CHANZON 50F8T-CM-WH-WH

CHANZON 8mm White LED Diode Lights Instruction Manual

Model: 50F8T-CM-WH-WH

1. Introduction

Thank you for choosing CHANZON 8mm White LED Diode Lights. This manual provides essential information for the safe and effective use of your LED components. These high-brightness, straw hat style LEDs are ideal for various electronic projects, indicators, and DIY applications.

2. Safety Information

- **Electrical Safety:** Always ensure correct voltage and current are applied. Exceeding the rated voltage (3V-3.2V) or current (250mA) can damage the LED.
- **Polarity:** LEDs are polarity-sensitive. Connect the anode (longer lead) to the positive (+) terminal and the cathode (shorter lead) to the negative (-) terminal. Incorrect polarity will prevent the LED from lighting up and can cause damage.
- **Heat:** While LEDs are efficient, prolonged operation at maximum current can generate heat. Ensure adequate heat dissipation if used in enclosed spaces or at high currents.
- **Eye Protection:** Do not stare directly into a lit LED, especially at high brightness, as it can cause temporary discomfort or eye strain.
- **Handling:** Handle leads carefully to avoid bending or breaking. Static electricity can damage sensitive electronic components; use anti-static precautions if necessary.

3. Product Overview and Specifications

The CHANZON 8mm White LED Diode Lights feature a straw hat lens design for a wide viewing angle and high luminous intensity. Each pack contains 50 pieces, suitable for various electronic applications.

Image: A single CHANZON 8mm white LED diode illuminated, showcasing its bright output.

Technical Specifications:

Quantity	50 pieces per pack
Lens Type	8mm Diameter, Clear Transparent, Straw Hat
Emitting Color	White (6000K-9000K)
Luminous Intensity	1200-1400mcd
Viewing Angle	120 Degrees
Forward Voltage (Vf)	3V-3.2V DC
Forward Current (If)	250mA (Max)
Polarity	Anode (+) Longer Lead, Cathode (-) Shorter Lead
Model Number	50F8T-CM-WH-WH

