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# FAN7311 LCD Backlight Inverter Drive IC

## Features

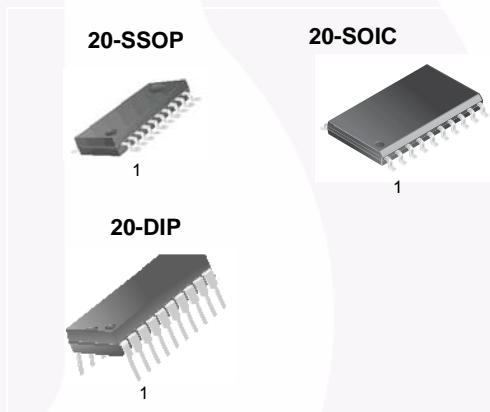
- High-Efficiency Single-Stage Power Conversion
- Wide Input Voltage Range: 5V to 25.5V
- Backlight Lamp Ballast and Soft Dimming
- Reduced Number of Required External Components
- Precision Voltage Reference Trimmed to 2%
- ZVS Full-Bridge Topology
- Soft-Start Capability
- PWM Control at Fixed Frequency
- 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           |



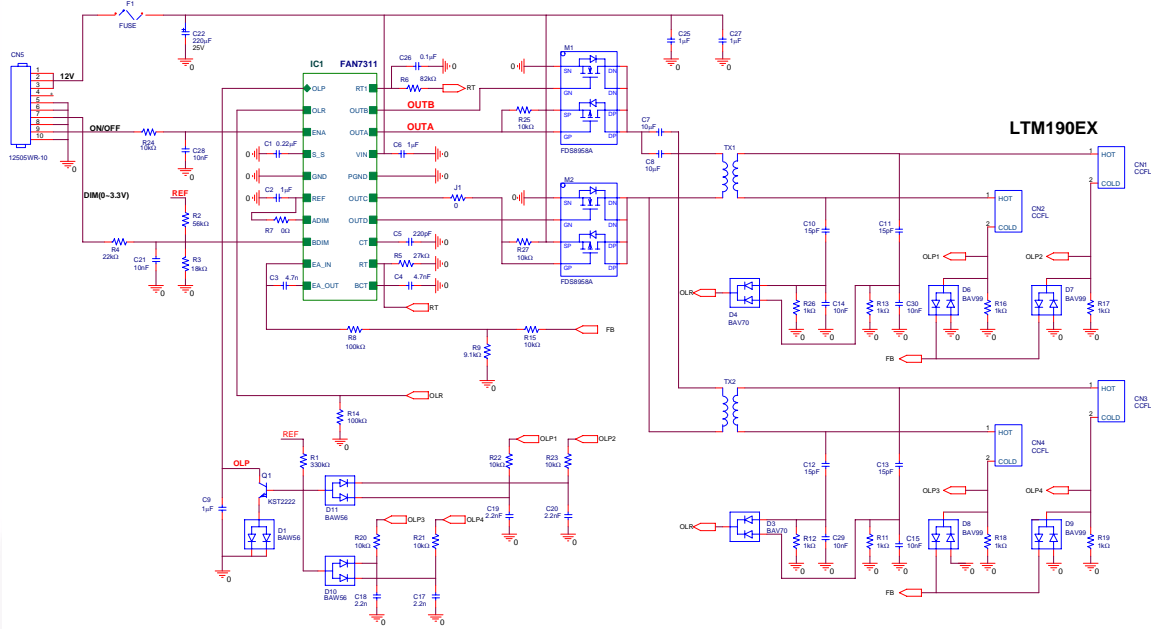
All packages are lead free per JEDEC: J-STD-020B standard.

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

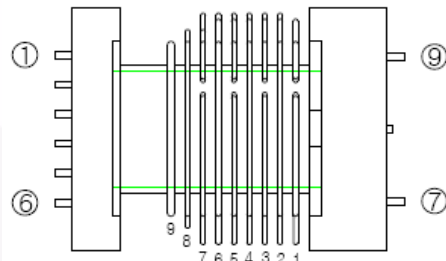


FAN7311 Rev. 04

Figure 10. Typical Application Circuit

### 2. Transformer Schematic Diagram

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



FAN7311 Rev. 04

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 $\phi$ | 19    | 115 $\mu$ H | 21.5 $\mu$ H       | 1KHz, 1V |
| 7 --> 9 | 1 UEW 0.04 $\phi$ | 2300  | 1.5 H       | 280mH              | 1KHz, 1V |



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