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ABSTRACT

An Alternate Current (AC) white Light-Emitting Diode (LED) device is provided, which belongs to the technical field of white LED manufacturing. The problem to be solved by the present invention is to low-costly overcome a series of deficiencies such as the stroboflash of an AC driven LED, and the heat dissipation difficulty caused by an integrated packaging of multiple LEDs. A white LED unit includes an LED chip and a light emitting material that can emit light when being excited by the LED chip. The luminous lifetime of the light emitting material is 1~100 ms. The LED chip only comprises one PN junction. The light emitted by the LED chip is mixed with the light emitted by the light emitting material to form white light. The white LED unit is driven by AC with a frequency not more than 100 Hz. The white LED device of prevent invention uses the single PN junction chip, rather than the prior integrated packaged AC multi-LED chip.