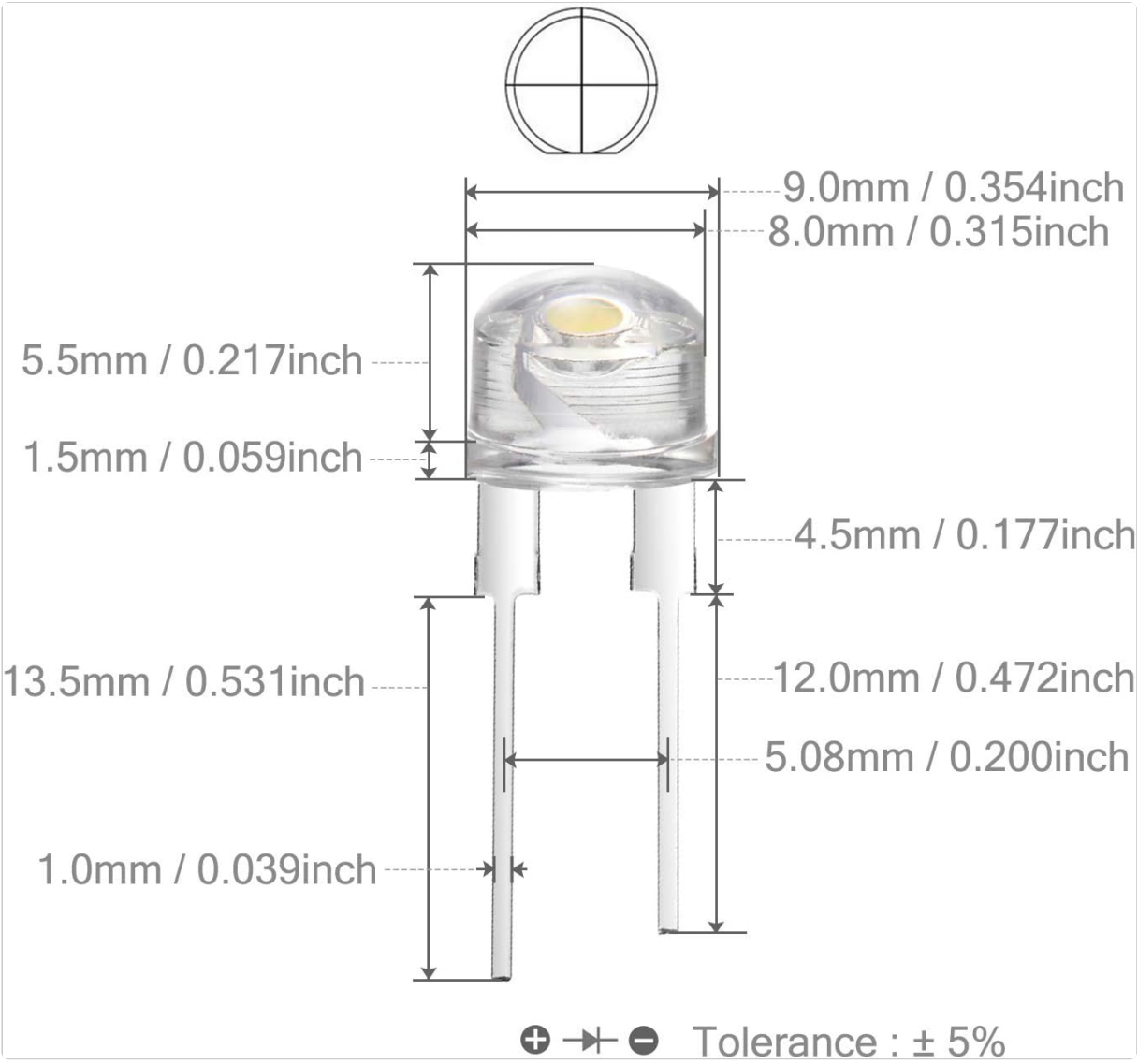

Image: Detailed dimensions of the 8mm straw hat LED diode, including lead length and spacing.

Image: Close-up of an unlit CHANZON 8mm straw hat LED, highlighting its transparent lens and internal components.

4. Setup and Installation

4.1 Unpacking

Carefully remove the LEDs from their packaging. Inspect for any visible damage. The package contains 50 individual LED diodes.

Image: The CHANZON 8mm white LED diodes as packaged, showing a quantity of 50 pieces.

4.2 Wiring and Polarity

LEDs are diodes, meaning current flows in one direction. Correct polarity is crucial for operation.

- **Anode (+):** This is the positive lead. It is typically the **longer** of the two leads.
- **Cathode (-):** This is the negative lead. It is typically the **shorter** of the two leads.
- Connect the anode to the positive output of your power source and the cathode to the negative output.

4.3 Current Limiting Resistor

To protect the LED from excessive current and ensure its longevity, a current-limiting resistor is almost always required in series with the LED. The resistor value depends on your power supply voltage and the desired current. Use Ohm's Law (R = (Vs - Vf) / If) to calculate the appropriate resistor value, where:

- **R:** Resistor value in Ohms (Ω)
- **Vs:** Supply voltage (e.g., 5V, 9V, 12V)
- **Vf:** LED forward voltage (typically 3.0V for these white LEDs)
- **If:** Desired forward current (e.g., 20mA for general use, up to 250mA for maximum brightness)

Example: For a 5V supply and a desired 20mA (0.02A) current:
R = (5V - 3.0V) / 0.02A = 2V / 0.02A = 100 Ω

Always use a resistor value equal to or greater than the calculated value.

5. Operating Instructions

Once properly wired with a current-limiting resistor and connected to a suitable DC power source (3V-3.2V), the LED will illuminate. These LEDs are designed for continuous operation within their specified parameters.

- **Applications:** Suitable for DIY PCB board circuits, Arduino projects, Raspberry Pi, hobby electronics, science experiments, breadboard prototyping, and as replacement bulbs.
- **Brightness Control:** The brightness can be adjusted by varying the forward current (within the 250mA maximum) using a different resistor value or a constant current driver.

6. Maintenance

CHANZON LEDs are low-maintenance components. Follow these guidelines for optimal performance and lifespan:

- **Cleaning:** If necessary, gently wipe the LED lens with a soft, dry cloth. Avoid abrasive cleaners or solvents.
- **Storage:** Store unused LEDs in a dry, cool environment, preferably in their original anti-static packaging, to prevent damage from moisture or static discharge.
- **Environmental Conditions:** Avoid exposing LEDs to extreme temperatures, high humidity, or corrosive environments.

7. Troubleshooting

If your LED is not functioning as expected, consider the following:

Problem	Possible Cause	Solution
LED does not light up	Incorrect polarity No power supply Faulty wiring/connection LED is damaged Resistor value too high	Check anode/cathode connection Verify power supply is on and providing correct voltage Inspect all connections Replace LED Recalculate and replace resistor
LED is dim	Insufficient current Resistor value too high Low supply voltage	Check current-limiting resistor value Recalculate and replace resistor for desired brightness Verify power supply voltage
LED flickers	Unstable power supply Loose connection	Use a stable DC power supply Secure all connections
LED burns out quickly	Excessive current (no resistor or too low value) Over-voltage	Always use a current-limiting resistor Ensure supply voltage matches LED specifications

8. Warranty and Support

CHANZON stands by the quality of its products. For any questions, technical assistance, or support regarding your

8mm White LED Diode Lights, please contact CHANZON customer service through the retailer where the product was purchased. Please have your purchase details and model number (50F8T-CM-WH-WH) available when contacting support.