FAIRCHILD SEMICONDUCTOR®

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FAN7316
LCD Backlight Inverter Drive IC

Features

- High-Efficiency Single-Stage Power Conversion
- Wide Input Voltage Range: 4.5V to 24V
- Backlight Lamp Ballast and Soft Dimming
- Reduces Required External Components
- Precision Voltage Reference Trimmed to 2%
- N-N Half-Bridge Topology
- PWM Control at Fixed Frequency
- Analog and Burst Dimming Function
- Selectable Burst Dimming Polarity by ADIM Voltage
- Striking Frequency Depending on Normal Frequency
- Open-Lamp Protection
- Open-Lamp Regulation
- Short-Circuit Protection
- 20-Pin SOIC

Applications

- LCD TV
- LCD Monitor

Description

The FAN7316 is a LCD backlight inverter drive IC that controls N-N half-bridge topology. The FAN7316 can also drive push-pull topology.

The FAN7316 provides a low-cost solution by integrating the external open-lamp protection circuit. The operating voltage of the FAN7316 is wide, so the FAN7316 doesn't need an external regulator to supply the voltage to the IC. The FAN7316 has the internal bootstrap driver, so the external fast recovery diode can be avoided.

The FAN7316 provides various protections, such as open-lamp regulation, arc protection, open-lamp protection, short-circuit protection, and CMP-high protection to increase the system reliability. The FAN7316 provides analog dimming, burst dimming, and burst dimming polarity selection functions.

The FAN7316 is available in a 20-SOIC package.

Ordering Information

Part Number	Package	Operating Temperature	Packing Method
FAN7316M	20-SOIC	-25 to +85°C	RAIL
FAN7316MX	20-SOIC	-25 to +85°C	TAPE & REEL

All packages are lead free per JEDEC: J-STD-020B standard.

Protected under U.S. patent number 5,652,479.

Typical Application Circuit (LCD Backlight Inverter)

Application	Device	Input Voltage Range	Number of lamps
19-Inch LCD Monitor	FAN7316	14.5±10%	4

1. Features

- High-Efficiency Single-Stage Power Conversion
- N-N Half-Bridge Topology
- Reduces Required External Components
- Enhanced System Reliability through Protection Functions

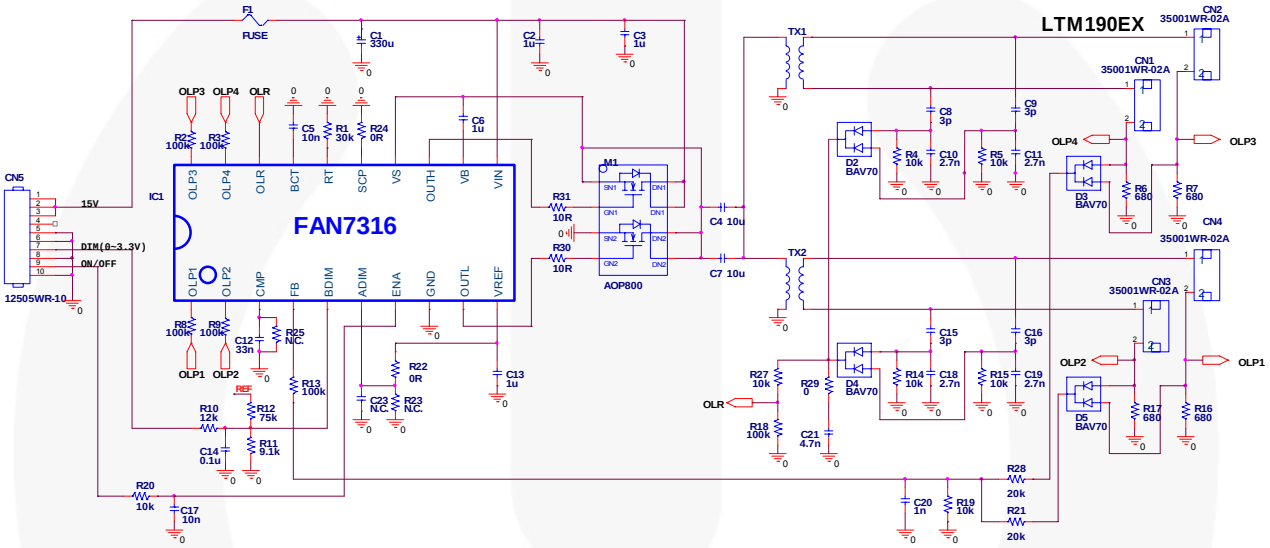

Figure 47. Typical Application Circuit

2. Transformer Schematic Diagram

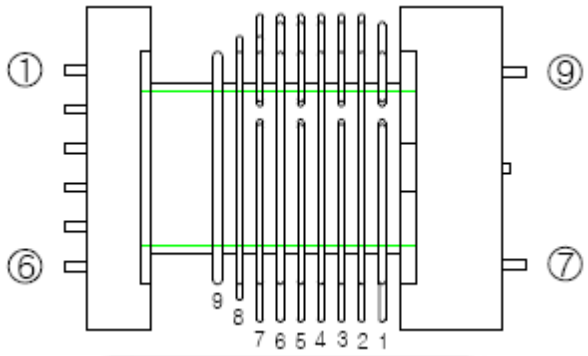

Figure 48. Transformer Schematic Diagram

3. Core & Bobbin

- Core: EFD2126
- Material: PL7
- Bobbin: EFD2126

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