PHILIPS

sense and simplicity

LG inverter modification “II”

Ref. nr. SCC_73709
Doc. version 1.2
October 30, 2009

COMPONENT KIT (996500095005)

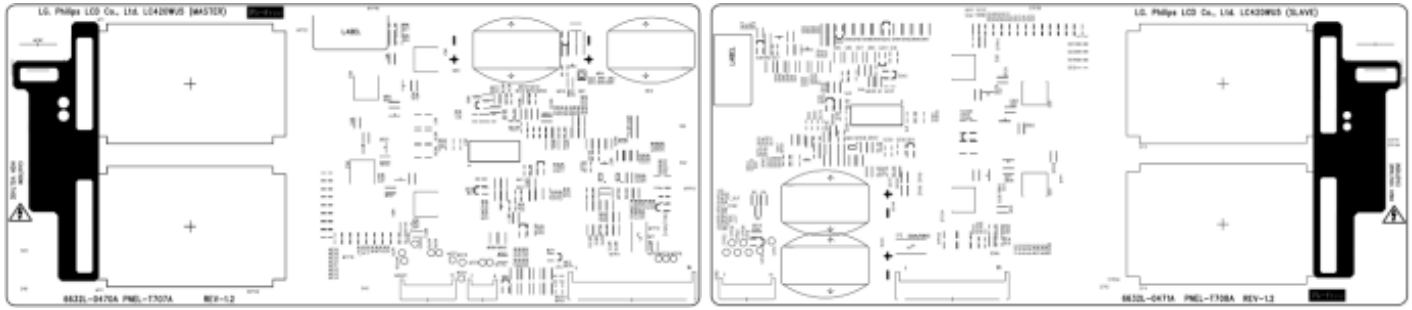
The Component Kit includes the following components (for Master & Slave) :

- TVS zener diode (33 V) x 2
- MLCC capacitor (100 pF) x 2
- Resistor (DIP type or SMD) 4.7 Ω x 4

STEP 1

Confirm Inverter model name:

- **PNEL-T707A(MASTER),**
- **PNEL-T708A(SLAVE).**



REMARK 1

- It does not matter if the zener diode (modification “I”) exists or not for inverter modification “II”.

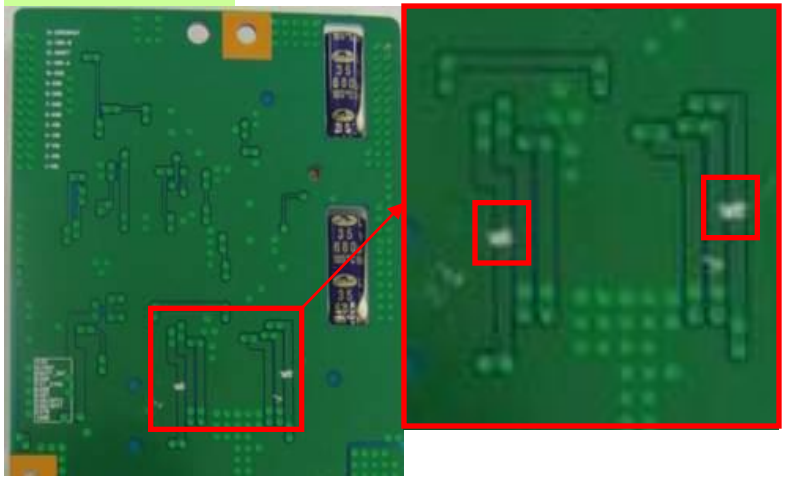
STEP 2.1

Cut tracks:

