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diymore LCR-T7

diymore LCR-T7 Multifunction TFT Transistor Tester

Model: LCR-T7

1. INTRODUCTION

The diymore LCR-T7 is a versatile multifunction TFT transistor tester designed for electronic enthusiasts and professionals. It features a color screen and one-touch operation, providing automatic detection and measurement of various electronic components. This instrument is capable of testing triodes, diodes, resistors, capacitors, inductors, thyristors, field-effect transistors (MOSFETs), regulators, dual diodes, and light-emitting diodes. It also includes infrared decoding capabilities and displays measurement results graphically on its TFT screen. The device is powered by a built-in rechargeable lithium-ion battery and includes automatic shutdown functionality to conserve power.



Figure 1: diymore LCR-T7 Multifunction TFT Transistor Tester.

2. PACKAGE CONTENTS

Please verify that all the following items are included in your package:

- 1 x diymore LCR-T7 Multifunction TFT Transistor Tester
- 3 x Test Clips (Red, Green, Black)
- 1 x Micro USB Charging Cable
- 1 x Set of Test Pins/Sockets
- Sample components (e.g., resistor, capacitor, LED)



Figure 2: LCR-T7 Tester and accessories.

3. DEVICE LAYOUT

Familiarize yourself with the key components and interfaces of the LCR-T7 tester:

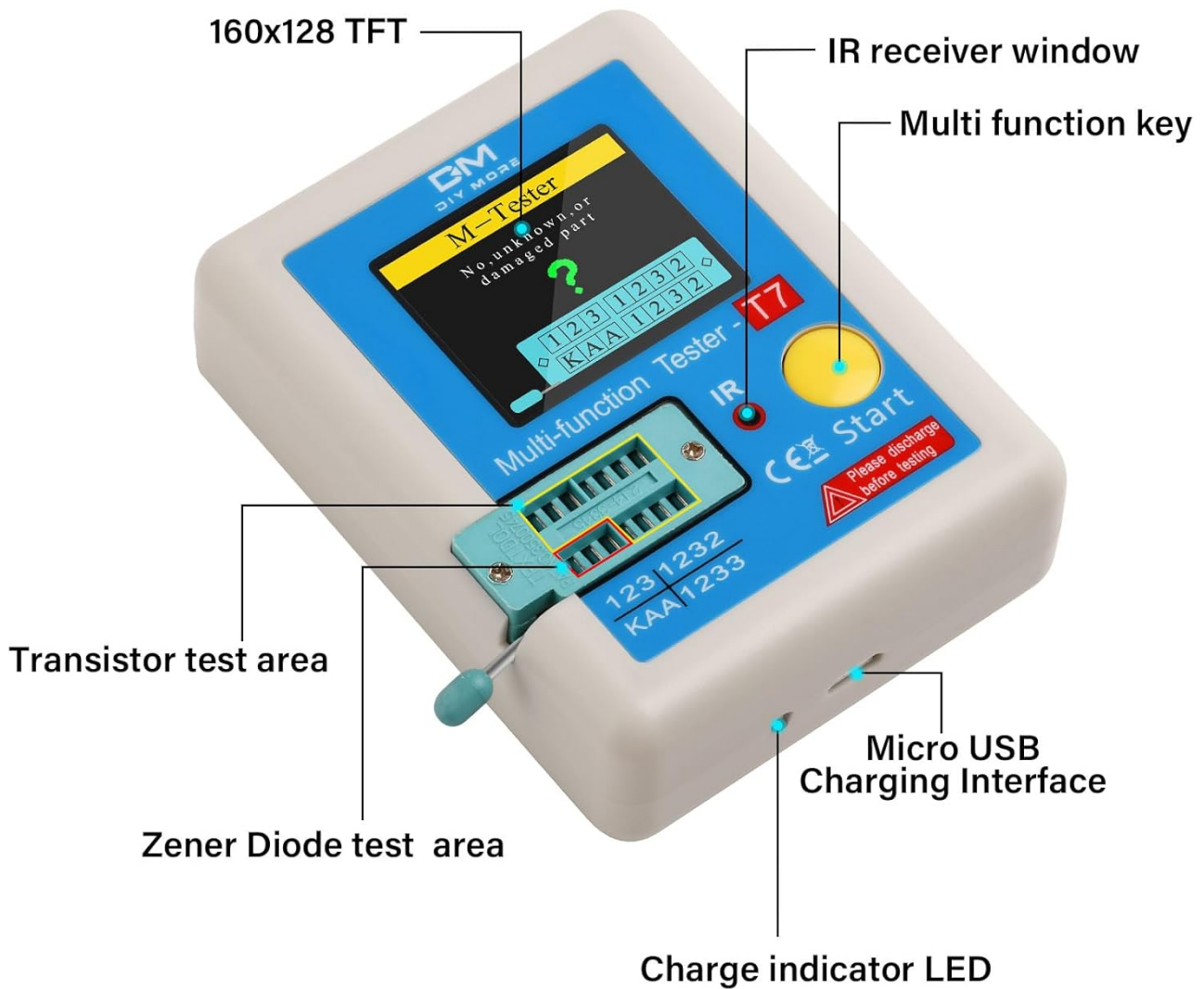


Figure 3: LCR-T7 Tester with labeled components.

