© 04/2016 Christian Koenen GmbH

Contents and agenda of the training on the topic stencil printing and layout

General

Only very few training programs cover a sufficient extent of technical knowledge required for electronics manufacture.

Additional training for the staff when beginning with or adapting to new technological findings is therefore a vital step towards achieving a cost-optimised manufacture of high efficiency and a high manufacturing quality.

Aside from educating your staff, the training can also be used for drafting guidelines for layout processing. For this, we would discuss concrete adaptations of your stencil data directly after the training in order to optimally consider the special requirements of your products.

This includes, for example, adaptation of

- QFN components (design of ground planes for void minimisation, adaptation of theoretical solder joint heights of I/O- and thermal pad),
- BGA components,
- two-pole components for reducing tombstone effects and solder beads,
- Large openings (>5 mm) for improving print quality,
- Blanks for printed circuit board structures that extend beyond the pad surface (vias, labels, solder resist, etc.), and
- Step dimensions for specific solder volume adjustment of critical components

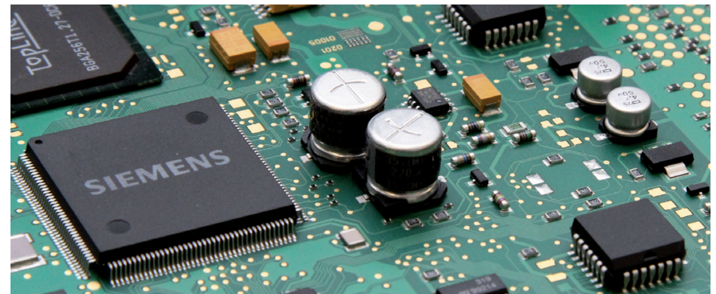

Figure 1: Typical diversity of components of a sub-assembly for automotive products

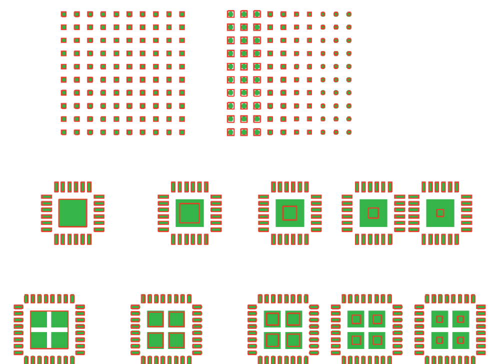

Figure 2: Test layout for trying out the effects of solder paste printing (green = copper; red = opening contour) (Source: Hannusch & Koh Young)

Figure 3: Test layout in the multiple printed panel

The goal to be achieved through such adaptations is to reduce reject and rework cost. The training can be provided either on your premises or at our company. In addition to the agenda listed below, we will gladly include additional topics or a practical session in your manufacture or our Application Center, subject to prior consultation.

The times specified for the three parts of the training are only rough indications. Depending on the state of knowledge and/or specialisation of the participants, these can be adjusted according to your requests. Please let us know which issues are priorities for you and how much time is available. The number of participants has been limited to 15 people maximum per event.

© 04/2016 Christian Koenen GmbH

Agenda of the training

Part I – Theoretical introduction to solder paste printing; approx. (1 ... 3.5) h

- Principles of solder paste printing (requirements, influencing parameters)
- Materials (printing medium, PCB, stencil & squeegee)
- Printing parameters (squeegee force, speeds & bounce)
- Process examples (pin-in-paste, adhesive printing & wafer bumping)
- Correct setting of stencil underside cleaning

Part II – Layout options; approx. (1 ... 3) h

- Layout rules
- Layout options for process optimisation (reduction, anti-tombstone design, squeegee webs, rounding of pads & gas channels)
- Stepped stencils & 3D stencils
- Surface treatments (electropolishing, plasma coating, M-TeCK)
- Joint discussion of the possible applications

Part III – Recapitulation of the day (approx. 0.5) h

Part IV – Summary of the day (approx. 0.5) h

Your contact to us:

auftrag@ck.de

Christian Koenen GmbH
Otto-Hahn-Straße 24
85521 Ottobrunn-Riemerling
Germany

Phone: +49 89 66 56 18 - 0
Fax: +49 89 66 56 18 - 330
E-Mail: info@ck.de
Internet: www.ck.de

as@koenen.de

KOENEN GmbH
Otto-Hahn-Straße 24
85521 Ottobrunn-Riemerling
Germany

Phone: +49 89 66 56 18 - 0
Fax: +49 89 66 56 18 - 330
E-Mail: info@koenen.de
Internet: www.koenen.de