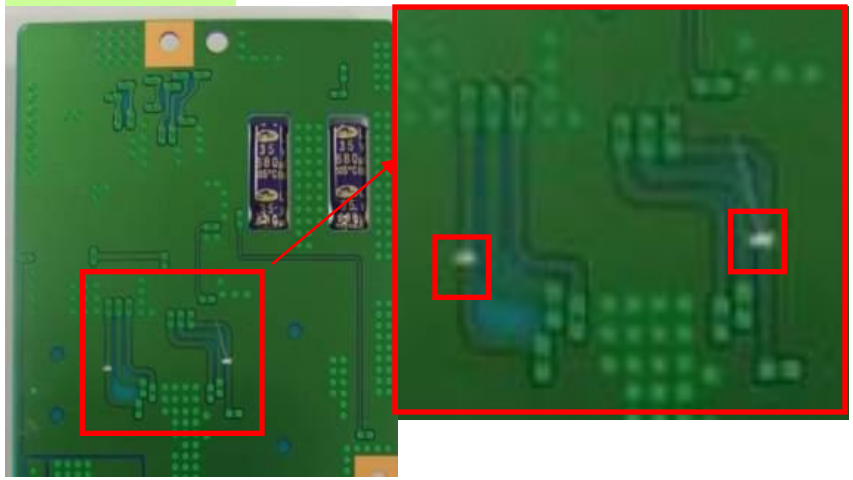
- Cut the SW1 & SW2 tracks on both inverters.

- Confirm that there are no short circuits with metal pieces of tracks, and there is no damage to other tracks !

PNEL-T707A



PNEL-T708A



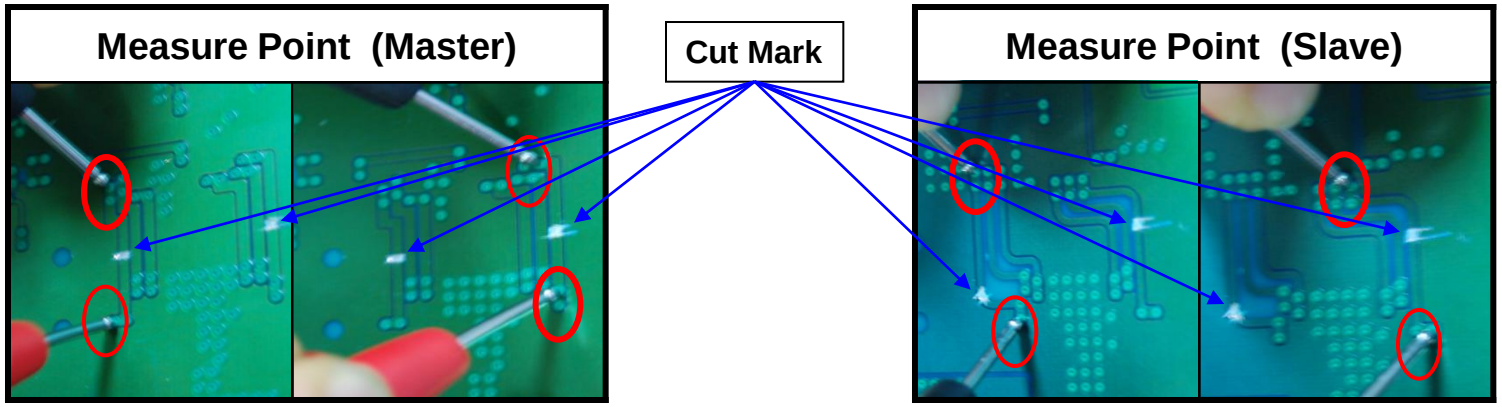
STEP 2.2

1. Check the secure cut line (SW1 & SW2) by visual inspection first:

→ Visual inspection to verify if cut well and not damaged.

2. Check the resistance between two 'via' holes of the cut SW line:

→ Measure the resistance of the cutted SW1 & SW2 line through 'via' holes with a DVM (Digital Volt Meter).