- **160x128 TFT Display:** Shows measurement results graphically.
- **IR Receiver Window:** For infrared signal detection and decoding.
- **Multi-function Key (Start Button):** Initiates tests and navigates menus.
- **Transistor Test Area:** Socket for inserting transistors and other components for testing (labeled 1, 2, 3).
- **Zener Diode Test Area:** Dedicated area for Zener diode testing (labeled KAA).
- **Micro USB Charging Interface:** For charging the internal battery.
- **Charge Indicator LED:** Indicates charging status.

4. SETUP

4.1 Initial Charging

Before first use, ensure the device is fully charged. Connect the provided Micro USB cable to the tester's charging interface and a suitable USB power source (e.g., computer USB port, USB wall adapter). The charge indicator LED will illuminate during charging and turn off or change color when fully charged.

4.2 Calibration

For optimal accuracy, it is recommended to perform a self-test with automatic calibration. To do this, short-circuit all three test points (1, 2, and 3) in the transistor test area using a short wire or the provided test pins. Press the multi-function key to start the test. The device will perform a self-calibration and display a message upon completion. Remove the short circuit after calibration.

5. OPERATING INSTRUCTIONS

5.1 General Testing Procedure

1. Ensure the component to be tested is discharged, especially capacitors, to prevent damage to the tester.
2. Insert the component leads into the appropriate test points (1, 2, 3 for most components; KAA for Zener diodes).
3. Press the multi-function key (Start button).
4. The tester will automatically identify the component type and display its parameters on the TFT screen.
5. The device will automatically shut down after a period of inactivity (timeout setting).

5.2 Testing Transistors (Triodes, NPN, PNP, MOSFET)

Insert the transistor leads into any three test points (1, 2, or 3). The tester will identify the transistor type (NPN, PNP, MOSFET, JFET), pinout (Emitter, Base, Collector or Source, Gate, Drain), and measure parameters such as hFE (for bipolar transistors), threshold voltage, and capacitance (for MOSFETs).

5.3 Testing Diodes (including Zener)

For standard diodes, insert the leads into any two test points (1, 2, or 3). The tester will display the forward voltage drop and capacitance. For Zener diodes, use the dedicated KAA test area. The tester can automatically detect Zener diodes with voltages between 0.01V and 30V.

5.4 Testing Capacitors

Important: Always discharge capacitors before testing to avoid damaging the tester. Insert the capacitor leads into any two test points (1, 2, or 3). The tester will measure capacitance, ESR (Equivalent Series Resistance), and Vloss (voltage loss).

5.5 Testing Resistors

Insert the resistor leads into any two test points (1, 2, or 3). The tester will measure the resistance value. Note that resistance cannot be measured in the KAA area, which is reserved for Zener diodes.

5.6 Testing Inductors

Insert the inductor leads into any two test points (1, 2, or 3). The tester will measure the inductance value. Hollow coils and power inductors may require specific connection methods or external components for accurate measurement.

5.7 Infrared Decoding

Point an infrared remote control towards the IR receiver window and press a button. The tester will display the infrared waveform and decode the received signal, providing information about the IR protocol and data.

6. MAINTENANCE

6.1 Battery Care

The LCR-T7 features a built-in rechargeable lithium-ion battery. To prolong battery life, avoid fully discharging the battery frequently and store the device in a cool, dry place if not used for extended periods. Recharge the battery when the low battery indicator appears.

6.2 Cleaning

Clean the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Keep the test areas free from dust and debris to ensure accurate measurements.

7. TROUBLESHOOTING (FAQ)



Figure 4: Common questions and answers.

- **Q: Can this transistor tester measure Darlington transistors?**
A: The tester's output current is 6mA, and the voltage is <5V. High-power IGBTs, thyristors, and Darlington transistors cannot be tested.
- **Q: Can this transistor tester measure hollow coils and power inductors?**
A: Hollow coils and power inductors cannot be measured directly. Please connect the appropriate color cycle inductor for testing.
- **Q: Should I discharge the capacitor before measuring it?**
A: Yes, before measuring a capacitor, you must discharge it, otherwise it will damage the tester.
- **Q: How to distinguish between two measurement areas?**
A: Triodes, diodes, capacitors, etc., are measured in the "123" area. Please insert them into positions "1" and "3". The "KAA" area is specifically for Zener diodes.
- **Q: Why does the screen show a Zener diode when I measure resistance?**
A: Resistance cannot be measured in the "KAA" area. If you place a resistor in "KAA", it will incorrectly display as a Zener diode. Use the "123" area for resistance measurements.
- **Q: Why is the resistance measurement inaccurate?**
A: If the measured resistance is less than 10 ohms, it may lead to an inaccurate reading or a "deadlock" situation. Ensure proper contact and component integrity.

