SGM37895

Independent dual-channel, inductor-less LED flash driver with flashlight mode

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Datasheet Sample

GENERAL DESCRIPTION

SGM37895 is a dual-channel LED flash driver that integrates two current sources set by I²C (the settable flash drive current is 750mA/1000mA, the default value is 750mA).

Because it adopts a linear flash drive structure without the need for an inductor, and its output allows the LED cathode to be grounded, a compact PCB layout can be achieved with extremely low EMI and good heat dissipation characteristics.

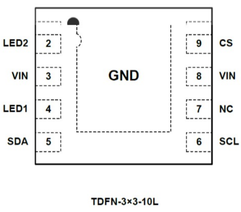
During the flash, SGM37895 can reduce the drive current of any channel through I²C instructions. There are four levels: 100%/80%/64%/51%.

To prevent the LED flash from overheating, when the flash drive current is continuously output for more than 575ms, the flash timeout protection timer will force the output to turn off. During the flash, if the temperature exceeds 168 ℃ or the power supply voltage is lower than the set threshold voltage (set through I²C, default value 3.4V), the chip will automatically reduce the voltage in proportion (100%/66%/33%/0%) Flash drive current.

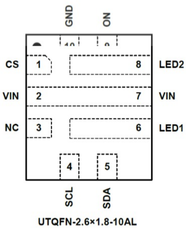
In flashlight mode, its current is 10% of the flash drive current. When set to 100% rated current, it has a slow start function, and when set to 80%/64%/51%, it starts normally.

The hexadecimal I²C address of SGM37895 is 0xA7 (read)/0xA6 (write). SGM37895 is available in TDFN-3×3-10L and UTQFN-2.6×1.8-10AL green packages, and the operating temperature range is -40 ℃ to +85 ℃ . In order to enhance the heat dissipation performance, it is recommended to increase the copper area of VIN, LED1 and LED2 pins as much as possible.

PIN CONFIGURATIONS



TDFN-3×3-10L



UTQFN-2.6×1.8-10AL

FEATURES

- Input supply voltage range: 2.7V to 5.5V
- Precise flash current rating: 750mA/1000mA
- Reduce rated current with I2C (100%/80%/64%/51%)
- Precise flash timeout protection time: 575ms (typical value)
- Set the threshold for low battery voltage detection via I²C (3.0V ~ 3.7V)
- Automatically reduce flash drive current when power supply voltage is too low or overheated (100%/66%/33%/0%)
- Collision avoidance monitoring
- Status monitoring during flash
- I²C interface
- Green TDFN-3×3-10L and UTQFN-2.6×1.8-10AL packages

APPLICATIONS

All portable devices that support camera functions, such as mobile phones, digital cameras, camcorders, tablets, etc.

ORDERING INFORMATION

Part Number	Status	Package	Pins	Pb-Free	Temp Range	
SGM37895YUQP10G/TR	Production	UTQFN-2.6×1.8-10AL	10	Y	-40℃ to +85℃	Samples
SGM37895YTD10G/TR	Production	TDFN-3×3-10L	10	Y	-40℃ to +85℃	Samples