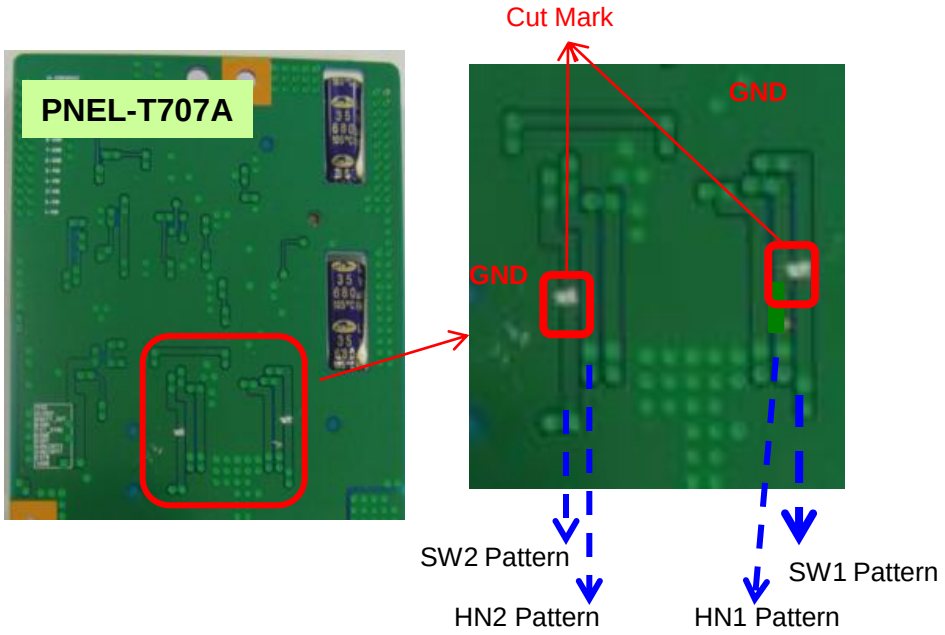
Case 1 > Several tens of kΩ: Line cut well.

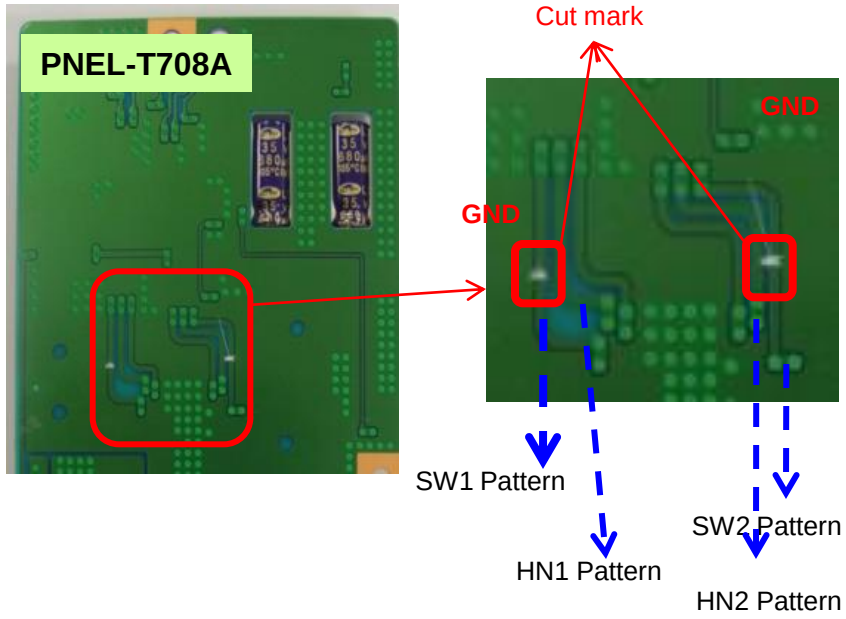
Case 2 > under 1 Ω: Line short.

※ After attaching the resistor, the resistance should be 4.2 ~ 5.2 Ω.

STEP 2.3

Check pattern damage of parallel tracks





Case study for pattern damage of parallel tracks

Parallel tracks of SW line are HN1, HN2 and GND tracks.

- Case1> If cut the HN track by mistake → Cause of Inverter malfunction.

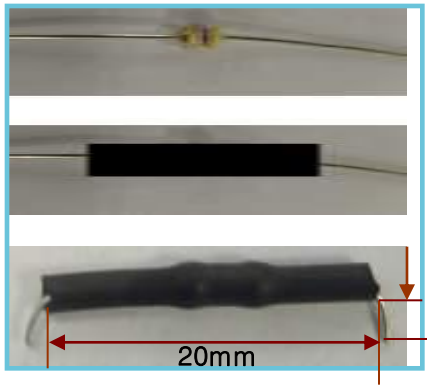
  → Check : HN line's resistance should be under 0.5Ω when measured with DVM (resistance b.t.w. via holes of HN line).

- Case2> Damage on GND track by mistake → No affect to Inverter function.