8. SPECIFICATIONS

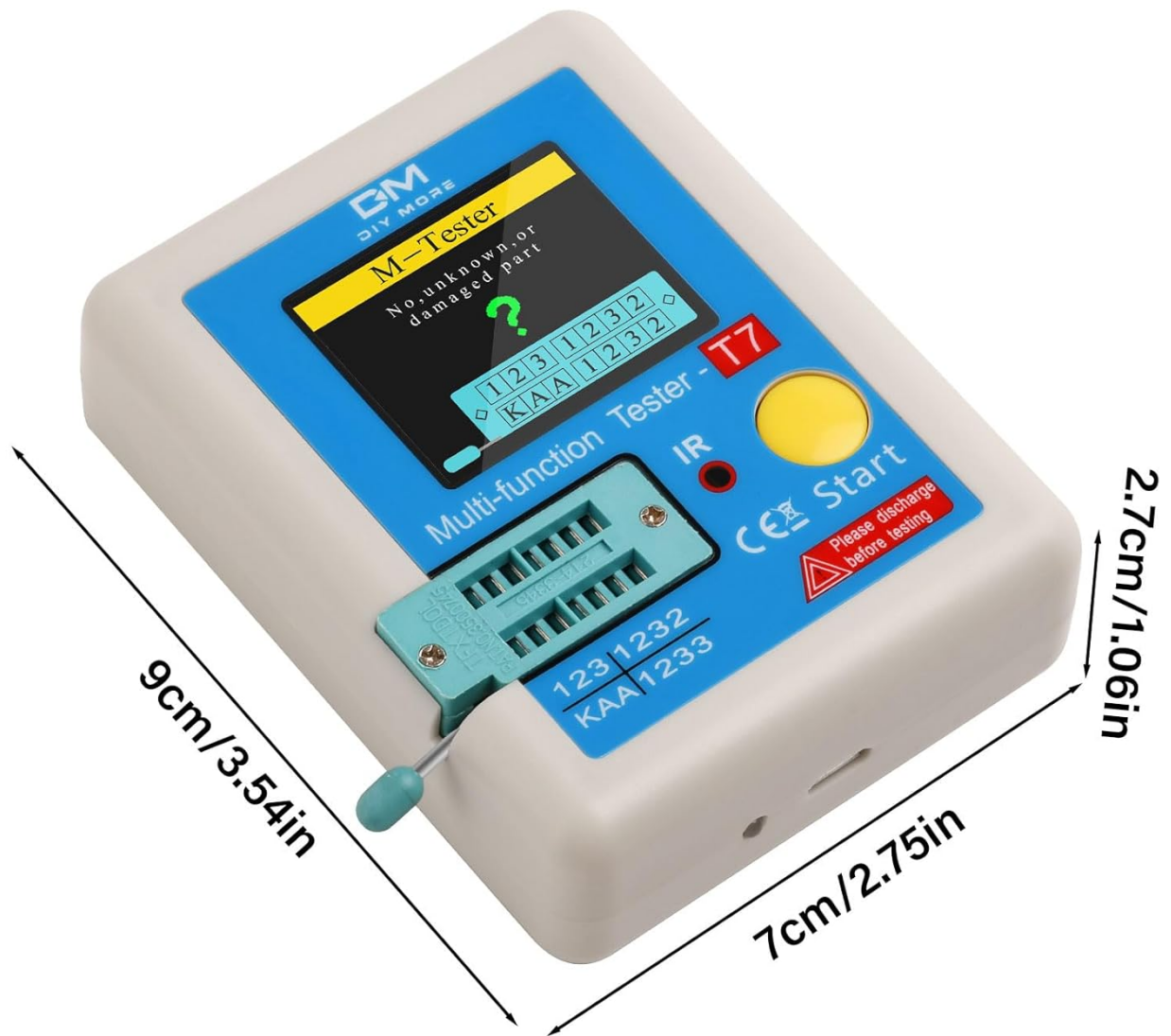


Figure 5: LCR-T7 Tester dimensions.

Feature	Specification
Brand	diymore
Model	LCR-T7
Display	160x128 TFT Color Screen
Power Source	Rechargeable Lithium-ion Battery
Minimum Operating Voltage	3.7 Volts
Item Weight	85 Grams
Compliant Specifications	CE Marked, RoHS Compliant
Measurement Type	Multimeter (Transistor, Diode, Resistor, Capacitor, Inductor, ESR, etc.)
UPC / GTIN	799132364738
Country of Origin	China