

Product Overview

FL3100T: Low-Side Gate Driver with LED PWM Dimming Control for Smart LED Lighting

For complete documentation, see the data sheet.

The FL3100T 2 A gate driver is designed to drive an N-channel enhancement-mode MOSFET in low-side switching applications by providing high peak current pulses during the short switching intervals. The FL3100T has two inputs that can be configured to operate in non-inverting (IN) mode with a DIM pin for PWM dimming control of the LED Driver. High accuracy PWM dimming control required in smart LED drivers is possible by adjusting the duty ratio of the DIM input. If one or both inputs are left unconnected, internal resistors bias the inputs such that the output is pulled LOW to hold the power MOSFET off.

The driver is available with fixed TTL input thresholds. Internal circuitry provides an under-voltage lockout function by holding the output LOW until the supply voltage is within operating range. The FL3100T delivers fast MOSFET switching performance, which helps maximize efficiency in high-frequency LED driver designs.

The FL3100T is available in a 5-pin, SOT23 or a 2 x 2 mm, 6-lead, Molded Leadless Package (MLP) for the smallest size with excellent thermal performance.

Features

- Non-inverting Input Logic with DIM Control Input for PWM Dimming Down to 0.1% for Hybrid Dimming
- 4.5 to 18 V Operating Range
- TTL Inputs Independent of Supply Voltage
- 2.5 A Sink / 1.8 A Source at $V_{OUT} = 6\text{ V}$
- Internal Resistors Turn Driver Off If No Inputs
- 13 ns Typical Rise Time and 9 ns Typical Fall-Time with 1 nF Load
- MillerDrive™ Technology
- Typical Propagation Delay Time Under 20 ns with Input Falling or Rising
- 6-Lead, 2 x 2 mm MLP or 5-Pin, SOT23 Packages
- Rated from -40°C to 125°C Ambient

For more features, see the data sheet

Applications

- Lighting

Part Electrical Specifications

Product	Compliance	Status	Type	Number of Drivers	V_{in} Max (V)	V_{CC} Max (V)	Drive Source/Sink Typ (mA)	Rise Time (ns)	Fall Time (ns)	t_p Max (ns)	Package Type
FL3100TMPX	Pb-free	Active	MOSFET	1	-	18	3000	13	9	30	WDFN-6
	Halide free										
FL3100TSX	Pb-free	Active	MOSFET	1	-	18	3000	13	9	30	SOT-23-5
	Halide free										

For more information please contact your local sales support at www.onsemi.com.

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