  → No damage on GND function because GND track is spread widely.

REMARK 2

- The kit of components can include the following resistors:



➢ 4 x DIP type resistors (4.7 Ω) with shrink tube (20 mm)
  ❖ then go to step 3.1 and 3.2

OR

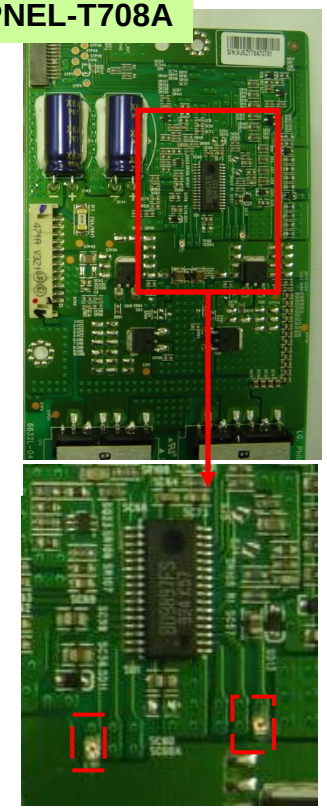
➢ 4 x SMD type resistors (4.7 Ω)
  ❖ then go to step 3.3

STEP 3.1

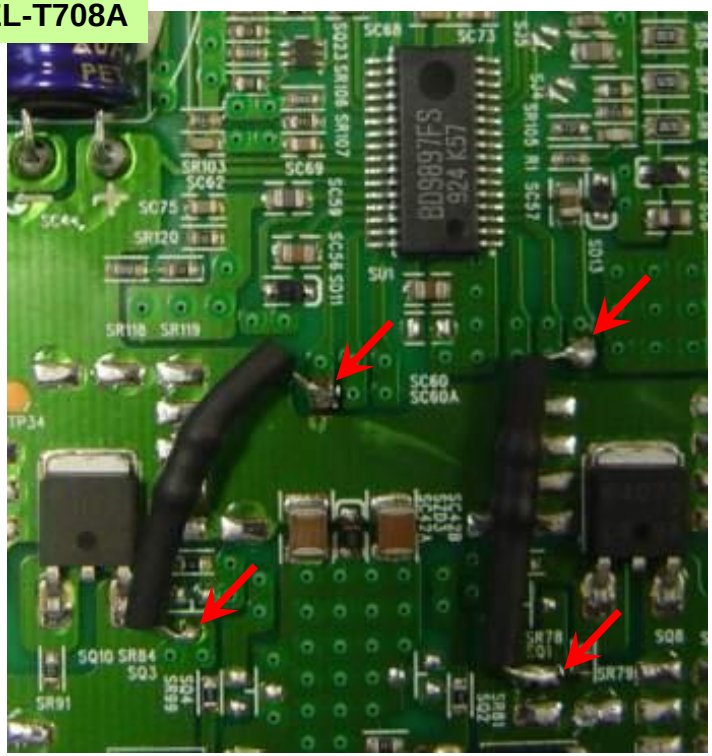
Solder resistors on board PNEL-T708A:

- Remove the coating/varnish on solder point to reveal the copper pad.
- Solder resistor (DIP type resistors (4.7 Ω) with shrink tube (20 mm)) on solder points (red marks).

