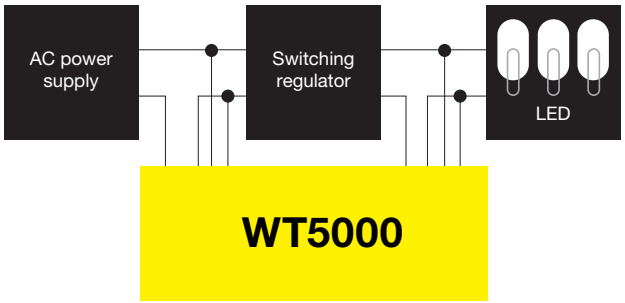
Application note

In Lighting Drive Circuit



Overview

In recent years, fluorescent and incandescent lamps have been gradually replaced by longer- life, lower-energy LED lamps. In order to further improve the efficiency of LEDs, engineers are working to improve the power conversion efficiency of LED driver circuits (drive modules). Engineers need to measure the electrical parameters of the drive circuit.

Key requirements

- Evaluating the LED driver circuit requires a multi-channel, high-precision, wide-bandwidth power analyzer.
- Wide input ranges of voltage and current, can test a variety of supply voltages, and can also test electrical parameters in normal and standby states
- Display values and waveforms or values and trends simultaneously
- Overall evaluation of current consumption, power consumption and efficiency
- Harmonic analysis

The WT5000 advantage

Multiple channels and high accuracy

- Up to 7 power channels make it easy to evaluate the current, power and efficiency of LED drive circuit.
- Bandwidth: 5MHz for current, 10MHz for voltage
- Power accuracy: 0.01 % of rd + 0.02 % of fs (50/60Hz) 0.02 % of rd + 0.05 % of fs (DC)

Wide input ranges of voltage and current

- Voltage range: 1.5/3/6/10/15/30/60/100/150/300/600/1000V, 1500V_{DC}
- Current Range: 5m/10m/20m/50m/0.1/0.2/0.5/1/2/5A for 5A module 0.5/1/2/5/10/20/30A for 30A module

Flexible display form, displayed independently or in combination

- Data such as values, waveforms, trends, harmonic lists, etc. can be displayed. It can also display the combination of “Value + Waveform”, “Value + Trend”, etc., while viewing the values, it is also possible to check the dynamics of each parameter.

Harmonics and dual harmonics

- Fundamental frequency of WT5000 is from 0.1Hz up to 300kHz.
- Max. order of harmonics: 500th order
- Simultaneously measure harmonic parameters on two different fundamental frequencies.