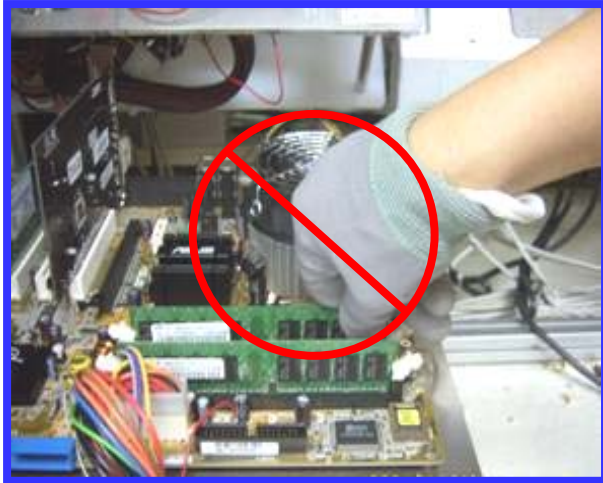
Do not twist or bow a memory module



Do not stack memory modules in a hand

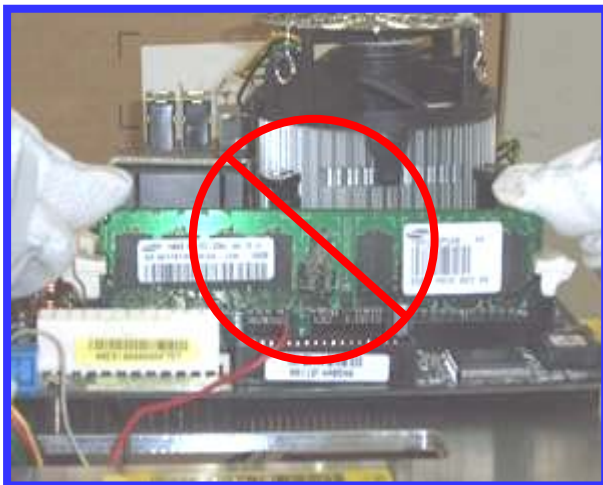


# Wrong Handling



Do not insert with holding packages and passive elements, it can cause package cracks and detachment of passive elements by higher inserting force

Insert only one memory module at one time, do not insert multiple memory module at the same time



Do not press both sides of PCB at the same time.

Pressing with both hands at the same time may cause solder joint cracks and package cracks by memory module twist and bow, because Inserting force in both sides at the same time is higher about two times than one given separately