PNEL-T708A



PNEL-T708A

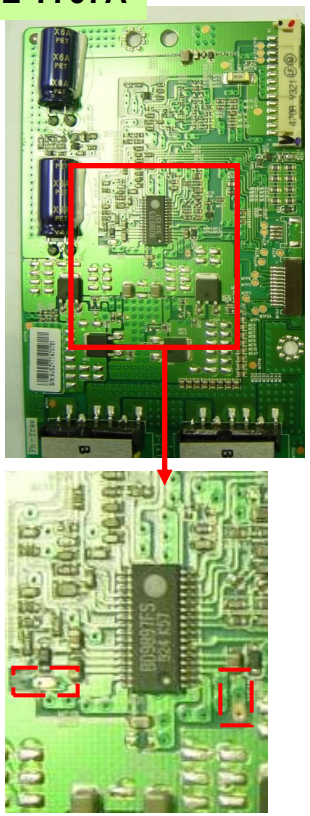


STEP 3.2

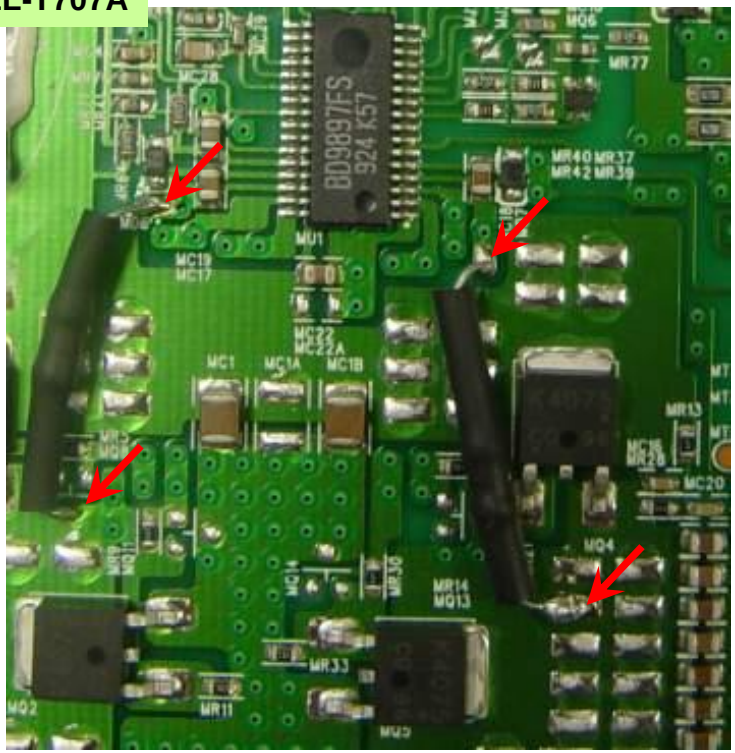
Solder resistors on board PNEL-T707A:

- Remove the coating/varnish on solder point to reveal the copper pad.
- Solder resistor (DIP type resistors (4.7 Ω) with shrink tube (20 mm)) on solder points (red marks).

PNEL-T707A



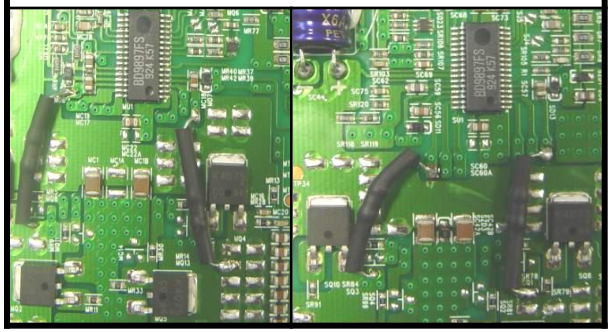
PNEL-T707A



REMARK 3

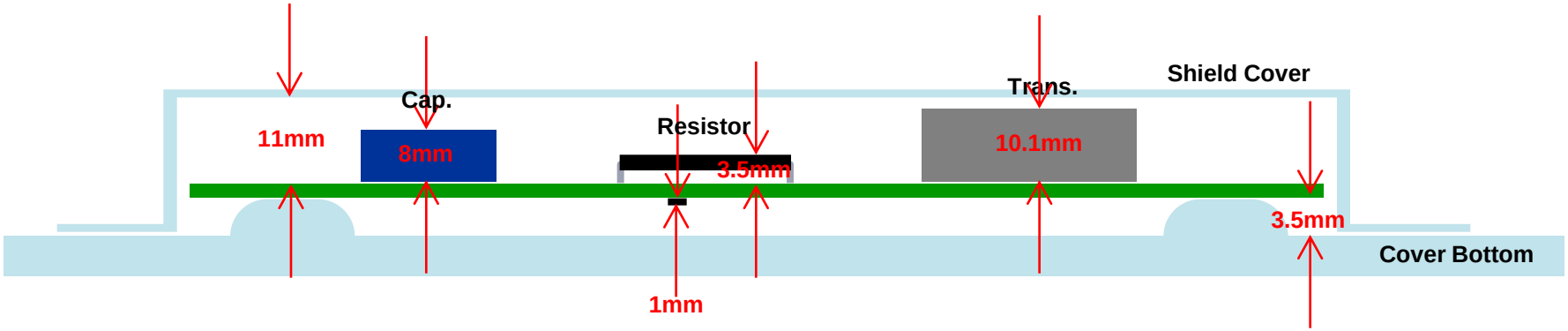
Front side of reworked inverter (DIP type resistor):

