

# Reliability Analysis of Highly Reliable Elements

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## Abstract

In recent years the intensive efforts in developing and producing electronic devices have more and more critical inference in many areas of human activity. Engineering is one of the areas which have been also importantly affected. The paper deals with dependability namely reliability analysis procedure of a highly reliable item. The data on manufacturing and operating of a few hundred thousands pieces of electronic item are available and they are statistically a very important collection/set. However, concerning some items the manufacturing procedure was not checked and controlled accurately. The procedure described in the paper is based on the thorough data analysis aiming at the operating and manufacturing of these electronic elements. The results indicate some behaviour differences between correctly and incorrectly made elements. It was proved by the analysis that dependability and safety of these elements was affected to a certain degree. Although there is a quite big set of data the issue regarding the statistical comparability is very important.

**Keywords:** Reliability, dependability, procedure, risk analysis, risk priority, criticality matrix failure, field data, electronic production

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