



ESD Handling Document

- Electrostatic Discharge (ESD) is the sudden transfer of an electrical charge between two objects with different electrostatic potentials. In the context of PCBs, ESD can wreak havoc by damaging sensitive electronic components and circuits. PCBs consist of various semiconductor devices, connectors, and conductive traces, which can be vulnerable to even small voltage spikes caused by ESD.

The Impact of ESD on PCBs

1. Component Damage: ESD can damage or degrade individual electronic components such as microcontrollers, transistors, capacitors, and more. Over time, this damage may lead to intermittent failures or reduced performance, impacting the overall functionality of the PCB.
2. Latent Failures: ESD damage may not be immediately apparent. These latent failures can remain undetected until they cause unexpected downtime or critical system malfunctions, often resulting in costly repairs and troubleshooting.

Recommendations for customers handling PCBs based on BS EN 61340 and ANSI/ESD S20.20

1. Anti-Static Packaging: When PCBs are stored or transported, the packaging is critical. Anti-static bags, foam, or other materials are designed to dissipate electrostatic charges and shield PCBs from ESD damage. It's essential to use packaging materials specifically designed for ESD protection.
2. Humidity Control: Maintaining proper humidity levels during PCB storage and transportation can also reduce the risk of ESD. Higher humidity levels can help dissipate static charges more effectively.
3. Handling and Labelling: Personnel handling PCBs should be trained in ESD prevention measures and use grounded wrist straps. Additionally, clearly labelling ESD-sensitive components and assemblies can help avoid mishandling.

Please note that warranties may be void if ESD handling procedures are not followed.