DIP type resistor (Front)



Side view dimension of implemented inverter

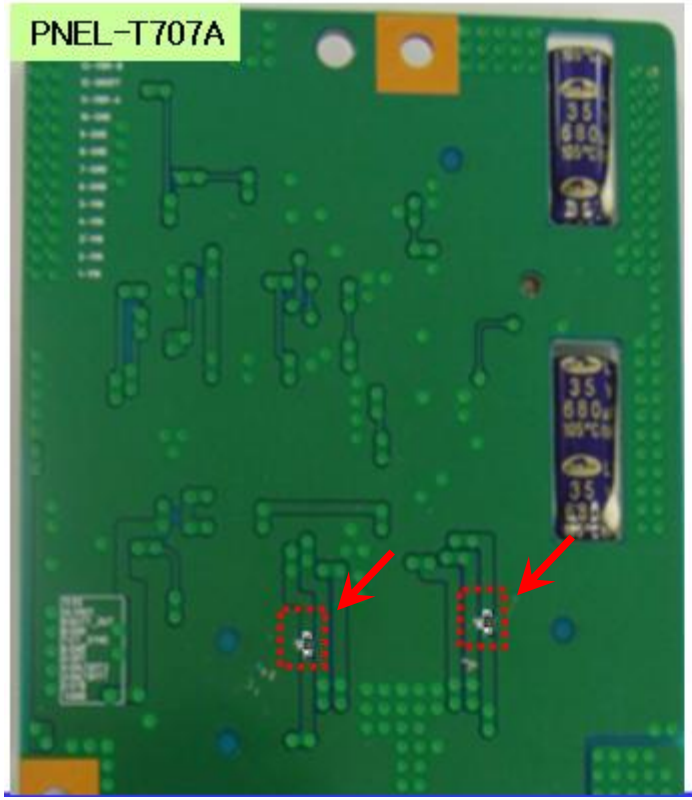
→ Take care that the height of the DIP type resistor is below the height of the transformer because of the metal shielding on the inverter boards.

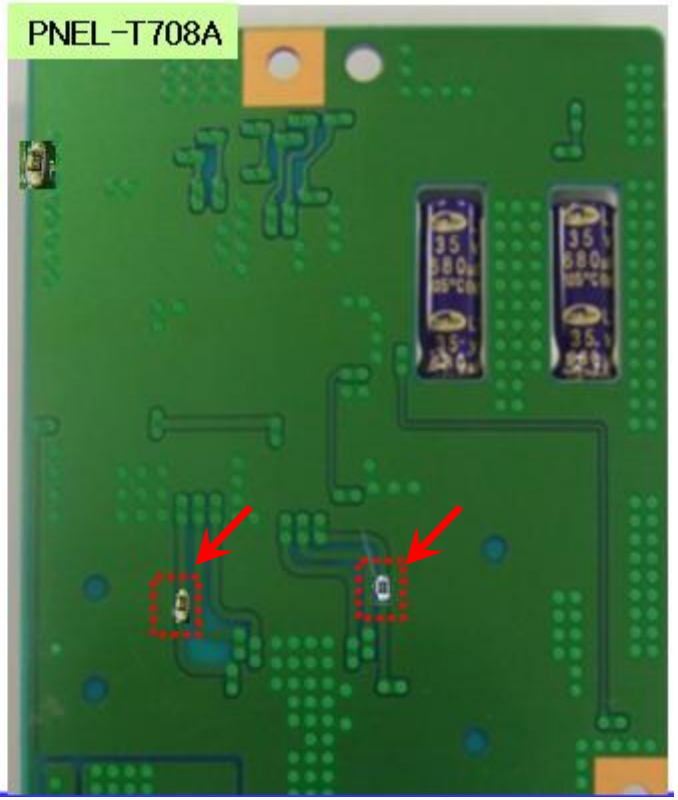


STEP 3.3

Solder SMD resistors on board PNEL-T707A and PNEL-T708A:

- Remove the coating/varnish on solder points to reveal the copper.
- Solder SMD resistor on created solder pads (red marks).

