Abstract

An automated visual printed circuit board (PCB) inspection is an approach used to counter difficulties occurred in human’s manual inspection that can eliminates subjective aspects and then provides fast, quantitative, and dimensional assessments. Various concentrated work on detection of defects on printed circuit boards (PCBs) have been done, but it is also crucial to classify these defects in order to analyze and identify the root causes of the defects. This project proposes a PCB defect detection and classification system using a morphological image segmentation algorithm and simple the image processing theories. However, besides the need to detect the defects, it is also essential to classify and locate these defects so that the source and location of these defects can be identified. Based on initial studies, some PCB defects can only exist in certain groups. Thus, it is obvious that the image processing algorithm could be improved by applying a segmentation exercise. This project uses template and test images of single layer, bare, grayscale computer generated PCBs.
Images into Simple Generic Patterns using Mathematical Morphology and Windowing Technique; CoGRAMM Melaka, Malaysia 2002
- R. Heriansyah; Classification of Defect on Bare PCB using Neural Network Technique; Masters Thesis, Universiti Teknologi Malaysia. 2004.

Index Terms

Computer Science Image Processing

Keywords
PCB panel vision image processing segmentation and Image Processing.