



Environmental Consequences

ASSIGNMENT, PART 3, MANUFACTURING

Research surface mount technology vs. through hole technology for printed circuit boards and respond to the following prompts:

- Describe each technology briefly, using diagrams or figures to clearly show differences in the two technologies.
- Describe advantages and disadvantages of each technology including but not limited to issues of manufacturing, rework, size, weight, cost, and connection density.
- Estimate how much water is saved by converting an electronic design with ten integrated circuits and twenty discrete resistors from a through hole design to a surface mount design.
- Would the conversion be worth it in terms of water usage alone for a product which requires 500 units a year? 50,000 units a year?

You may use any sources you wish to answer the above prompts, but be sure that any information you do use is reputable and comes from a source that is not obviously biased (i.e. prone to providing information skewed in a particular direction).

For this assignment, submit a response that is a minimum of one page long, single spaced, with 1" margins and font no larger than 11 pt. The length requirement does not include title, graphs, figures, extra white space, or other additions that are not text). Please provide a list of sources used to answer the above prompts at the end of your assignment in an APA or IEEE style bibliography. No citations in text are required. Engaging photos or other figures are appreciated, but should be cited appropriately to give credit to the author/creator of these visual aids.