

Defective phenomenon:

L3 crack

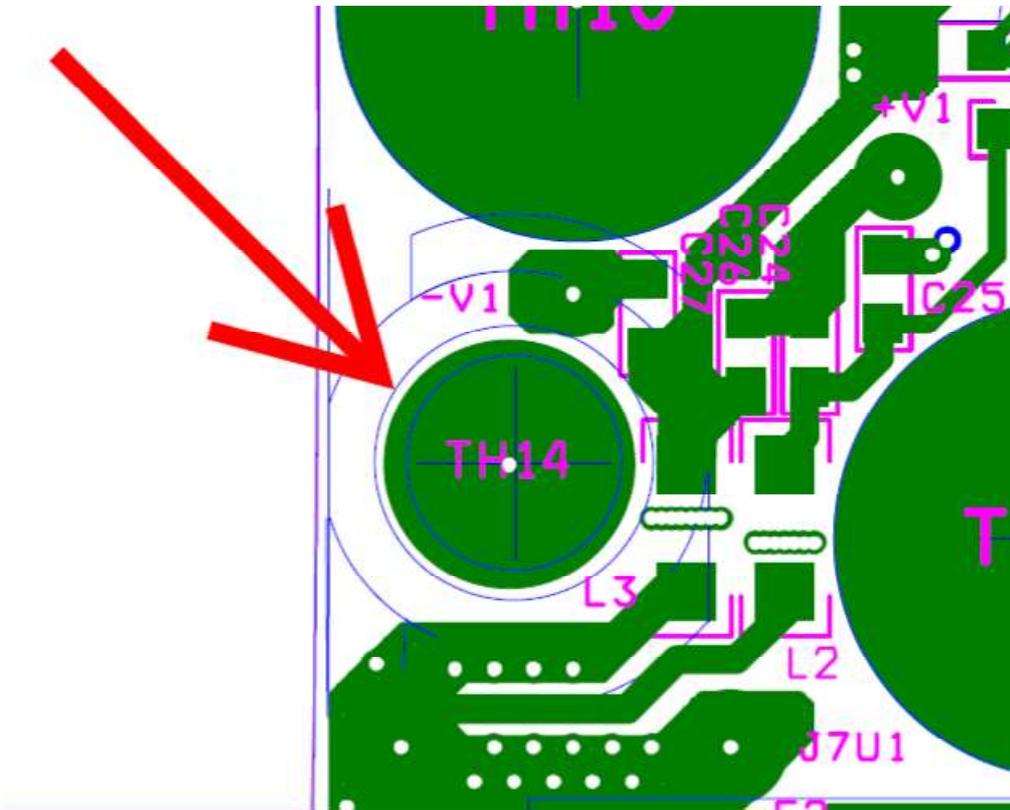
Analyzed records:

1. We were using the strength much much more than the ones which users may apply for fuse replacement to push PCB module several times for three units.
2. We then use microscope to check their L3 & L2 but did not find their solders were with any crack clue.
3. We then disconnected the wire indicated by blue line below and repeated above tests again. Then we found one unit is with crack sign.



Conclusion:

1. We think L3 crack problem should not be from fuse replacement. It is because the wire, connecting main PCB module and terminal PCB module, limits the deformation of main PCB module during fuse replacement.
2. Our Production Procedures are:
  - 2.1 To assemble main PCB module to case.
  - 2.2 To put fuse to main PCB module.
  - 2.3 To solder the wire connecting main PCB module and terminal PCB module.We think L3 crack could be from Production Procedure 2-2.
3. Another possible cause is "L3 was soldered to left trend". Please see the drawing below. The blue circle indicated by red line is the outer edge of lower case boss. If L3 was soldered to left trend, it may be pushed by that boss after the assembly of upper and lower cases. That could crack L3 too.



Temporary countermeasure:

1. To change Production Procedures as followings:
  - 1.1 To assemble main PCB module to case
  - 1.2 To assemble terminal PCB module
  - 1.3 To solder connected wire before putting fuse to main PCB module
2. For semi-finished or finished units, to check if L2 & L3 are with crack sign. If yes, replace it.
3. To slightly cut that boss to avoid pushing L3 after the assembly of upper and lower cases.

Permanent countermeasure:

1. To move L3 downward slightly.
2. To add ribs to two bottom corners of upper case to prevent deforming main PCB module too much during production or fuse replacement.