**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
- ±5% current matching for max current
- Low supply current of 200µA typ.
- No noise, non-pulsating LED current
- Fast, smooth start-up
- V_IN Range: 2.7V to 5.5V
- 0.1µA 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 1µA.

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>IOUT max Per channel</th>
<th>I²C Device Address</th>
<th>Marking¹</th>
<th>Operating Temperature</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KTD2026EWE-TR</td>
<td>24mA</td>
<td>30h</td>
<td>ETYYZ</td>
<td>-40°C to +85°C</td>
<td>UTDFN1.5x1.5-8</td>
</tr>
<tr>
<td>KTD2026BEWE-TR</td>
<td>24mA</td>
<td>31h</td>
<td>GKYZZ</td>
<td>-40°C to +85°C</td>
<td>UTDFN1.5x1.5-8</td>
</tr>
<tr>
<td>KTD2026CEWE-TR</td>
<td>24mA</td>
<td>32h</td>
<td>LYYZ</td>
<td>-40°C to +85°C</td>
<td>UTDFN1.5x1.5-8</td>
</tr>
<tr>
<td>KTD2027EWE-TR</td>
<td>24mA</td>
<td>30h</td>
<td>ESYZZ</td>
<td>-40°C to +85°C</td>
<td>UTDFN1.5x1.5-8</td>
</tr>
<tr>
<td>KTD2027BEWE-TR</td>
<td>24mA</td>
<td>31h</td>
<td>LYYZ</td>
<td>-40°C to +85°C</td>
<td>UTDFN1.5x1.5-8</td>
</tr>
</tbody>
</table>

¹. “YYZ” is the date code and assembly code.

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