

**White LED driver IC**  
**白色LEDドライバIC**



**TK61222CQ6**  
**(HQFN4040A-24)**

**DESCRIPTION**

The TK61222CQ6 type is a White LED driver IC for medium-sized displays such as Laptop PCs. It can drive up to four to six strings of ten white LEDs in series by four to six string circuits. Each strings have has constant current sources and stabilizers to drive up to 25mA. This part contains a boost DC-DC converter to drive the internal power MOSFET, and the switching frequency can be tuned by an outside resistor, from 200kHz that enables high efficiency to 2MHz that allowing the use offer a small inductor. It has over-voltage protection, over-current protection, open LED protection, LED-port short to GND protection and UVLO.

TK61222CQ6タイプは、ノートPCなどの中型LCDディスプレイに最適な白色LEDドライバICです。スイッチングMOS Tr.内蔵の昇圧DC-DCコンバータと、6個の定電流回路の構成で、最大60個（直列10個×6並列）のLEDを定電流駆動できます。電流値は、外部設定可能で、1列あたり最大25mAです。発振周波数も外部設定可能で、最高2MHzの高周波発振により、小型インダクタ使用を可能にしています。過電圧、過電流、端子オープン/ショートなど種々の保護機能を備えています。

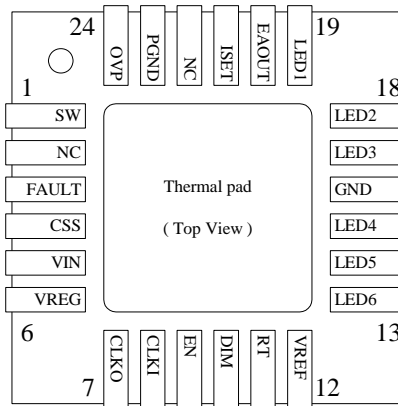
**FEATURES**

- Capable of driving 6 strings of 10 WLEDs in series maximum 4 to 6 strings WLEDs Drive
- Internal Switching FET
- Internal six Current Stabilizers (Each up to 10 LEDs at 25mA)
- Internal LDO (Single Input-Voltage)
- Wide Input-Voltage Range (4.25V to 25V)
- Analog Dimming and PWM Dimming
- Adjustable Oscillation Frequency, Max 2.0MHz
- Master or Slave Frequency Synchrononization
- Open LED protection, LED-port short to GND protection
- Over-voltage rotection, Over-current protection, UVLO
- Non-lead small package less than 1.0mm
- 最大10個の白色LEDを6列駆動可能
- スイッチングMOS Tr.内蔵
- 6個のLED電流スタビライザー内蔵
- 内部回路用LDO装備
- 広い入力電圧範囲(4.25V~25V)
- アナログ調光およびPWM調光
- 発振回路は、最高2MHzまで設定可能
- IC並列同期運転機能
- LEDオープン端子除外機能、LED端子ショート保護
- 過電圧保護、過電流保護、LDO低電圧保護
- 厚さ1.0mm以下ノンリード小型パッケージ

**ELECTRICAL CHARCTERISTICS**

Type	OSC system	DC-DC converter				White LED driver			V <sub>OP</sub>	T <sub>OP</sub>	P <sub>D</sub>	f <sub>OP</sub>
		Type	Switching Tr.	V <sub>OUT</sub>	Switching current	Num. of white LED	system	Efficiency				
TK61222CQ6	PWM	Step-up+constant current source	Internal	Adjustable	2.0A	Series or 2	Inductive External schottky	80%	2.5 to 5.5V	-30 to +85°C	1000mW	1.8MHz

## PIN DESCRIPTION



## BLOCK DIAGRAM

