TPS61196PWPRQ1

LED Driver 72 Segment Automotive 28-Pin HTSSOP EP T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	HTSSOP28
Product Type:	Optoelectronics
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active

TPS61196PWPRQ1 Image

Images are for reference only

Inquiry

General Description

The TPS61196-Q1 provides a highly integrated solution for automotive LCD backlighting with an independent PWM dimming function for each string. This device is a current mode boost controller driving up to six WLED strings with multiple LEDs in series. Each string has an independent current regulator providing a LED current adjustable from 50 mA to 400 mA within ±1.5% matching accuracy. The minimal voltage at the current sink is programmable in the range of 0.3 V to 1 V to fit with different LED current settings. The input voltage range for the device is from 8 V to 30 V.

The TPS61196-Q1 adjusts the boost controller's output voltage automatically to provide only the voltage required by the LED string with the largest forward voltage drop plus the minimum required voltage at that string's IFB pin, thereby optimizing driver efficiency. Its switching frequency is programmed by an external resistor from 100 kHz to 800 kHz.

The TPS61196-Q1 supports direct PWM brightness dimming. Each string has an independent PWM control input. During the PWM dimming, the LED current is turned on or turned off at the frequency and duty cycle which are determined by the external PWM signal. The PWM frequency ranges from 90 Hz to 22 kHz.

The TPS61196-Q1 integrates overcurrent protection, output short-circuit protection, ISET short-to-ground protection, diode open and short protection, LED open and short protection, and overtemperature shutdown circuit. In addition, the TPS61196-Q1 can detect the IFB pin short to ground to protect the LED string. The device also provides programmable input undervoltage lockout threshold and output overvoltage protection threshold.

Key Features

8-V to 30-V Input Voltage

Up to 120-V Output Voltage

100-KHz to 800-kHz Programmable Switching Frequency

Adaptive Boost Output for LED Voltages

Six Current Sinks, 200-mA Continuous Output, 400-mA Pulse Output for Each String

±1.5% Current Matching Between Strings

High Precision PWM Dimming Resolution up to 5000:1

Programmable OVP Threshold

Programmable Input UVLO Threshold

Adjustable Soft-Start Time

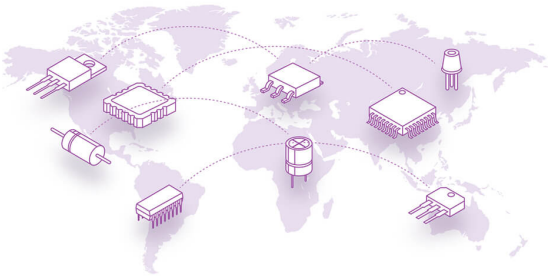
Built-in LED Open and Short Protection

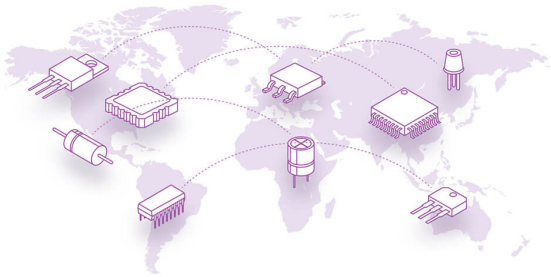
Built-in Schottky Diode Open and Short Protection

Built-in ISET Short Protection

Built-in IFB Short Protection

Thermal Shutdown





Recommended For You

TPS92391RHBR

Texas Instruments, Inc

VQFN32

TLC59116ITPWRQ1

Texas Instruments, Inc

TSSOP28

TPS92692QPWPTQ1

Texas Instruments, Inc

HTSSOP20

TPS92691PWP

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HTSSOP-16

TPS92691PWPR

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HTSSOP16

TPS92633QPWPRQ1

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HTSSOP20

TPS61161QDRVRQ1

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WSON-6

TPS61194PWPRQ1

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HTSSOP20

TPS92520QDADRQ1

Texas Instruments, Inc

HTSSOP32

TPS92630QPWPRQ1

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HTSSOP16

TPS92691QPWPRQ1

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HTSSOP-16

TPS92692QPWPRQ1

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HTSSOP-20

TPS65132SYFFR

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DSBGA-15

TPS65132B2YFFR

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DSBGA15

TPS92601BQPWPRQ1

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HTSSOP-20