CrayoNano®

Electrostatic discharge (ESD) Measures While Handling LEDs

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Abstract: LEDs are sensitive to electrostatic discharge (ESD). ESD can change the electrical properties of the LED and degrade or destroy it. It is important to take extra measures to protect the LED from such damage. This document explains the ESD effects and precautionary measures to avoid it.

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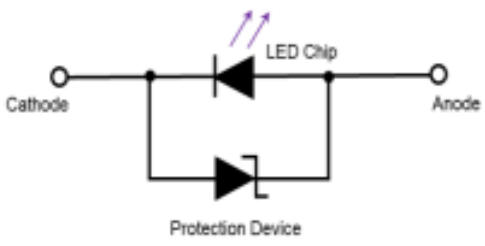
1. Introduction to ESD

CrayoNano's LEDs are ESD-sensitive devices. It is important to understand how to handle and proceed with LEDs. The following document is our recommendations for ESD measures while handling our LEDs.

2. CrayoNano LEDs and their ESD Sensitivity

The CrayoNano LED package size is 3.5 x 3.5 mm. An ESD diode is incorporated in the CrayoNano LED to provide ESD protection against up to 5 kV in an open circuit mode. The LEDs are tested according to reference standard IAJ ED-4701/300 (304).



3. Recommendations for ESD Measures and Protection

It is recommended that ESD control measures should be taken to prevent damage to LEDs.

- When handling LEDs, the following measures against ESD are actively recommended:
  - grounded wrist strap, ESD footwear, clothes and floor
  - grounded workstation equipment and tools
  - ESD table/shelf mat made of conductive materials
- Ensure that LEDs are not exposed to transient excessive voltage (e.g., ESD, current surge):
  - tools, jigs and machines are properly grounded
  - appropriate ESD materials and equipment are used in the work area
  - the system/assembly is designed to provide ESD protection for the LEDs
- To avoid electrostatic discharge when using tools or equipment with glass or plastic insulation:
  - dissipate static charge with conductive materials
  - prevent charge generation with moisture
  - neutralize the charge with ionizers

4. Monitoring ESD

It is necessary to routinely monitor the ESD protection measures to make sure every element is working properly.

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