

# THL3504

## 24-channel Constant Current LED Driver with LVDS Interface

### DESCRIPTIONS

The THL3504 is an LED driver with 24 channel constant current sink outputs. The constant current values for three output groups are determined by external resistors. The embedded oscillator and PWM controller individually generates 256-step brightness set by the dedicated registers for each channel.

The serial interface of 2-pair LVDS lines (clock and data) features high-level noise tolerance, high-speed, and long-distance transmission.

The LVDS allowing cascaded and multidrop connection offers the maximum flexibility for designers to place and connect LED drivers.

The simple and one-way communication protocol is easily-controlled and requires less CPU resources.

### APPLICATIONS

- Amusement
- LED Backlight
- LED Display
- Digital Signage
- Illumination

### FEATURES

< Driver part >

- Constant Current Output: 24 channels
- Output Sink Current: up to 40mA/ch
- Output voltage: up to 40V
- Individual Brightness Control: 256 steps
- Group Brightness Control: 64 steps
- Output disable/enable

< Serial interface part >

- 2-pair Serial LVDS Input or 3-wire Serial CMOS Input up to 10Mbps
- Bridge Function Converting 3-wire Serial CMOS Input to 2-pair Serial LVDS Output
- Repeater function of 2-pair Serial LVDS Input / Output with Waveform and Timing Correction
- Device Address Selection up to 62 addresses
- General call to all devices

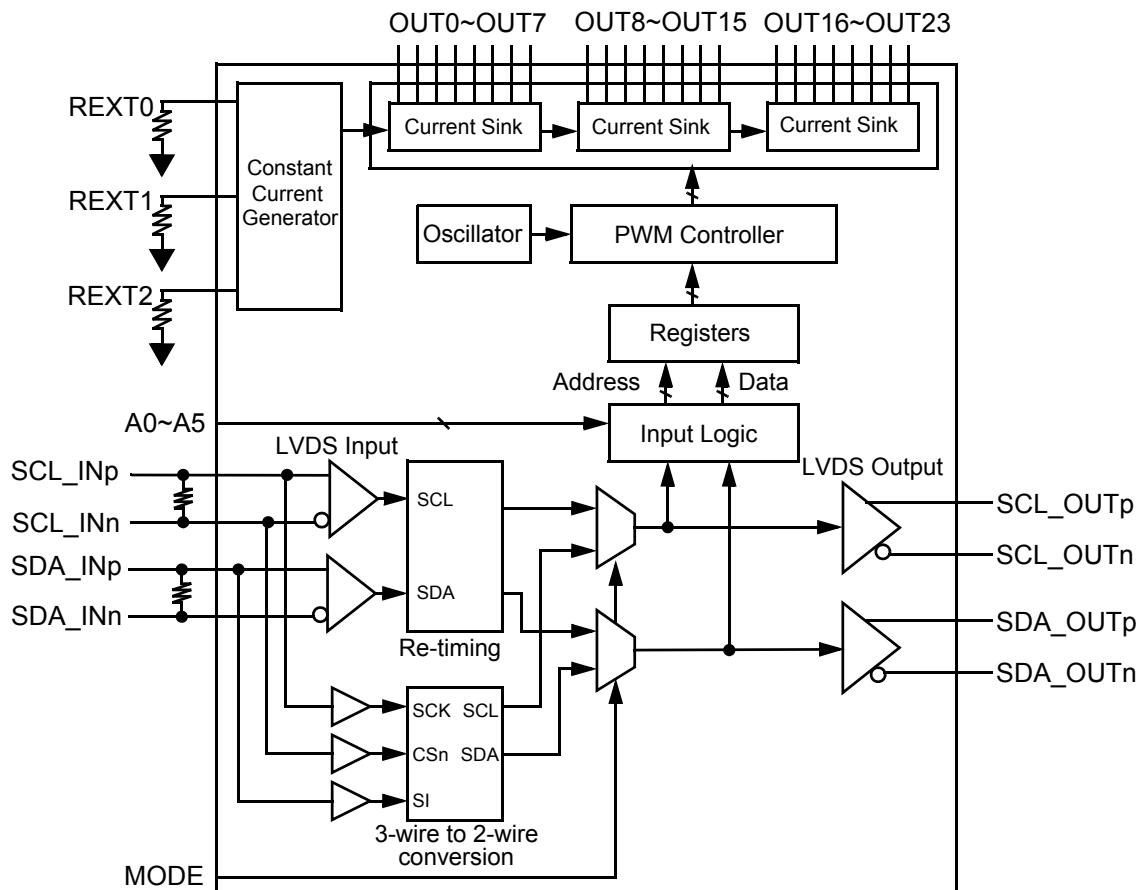
Protection Circuits

UVLO, Short Circuit Protection, Thermal Shutdown

Supply Voltage: 3.0~5.5V

Package: QFN 48-pin Exposed Pad

### Block Diagram



**Notices and Requests**

1. The product specifications described in this material are subject to change without prior notice.
2. The circuit diagrams described in this material are examples of the application which may not always apply to the customer's design. We are not responsible for possible errors and omissions in this material. Please note if errors or omissions should be found in this material, we may not be able to correct them immediately.
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