

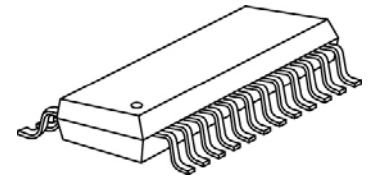


16-Channel Constant Current LED Driver With 12-Bit PWM Control

Features

- 16 constant current output channels
- 12-bit color depth PWM control
- Backward-moving PWM technology
- 7-bit linear programmable output current gain (0~201.6%, default=100%)
- Selectable input-enabled channels to save the bandwidth
- LED open-circuit detection
- Over-temperature detection
- Constant output current range: 5~90mA
8~90mA at 5.0V supply voltage
5~70mA at 3.3V supply voltage
- Output current accuracy:
between channels: $<\pm 1.5\%$ (typ.), and
between ICs: $<\pm 3\%$ (typ.)
- Staggered delay of output, preventing from current surge
- Maximum data clock frequency: 30MHz
- Schmitt trigger input
- 3.0V-5.5V supply voltage

Thin Shrink SOP



GTS: TSSOP24L-173-0.65

Product Description

MBI5101 is designed for LED TV backlight applications using internal Pulse Width Modulation (PWM) control with 12-bit color depth. MBI5101 features a 192-bit shift register which converts serial input data into 12-bit gray scale data of each output port. At MBI5101 output port, sixteen regulated current ports are designed to provide uniform and constant current sinks for driving LEDs with a wide range of V_F variations. The output current can be preset through an external resistor. Moreover, the preset current of MBI5101 can be further programmed to 128 gain steps for LED global brightness adjustment.

MBI5101 drives the corresponding LEDs to the brightness specified by image data. With MBI5101, all output channels can be built with 12-bit color depth (4,096 gray scales). Each LED's brightness can be calibrated from minimum to maximum brightness with compensated gamma correction or LED deviation information inside the 12-bit image data.