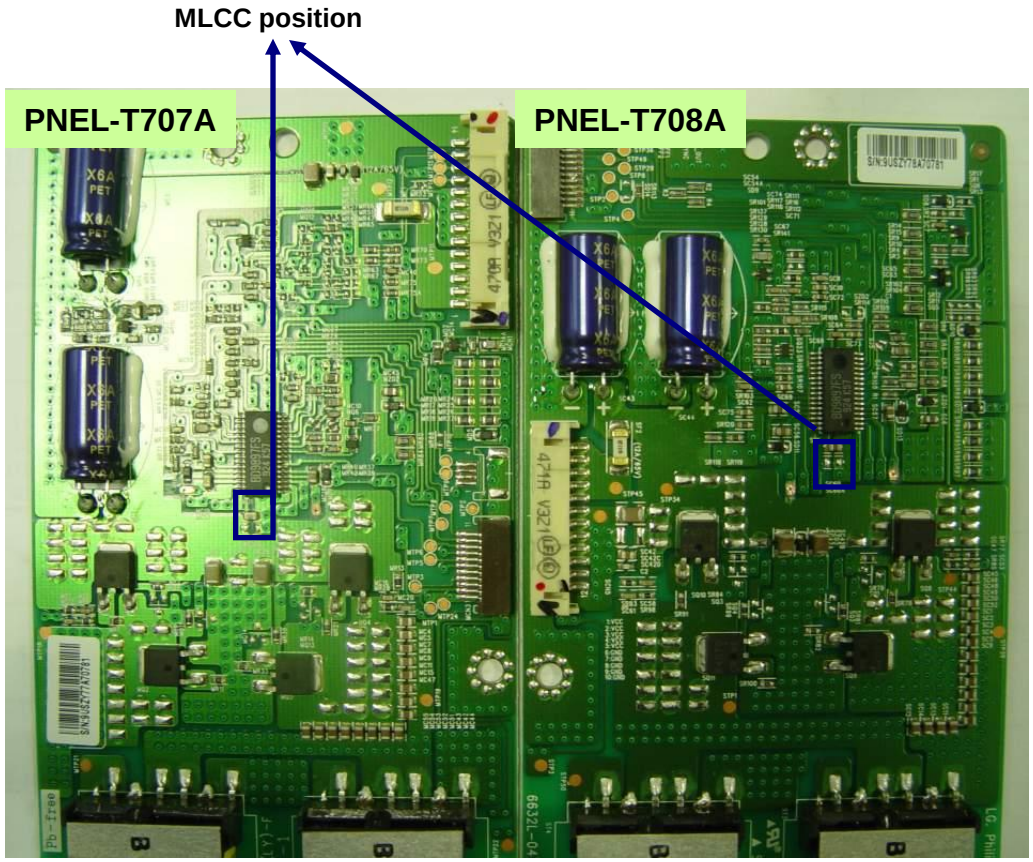


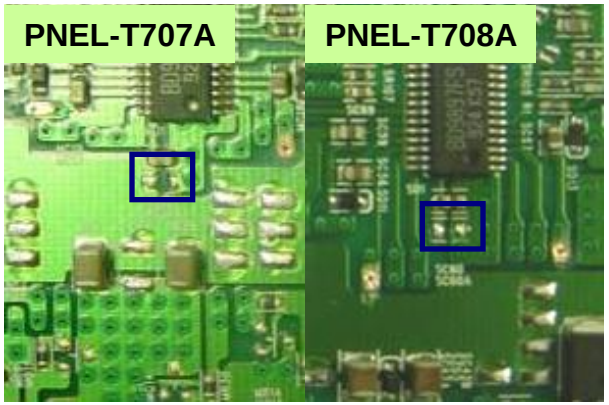


STEP 3.4

Solder capacitor (MLCC) on PNEL-T707A and PNEL-T708A:

-Solder capacitor MLCC (100 pF) on blue indicated position.



