

FAN7311 LCD Backlight Inverter Drive IC

Features

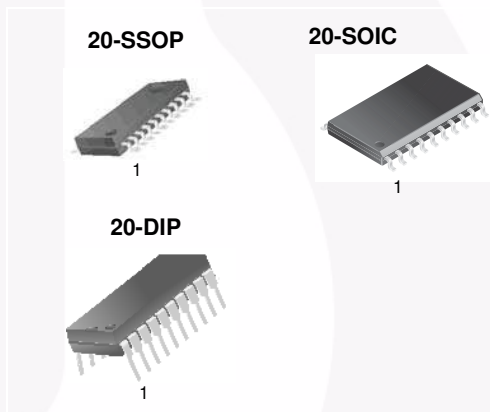
- High-Efficiency Single-Stage Power Conversion
- Wide Input Voltage Range: 5V to 25.5V
- Backlight Lamp Ballast and Soft Dimming
- Reduced Number of Required External Components
- Precision Voltage Reference Trimmed to 2%
- ZVS Full-Bridge Topology
- Soft-Start Capability
- PWM Control at Fixed Frequency
- Analog and Burst Dimming Function
- Programmable Striking Frequency
- Open-Lamp Protection
- Open-Lamp Regulation
- 20-Pin SSOP/SOIC/DIP

Applications

- LCD TV
- LCD Monitor


Description

The FAN7311 provides all the control functions for a series parallel resonant converter as well as a pulse width modulation (PWM) controller to develop a supply voltage. Typical operating frequency range is between 30kHz and 250kHz, depending on the cold cathode fluorescent lamp (CCFL) and the transformer's characteristics. FAN7311 uses a new patented phase-shift control.



Ordering Information

| Part Number | Package | Operating Temperature Range | Packing Method |
|-------------|---------|-----------------------------|----------------|
| FAN7311G | 20-SSOP | -25°C to 85°C | Rail |
| FAN7311GX | 20-SSOP | | Tape & Reel |
| FAN7311M | 20-SOIC | | Rail |
| FAN7311MX | 20-SOIC | | Tape & Reel |
| FAN7311N | 20-DIP | | Rail |

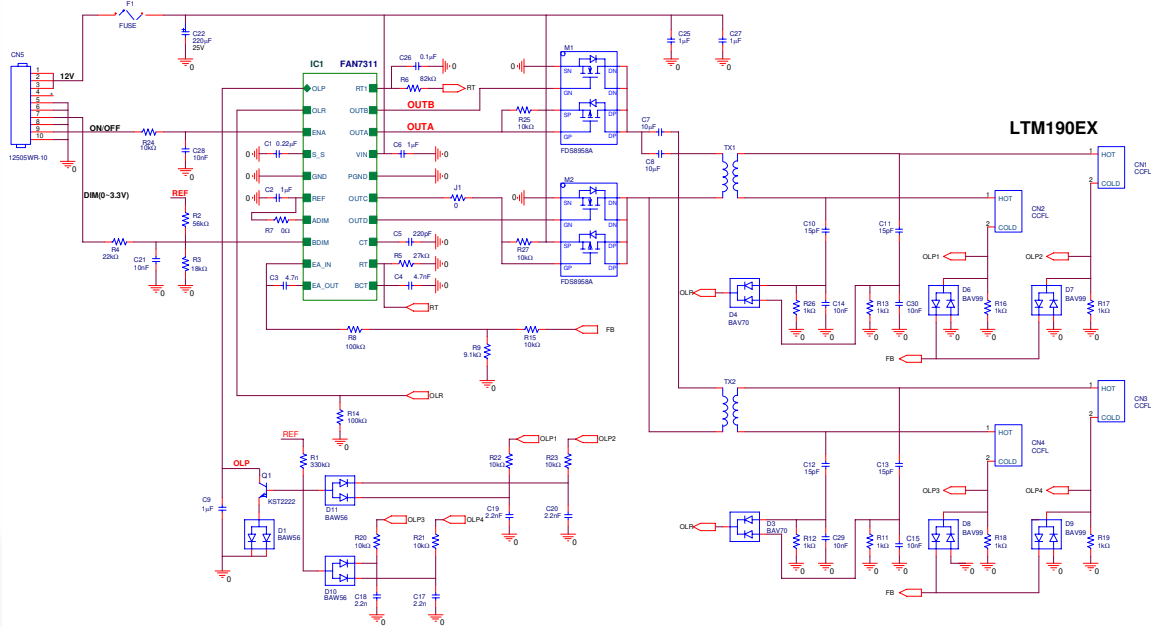
 All packages are lead free per JEDEC: J-STD-020B standard.

Protected by U.S. Patent: 5,652,479; 7,158,390.

Typical Application Circuits

| Application | Lamps | Input Voltage |
|---------------------|-------|---------------|
| 19-inch LCD Monitor | 4 | 13V |

1. Schematic

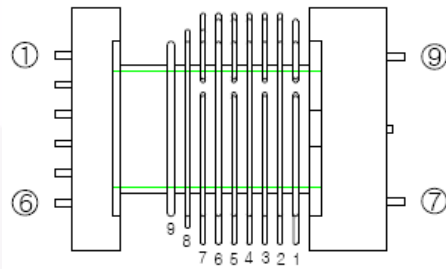


FAN7311 Rev. 04

Figure 10. Typical Application Circuit

2. Transformer Schematic Diagram

- Supported by Namyang electronics (<http://www.namyangelec.co.kr>)



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Figure 11. Transformer Schematic

3. Core & Bobbin

- Core: EFD2124
- Material: PL7
- Bobbin: EFE2124



4. Winding Specification

| Pin No. | Wire | Turns | Inductance | Leakage Inductance | Remarks |
|---------|-------------------|-------|-------------|--------------------|----------|
| 5 --> 2 | 1 UEW 0.45 ϕ | 19 | 115 μ H | 21.5 μ H | 1KHz, 1V |
| 7 --> 9 | 1 UEW 0.04 ϕ | 2300 | 1.5 H | 280mH | 1KHz, 1V |



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| | | SuperSOT™-6 | |
| | | SuperSOT™-8 | |

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|--------------------------|------------------------|--|
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