ADVANCE INFORMATION
All information in this data sheet is preliminary and subject to change.
6/95

MAXIM

Digitally Controlled CCFL Backlight Power Supplies

General Description

The MAX1610/MAX1611 are highly integrated power-supply subsystems for driving cold-cathode fluorescent lamps (CCFLs) from a 4.5V to 28V power source. They keep CCFL brightness constant with changing input voltage, and allow digital adjustment of the regulation point. An on-board power MOSFET with a high switching frequency reduces external component count and magnetics size. The MAX1610/MAX1611 are protected against both open and shorted lamp fault conditions. The CCFL can be driven from an isolated transformer secondary winding to improve efficiency, avoid flicker at dim tube settings, and lower the minimum input voltage required. Brightness is adjusted by scaling lamp current, or by operating with a fixed lamp current and chopping the CCFL on and off at a rate faster than the eye can detect.

The MAX1610 digital inputs increment, decrement, or clear an internal 5-bit up/down counter that sets CCFL brightness. The MAX1611 uses the Intel System Management Bus (SMBus™) two-wire serial interface to directly set CCFL brightness. Both devices include micropower shutdown and a linear regulator that eliminates the need for a separate logic supply.

Applications

Notebook Computers

Flat Panel Displays

LCD Televisions

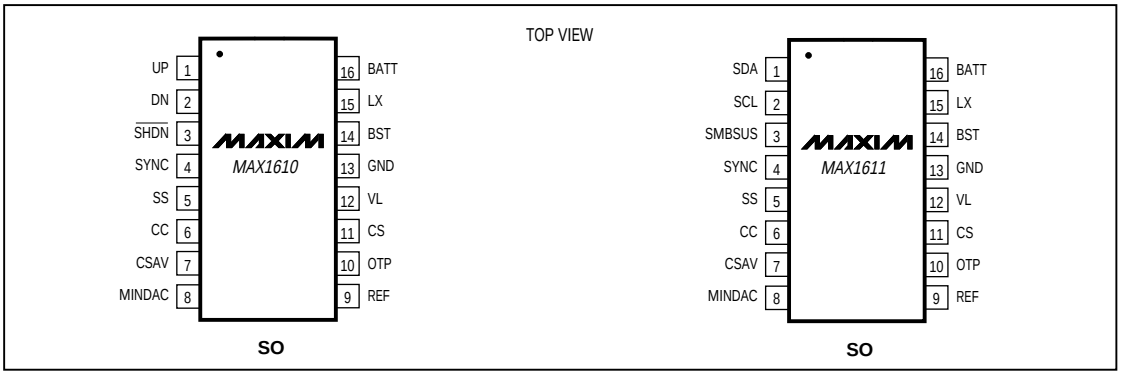
Features

- ♦ **Direct Digital Control of CCFL Brightness**
- ♦ **High Power-to-Light Efficiency**
- ♦ **Low-Voltage Operation (down to 4.5V)**
- ♦ **Internal 30V, 0.5Ω Power Switch**
- ♦ **Open Lamp and Shorted Lamp Protection**
- ♦ **CCFL Drive from Fully Isolated Transformer Secondary Winding**
- ♦ **No Flicker at Low Brightness**
- ♦ **300kHz Switching Frequency**
- ♦ **Oscillator SYNC Input**
- ♦ **16-Pin Narrow SO Package**

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX1610CSE	0°C to +70°C	16 Narrow SO
MAX1610ESE	-40°C to +85°C	16 Narrow SO
MAX1611CSE	0°C to +70°C	16 Narrow SO
MAX1611ESE	-40°C to +85°C	16 Narrow SO

Pin Configurations



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