FAIRCHILD SEMICONDUCTOR®

January 2008

FAN7317
LCD Backlight Inverter Drive IC

Features

- High-Efficiency Single-Stage Power Conversion
- Wide Input Voltage Range: 6V to 24V
- Backlight Lamp Ballast and Soft Dimming
- Minimal Required External Components
- Precision Voltage Reference Trimmed to 2%
- ZVS Full-Bridge Topology
- Soft-Start
- PWM Control at Fixed Frequency
- Burst Dimming Function
- Programmable Striking Frequency
- Open-Lamp Protection
- Open-Lamp Regulation
- Arc Protection
- Short-Lamp Protection
- CMP-High Protection
- High-FB Protection
- Thermal Shutdown
- 20-Pin SOIC

Applications

- LCD TV
- LCD Monitor

Description

The FAN7317 is a LCD backlight inverter drive IC that controls P-N full-bridge topology by using the new patented phase-shift method.

The FAN7317 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 of the FAN7317 is wide, so an external regulator isn't necessary to supply the voltage to the IC.

The FAN7317 provides various protections, such as open-lamp regulation, open-lamp protection, arc protection, short-lamp protection, CMP-high protection, and FB-high protection, to increase the system reliability. The FAN7317 provides burst dimming function and analog dimming is possible, in a narrow range, by adding some external components.

The FAN7317 is available in a 20-SOIC package.

20-SOIC

Ordering Information

Part Number	Package	Operating Temperature	Packing Method
FAN7317M	20-SOIC	-25 to +85°C	RAIL
FAN7317MX	20-SOIC	-25 to +85°C	TAPE & REEL

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

Protected under U.S. patent nos. 5,652,479 and 7,158,390.

Typical Application Circuit (LCD Backlight Inverter)

Application	Device	Input Voltage Range	Number of lamps
22-Inch LCD Monitor	FAN7317	13±10%	4

1. Features

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

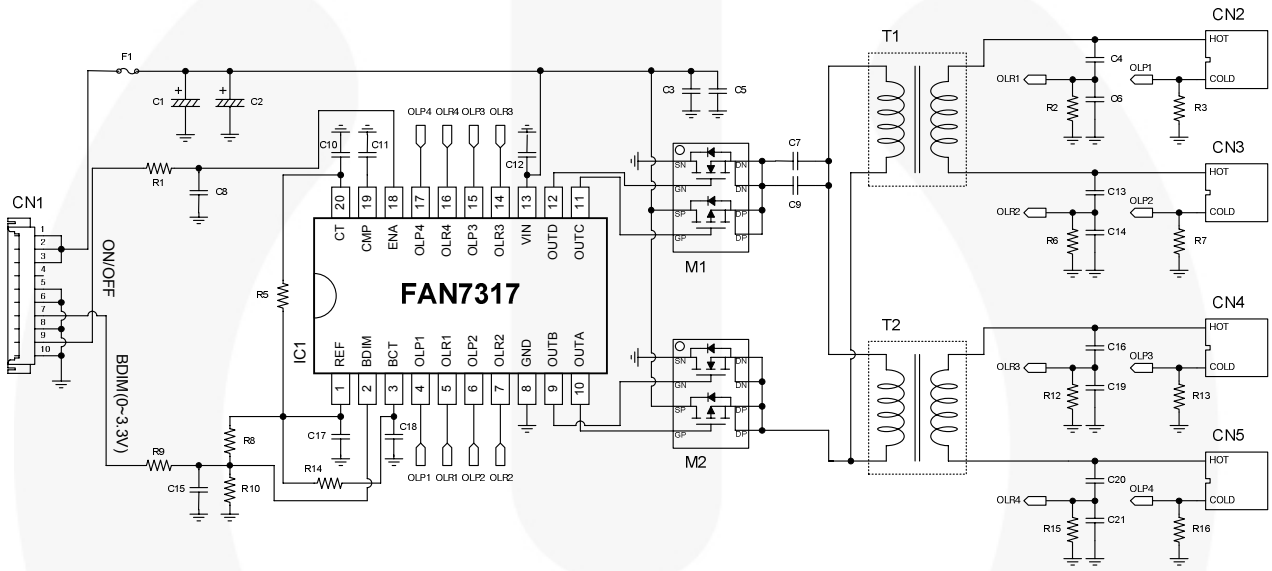

Figure 56. Typical Application Circuit

2. Transformer Schematic Diagram

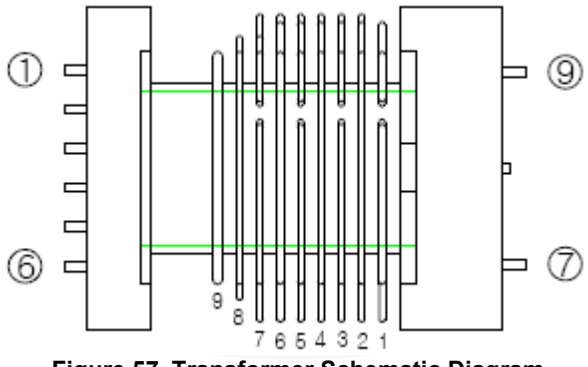

Figure 57. Transformer Schematic Diagram

3. Core & Bobbin

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

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