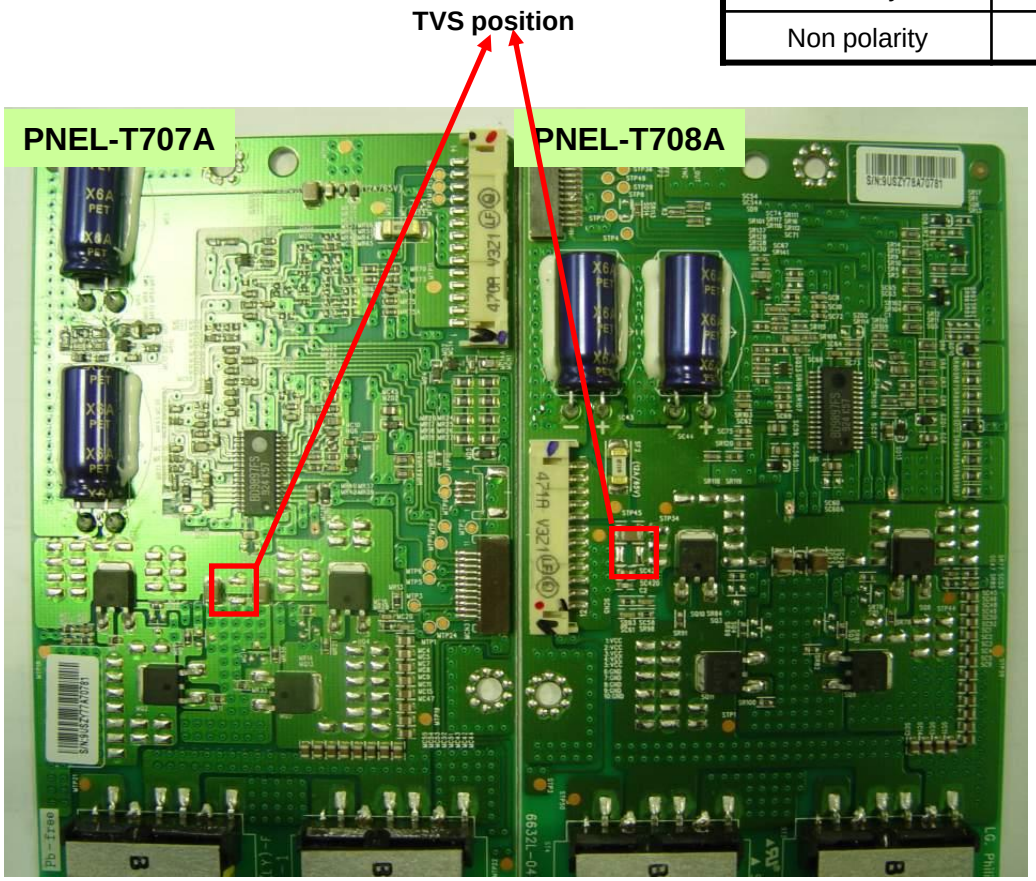


STEP 3.5

Solder zener diode (TVS) on PNEL-T707A and PNEL-T708A:

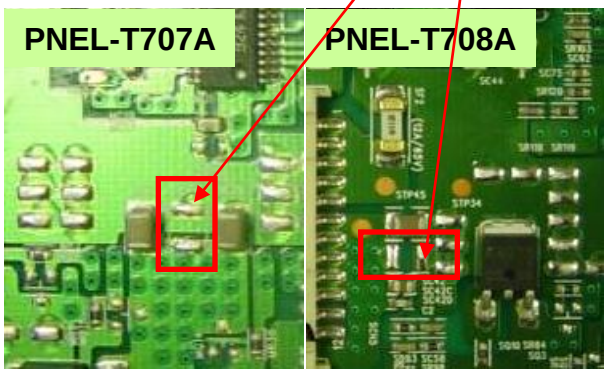
- Solder zener diode TVS (33 V) on red indicated position.

Classification	Indication	Attachment
Polarity	Band mark on body	Place band mark on assigned position
Non polarity	No mark	No need to distinguish the TVS direction



Polarity : Band mark position

Non-Polarity: No placing direction




PHILIPS