

# FS580X

## 48-Channel, Constant-Current LED Driver with Global Brightness Control, LED Open-Short Detection, and Power-Save Mode

### GENERAL DESCRIPTION

The FS580X is the next generation 48-channel, constant-current sink LED driver. Each channel can be turned on or off by writing data to an internal register. The output channels (OUTXn) are grouped into three groups of 16 channels. Each channel group (R, G, and B) has a 128-step global brightness control function. The maximum current value of all 48 channels can be set with a 3-Bits maximum current control function. The device has two error flags: LED open detection and LED short detection. The error flags can be read via a serial interface port. The device also has a standby mode that sets the total current consumption to 5  $\mu$ A when all outputs are off.

### FEATURES

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- 48 Constant-Current Sink Output Channels with ON or OFF control
- Maximum Current Control: 3 Bits
- Maxim Global Brightness Control: 7 Bits, 3 Groups
- LED Power Supply Voltage: < 10V
- Constant Current Accuracy:
  - Channel to Channel Matching: +/-1.0%
  - Devie to Device matching: +/- 2.0%
- Data Transfer Rate (DCLK): 30MHz
- Gray-scale Scanning Frequency (GCLK) < 300 Mhz
- Programmable Output Current Rise/Fall Rate Control
- LED Open Detect
- LED Open Detect
- Standby power consumption < 5  $\mu$ A

### APPLICATIONS

- LED Video Display
- VLSI Testers

PART	TEMP RANGE	PIN-PACKAGE
FS580x	-40°C to 85 °C	56pin QFN

### BLOCK DIAGRAM

