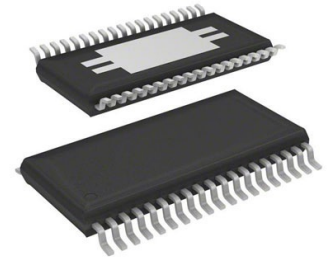


## LED Driver 16 Segment 16000uA Supply Current Automotive 38-Pin HTSSOP EP T/R



Images are for reference only

[Inquiry](#)

**Manufacturer:** [Texas Instruments, Inc](#)

**Package/Case:** HTSSOP-38

**Product Type:** Optoelectronics

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

There are automotive applications for indicators and for LCD local-dimming backlighting. For these applications, more persons think multi-channel constant-current LED drivers are necessary. The requirement is to get the same intensity and color temperature of LEDs. For system-level safety, it is necessary that the LED drivers can sense faults.

The TLC6C5716-Q1 device is an automotive 16-channel constant-current RGB LED driver that can do tests on the LEDs. The TLC6C5716-Q1 device supplies a maximum of 50-mA output current set by an external resistor. The device has a 7-bit dot correction with two ranges for each output. The device also has an 8-bit intensity control for the outputs of each color group.

A 12-, 10-, or 8-bit grayscale control adjusts the intensity of each output. The device has circuits that sense faults in the system, including LED faults, adjacent-pin short faults, reference-resistor faults, and more. A slew rate control has 2 positions for adjustment to get the largest decrease in system noise. There is an interval between the changes of output level from one LED group to a different one. This interval helps to decrease the starting electrical current. The SDI and SDO pins let more than one device be connected in series for control through 1 serial interface.

## Key Features

AEC-Q100 Qualified for Automotive Applications  
Device Temperature Grade 1: -40°C to 125°C, T<sub>A</sub>

16 Constant-Current-Sink Output Channels  
50-mA Maximum Output Current

8-V Maximum Output Voltage

Two Output Groups: OTR<sub>n</sub>, OUT<sub>Bn</sub>

Output Current Adjustment  
7-Bit Dot Correction (DC) for Each Channel

8-Bit Brightness Control (BC) for Each Group

Integrated PWM Grayscale Generator  
PWM Dimming for Each Individual Channel

Adjustable Global Grayscale Mode: 12-Bit, 10-Bit, 8-Bit

Protection and Diagnostics  
LED-Open Detection (LOD), LED-Short Detection (LSD), Output Short-to-GND Detection (OSD)

Adjacent-Pin Short (APS) Detection

Pre-Thermal Warning (PTW), Thermal Shutdown (TSD)

IREF Resistor Open- (IOF) and Short-Detection (ISF) and -Protection

Negate Bit Toggle for GCLK Error Detect and LOD\_LSD Register Error Check

LOD\_LSD Circuit Self-Test

Programmable Output Slew Rate

Output Channel Group Delay

Serial Data Interface

## Recommended For You

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### TLC5955DCAR

Texas Instruments, Inc

HTSSOP56

### TLC5917IN

Texas Instruments, Inc

PDIP-16

### TLC5916QDRQ1

Texas Instruments, Inc

SOP-16

### TLC591161TPWRQ1

Texas Instruments, Inc

TSSOP28

### TLC6C5712QPWRQ1

Texas Instruments, Inc

HTSSOP-28

### TLC6C5748QDCARQ1

Texas Instruments, Inc

HTSSOP-56

### TL4242TDRJRQ1

Texas Instruments, Inc

SON8

### TLC5916IPW

Texas Instruments, Inc

TSSOP16

### TLC5916IDR

Texas Instruments, Inc

SOIC16

**TLC5916IPWR**

Texas Instruments, Inc

TSSOP16

**TLC6C598QPWRQ1**

Texas Instruments, Inc

TSSOP16

**TLC6C598CQDRQ1**

Texas Instruments, Inc

SOP16

**TLC5945PWP**

Texas Instruments, Inc

HTSSOP

**TLC5943PWPR**

Texas Instruments, Inc

HTSSOP28

**TLC5917IPWR**

Texas Instruments, Inc

TSSOP16