

0201 Chip Component Design, Assembly and Soldering Guide

SMART Group Charity Report published on 14th February 2002



SMART Group 0201 Charity Report

There has been considerable interest in the possibilities provided by the use of smaller pitches, smaller packages and area array components. The continued need for miniaturisation at component and board level assembly has seen the move to 0201 chip components. This report is one of the SMART Group Charity Reports written by the industry for the industry. Due to the need for practical information we have produced this report to cover the existing material in the industry, reports of current projects and recent seminars on the subject. As always the money raised will go to a charity or fund.

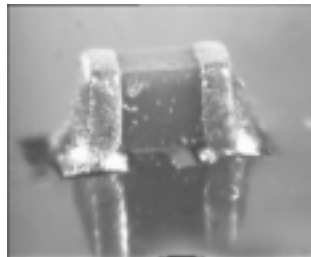
There are no words to describe the feelings felt all over the World after the events on 11th September 2001 in the USA. The SMART Group, its committee and members would like those most affected by the tragedy to benefit from the proceeds. The report is being offered to the SMTA in the USA for sale, SMTA offer other reports published by the SMART Group to raise money for student projects in the USA.

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The 0201 Chip Component Design, Assembly and Soldering Guide Covers:

0201 Chip Component Trends

- Resistors & capacitors
- Component construction
- Component costs
- 0201 Chip applications

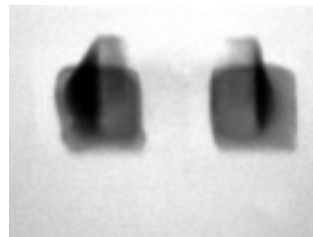


Printed Board Layout

- Solder finishes
- Solder resist
- Laminate considerations

Solder Paste Stencil

- Design of apertures and recommendations



Printing Solder Paste

- Solder paste issues
- 63/37
- Lead-Free options

Component Placement

Reflow Soldering

- Effects of nitrogen
- Temperature profiling boards



Visual Inspection

- X-Ray images

Process Defects

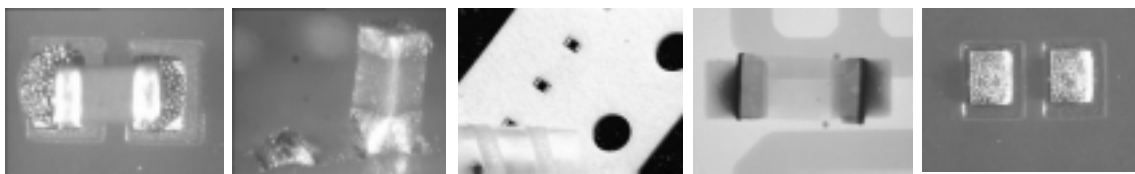
- Lifted components
- Excess solder
- Misplacement
- Poor reflow

Rework and Repair

Existing process trial results

0201 Technical Bibliography

The full report is over 50 pages including pictures and diagrams and is provided on CD-ROM. The CD also includes a 0201 processing specific photo album of component printing, reflowed joints, X-ray examples and defective joints. This makes an ideal resource for engineers to make up training and inspection standards for 0201. The photographs may be used royalty free. A further feature is a number of video clips showing reflow of 0201, component movement/lifting and tombstoning. There are also clips showing 0201 rework which can be incorporated into PowerPoint presentations and used in seminar presentations and training workshops.



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(Cost £50 + VAT)

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