TIE Workshop 2012 Sibiu





Lead Less Rework Components Processes A Bottle Neck in Electronic Assembling

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- Outline shape of lead less components
- Rework procedure for lead less components
- LED Rework
- Connector
- Martin Rework Systeme



1. Rework Challenges:

- MLP/QFN

Micro Lead frame package Quad flat package no lead

- **DFN** Dual flat no lead

- **LED** Light-Emitting-Diode

- Fusion Quad





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Advandage of QFN components?

- Space-saving
- Robust
- Good head dissipation
- Large numbers of contact pads
- Suitable for power electronics



MINIOVEN 04

- Standard masks
- **Customized masks**
- Nitrogen connection ۰
- **Reflow environment through convection** ٠
- Very low invest ۰
- Masks and stencil from 1 x 1mm body size ٠
- Multiprebumping und Reballing masks ۰
- Solder past / solder balls (leaded und lead ٠ free)









1. Apply Flux to clean contact pads and avoid oxidation.





2. Place the dedicated mask and belonging frame into the Prebumping fixture and place the component face down into the frame.





3. Close fixture and turn around.



4. Place the solder past beside the apertures.



5. Print solder past with squeegee and remove residual solder past.





Printen



C = 0.66 x B

Printen





Printen





Too much solder past. No air extraction canals



QFN mounted with too much solder in center pad area

Perfect solder past print



QFN mounted with reduced solder paste in center pad area **Important Parameter for Solder paste printing.**

- Precise distribution of Solder paste on Heat Sinks.
- Reduction of apertures according data sheet.
- Appropriate use of solder past Type 4





QFN Rework / Processes



Solder past dispensing

MARTIN

- Dotliner 06.5 / 06.6
- Clever Dispense 04 / 05





Solder past dispensing

- Dispense Solder past on PCB or transfer ceramic.
- Use Gerber files.
- Dispensing of Solder past type 6 fine pitch

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LED Rework





LED Rework

- Ideal heat distribution across the board.
- No influence of the board material.
- Special design Solder tools.
- No damaging of the LED through overheat.
- Easy fixing for all board shape's.
- Precise Profiling for under heater and solder nozzle







LED Array



LED Rework





Precise & customized Tooling for a lot of different socket

available e.g.

CPU Socket RJ45 Socket USB Connector SMD connectors Body size down to 1x1mm²



Desolder , removing of residual Solder and Solder without any damaging of the neighbors components.

Reliable Solder Profile's





SMD Connenctor



HOTBEAM Familie













Martin Easy Solder ECO Software







Thank you for your attention

Franz Leitenstern Martin GmbH