Services/Technologies EMS

May 2023

4 SMD assembly (Surface-mounted device)

- From prototype to series production
- **SMD Line Fuji NXT III with 6 assembly modules**
- Processing up to 83,400 components per hour
- High placement density of smallest components (0201 mm (008004“)
- min. PCB size: LxW 80 x 80 mm (in panel),
  smaller dimensions can be realized with individual solution
- max. PCB size: : LxW 460 x 450 mm
- max. PCB thickness: 4.5 mm
- max. PCB weight: 1.5 kg
- max. component height: 25.4 mm top / 23 mm bottom
- Mechanical soldering: **Full convection reflow soldering system SMT R360**

2 Solder paste printer EKRA SERIO 4000 Compact

- Dynamic scalability - all settings can be flexibly adapted to individual needs at any time
- Live view of the entire substrate for visual support during program creation
- Remote maintenance

3 3D-Solder paste inspection system Göpel electronic SPI Line·3D

- Exact three-dimensional measurement of the applied solder paste:
  Form | Area | Volume | Coplanarity | Height | Bridges | X/Y Offset
- Speed-optimized camera head
- 180 frames per second at a resolution of 4 megapixels
- High precision 3D image capture using fringe projection technology

5 Full convection reflow soldering system SMT R360

- With patented Quattro Peak Plus concept for extremely complex assemblies in high-volume production
- Reliable transport system from single to multiple track concepts
- Tool-free maintenance for all SMT systems | Remote maintenance
- Sustainable electricity and nitrogen saving concept
- Stable cooling performance, no loss of power over the operating time due to the use of smooth cooling plates

1. Loading module
2. Solder paste printer
3. SPI
4. Pick and Place Machine
5. Reflow oven
6. Unloader module

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THT assembly (Through Hole Technology)

- Manual assembly of wired components
- Machine soldering: wave soldering system SEHO GOWAVE | selective soldering system SEHO SELECTLINE

Manual assembly

- Assembly of THT and SMD components
- Prototype production

Depaneling

- Low stress cutting of panels in any contours
- Consistently high quality due to high repeatability of milling operations combined with the use of a high-frequency spindle with high concentricity (up to 40,000 1 / min)
- Equipment with two tables ensures high throughput
- Programming is done by CCD camera in the teach-in process
- By means of visual positioning system deviations are detected and corrected independently
- Mechanical depaneling: BJC CNC milling cutter Typ HS-5700N-DSV

Coating

- Machine coating of the PCBs
- Coating machine: PVA PVA350

Mounting

- Assembly work of electronic components
- Pre- and final assembly of complete assemblies

Testing

- of SMD components: Automatic optical inspection (AOI) Göpel electronic Vario Line-3D
  - Flexible AOI system with maximum defect detection through combined 3D and 2D technologies
  - Maximum defect detection / 360° oblique view inspection with adapted focal plane
- of THD components: Quins (Quality Inspection Systems) or manual visual inspection
- Electrical test by means of needle adapter
- Conception and execution of complete functional tests (incl. software, hardware and creation of test protocols)
- Conception and execution of customer specific tests
- ICT | Flying Probe: testing of components and electrical connections
- X-ray: testing of solder joints under BGA or QFN
- Boundary Scan

Quality Management / Certifications

- DIN EN ISO 9001
- DIN EN ISO 13485
- RoHS and REACH compliant manufacturing
- Manufacturing of PCBs according to IPC-A-610 class 2 / on customer request according to IPC-A-610 class 3

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