

ESD Damage risk of Electronics due to Charged Clothing

by

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Abstract

The risks of damaging electronic devices with reference to charged clothing have been identified and quantified. In order to minimise the device failures due to electrostatic discharge (ESD), the key parameters to control, are peak ESD current in a direct discharge and device charging by induction and rubbing. In order to control these parameters the function of discharge probes and induction charging probes in combination with fabrics were also investigated. An extensive experimental program was carried out, on garments and fabrics, to gain experience on threshold levels of these parameters. The use of ESD protective garments over normal clothes of operators is highly recommended in order to minimise ESD failures of devices. The ESD protective garments must be properly used and designed otherwise they themselves form an ESD risk to electronics.

Keywords: electrostatic discharge, ESD protective clothing, ESD sensitive devices