

Constant Current RGB/White LED Driver with I²C Control

Features

- Ultra low dropout regulated current sinks
 - ▶ 3-Channels: KTD2026
 - ▶ 4-Channels: KTD2027
- 40mV typical at 10mA per channel
- Programmable LED setting using I²C control
- Individual channel control
 - ▶ On/Off Interval Time Control
 - ▶ Dimming Up/Down Time
 - ▶ Current Level Setting
 - ▶ RGB or RGBW LED Color Control
- 192 current levels: 24mA max, 0.125mA step
- $\pm 5\%$ current matching for max current
- Low supply current of 200 μ A typ.
- No noise, non-pulsating LED current
- Fast, smooth start-up
- V_{IN} Range: 2.7V to 5.5V
- 0.1 μ A Shutdown Current
- Pb-free Package: UTDFN-8 1.5x1.5mm
- -40°C to +85°C Temperature Range

Applications

- RGB indicator LEDs
- Flashing LEDs
- Mobile Phones
- Handheld Devices
- Digital Cameras

Brief Description

The KTD2026/7 are fully programmable, constant current RGB or RGBW LED drivers with a flexible control interface. The devices are ideally powered from one-cell lithium-ion/polymer, 3-cell NiCd/NiMH/Alkaline batteries, or systems with 3.3V or 5V supplies. The independent programmable constant current sinks operate without external components.

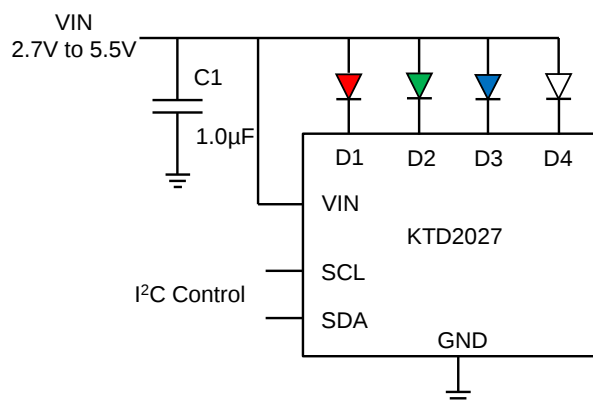
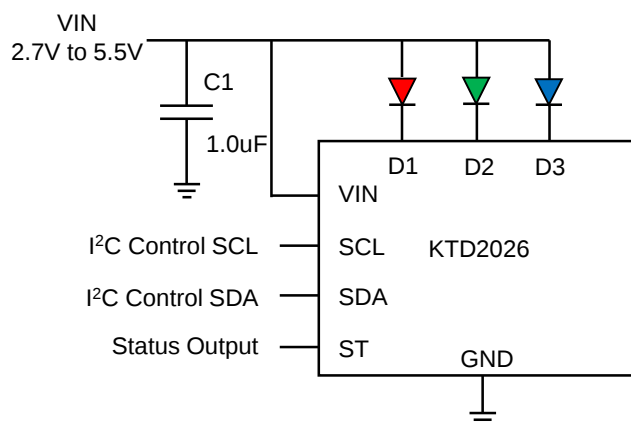
With an on-chip timing control unit, LED blink rate, fade-in and fade-out are user-adjustable resulting in unique color lighting patterns.

Ten internal registers are programmed via the I²C interface with a built-in decoder allowing individual control of the three/four LED channels' On/Off state and current level. A total of 192 current levels are available for each channel from 0.125mA to 24mA with a 0.125mA step.

In shutdown mode, the quiescent current is reduced to less than 1 μ A.

The driver is available in a low profile 8-pin 1.5mm x 1.5mm x 0.5mm Ultra-Thin DFN package. The packages are Pb-free and RoHS compliant.

Typical Application



Ordering Information

Part Number	IOUT max Per channel	I ² C Device Address	Marking ¹	Operating Temperature	Package
KTD2026EWE-TR	24mA	30h	ETYYZ	-40°C to +85°C	UTDFN1.5x1.5-8
KTD2026BEWE-TR	24mA	31h	GKYYZ	-40°C to +85°C	UTDFN1.5x1.5-8
KTD2026CEWE-TR	24mA	32h	LYYYZ	-40°C to +85°C	UTDFN1.5x1.5-8
KTD2027EWE-TR	24mA	30h	ESYYZ	-40°C to +85°C	UTDFN1.5x1.5-8
KTD2027BEWE-TR	24mA	31h	LZYYZ	-40°C to +85°C	UTDFN1.5x1.5-8

1. "YYZ" is the date code and assembly code.

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