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May 2011

FAN7319 LCD Backlight Inverter Drive IC

Features

- High-Efficiency Single-Stage Power Conversion
- Wide Input Voltage Range: 10V to 24V
- Backlight Lamp Ballast and Soft Dimming
- Minimal Required External Components
- Precision Voltage Reference Trimmed to 2%
- ZVS or ZCS Push-Pull & Full-Bridge Topology
- PWM Control at Fixed Frequency
- ZCS Control by Sensing Resonant Tank Current
- External Pulse Burst Dimming Function Positive
- Analog Dimming Function Positive
- Programmable Striking Frequency
- Open-Lamp Protection
- Open-Lamp Regulation
- Short-Lamp Protection
- CMP-High Protection
- Dynamic Contrast Ratio Mode
- Thermal Shutdown
- 20-Pin SOP

Applications

- LCD TV
- LCD Monitor

Description

The FAN7319 is a LCD backlight inverter drive IC that controls N-N push-pull topology or N-N full-bridge topology using a proprietary phase-shift method.

The FAN7319 provides a low-cost solution and reduces external components by integrating full-wave rectifiers for open-lamp protection and regulation (patent pending). The operating voltage range is wide, so an external regulator isn't necessary to supply voltage to the IC.

The FAN7319 provides various protections, such as open-lamp regulation, open-lamp protection, short-lamp protection, CMP-high protection, and FB-high protection, to increase the system reliability. The FAN7319 provides burst dimming function and analog dimming.

The FAN7319 is available in a 20-Lead Small Outline Integrated Circuit (SIOC) package.

Ordering Information

Part Number	Operating Temperature	Package	Packing Method
FAN7319M	-25 to +85°C	20-Lead, SOIC, JEDEC	Rail
FAN7319MX	-25 to +85°C	MS-013, .300 Inch, Wide Body	Tape & Reel

Typical Full-Bridge Application Circuit (LCD Backlight Inverter)

Application	Input Voltage Range	Number of Lamps
LCD TV (LIPS Type)	13±10%	CCFL/EEFL IP

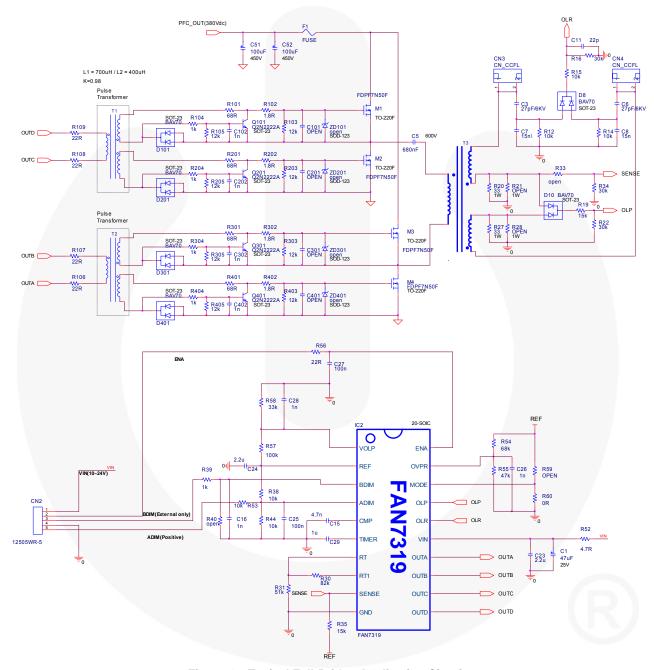


Figure 47. Typical Full-Bridge Application Circuit

Typical Half-Bridge Application Circuit (LCD Backlight Inverter)

Application	Input Voltage Range	Number of Lamps
LCD TV (LIPS Type)	13±10%	CCFL/EEFL IP

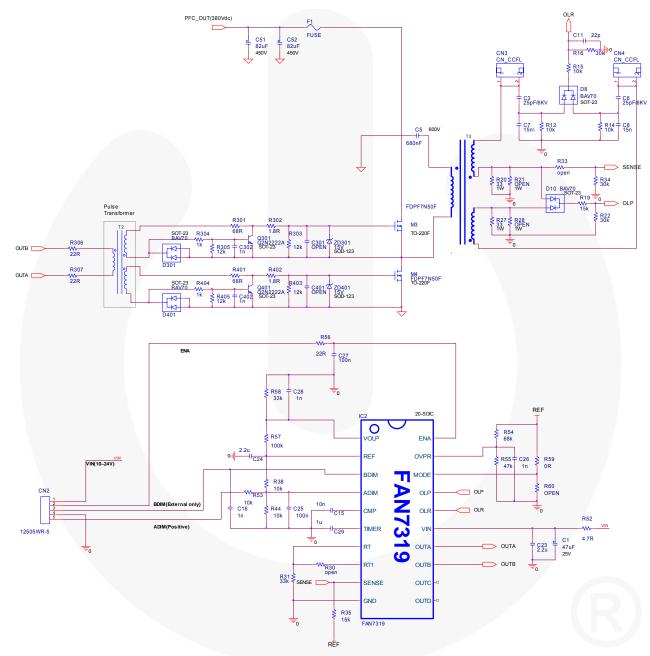


Figure 48. Typical Half-Bridge Application Circuit

Physical Dimensions 13.00 12.60 11.43 9.50 10.65 7.60 10.00 7.40 10 0.51 PIN ONE 1.27 0.35 **INDICATOR** ⊕ 0.25 M C B A LAND PATTERN RECOMMENDATION 2.65 MAX SEE DETAIL A 0.33 0.20 0.30 0.10 SEATING PLANE NOTES: UNLESS OTHERWISE SPECIFIED (R0.10)A) THIS PACKAGE CONFORMS TO JEDEC **GAGE PLANE** MS-013, VARIATION AC, ISSUE E (R0.10) B) ALL DIMENSIONS ARE IN MILLIMETERS. 0.25 C) DIMENSIONS DO NOT INCLUDE MOLD FLASH OR BURRS. D) CONFORMS TO ASME Y14.5M-1994 1.27 0.40 SEATING PLANE E) LANDPATTERN STANDARD: SOIC127P1030X265-20L (1.40)F) DRAWING FILENAME: MKT-M20BREV3 **DETAIL A**

Figure 49. 20-Pin, Small-Outline Integrated Circuit (SOIC) Package

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Definition of Terms

Datasheet Identification	Product Status	Definition	
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.	
Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Faird Semiconductor reserves the right to make changes at any time without notice to improve design	
No Identification Needed	entification Needed Full Production Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.		
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.	

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