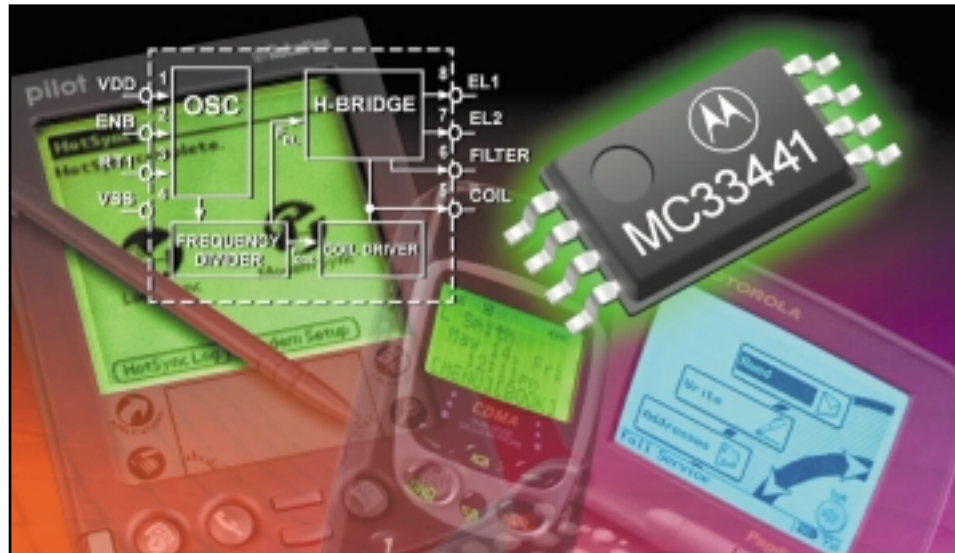


Semiconductor Components Group

Analog, Logic and Discretes

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Electroluminescent Lamp Driver IC for LCD Displays in Portable Products



Introduction

The MC33441 Electroluminescent Lamp (EL) Driver IC is a DC-AC inverter IC for driving EL lamps in low power portable products. The device can operate from as low as 1.8 V to 3.5 V DC input voltage and is capable of supplying 140 Vp-p typical AC output voltage. The special design features an extremely low standby current of 10 nA which is ideal for products such as pagers, cellular phones, calculators, databanks, portable CDs and portable minidisks. There is a built in coil drive current limit of 70 mA that protects the coil from saturation. The device also features an H-bridge configuration which increases the life of the EL Lamp by maintaining a low bias drive of only 2 V.

The MC33441 requires fewer external components in the system design, except for an inductor and a resistor, to generate the desired AC output voltage and fine tune the oscillator. The device is available in an 8-pin TSSOP surface mount package.

Features / Benefits

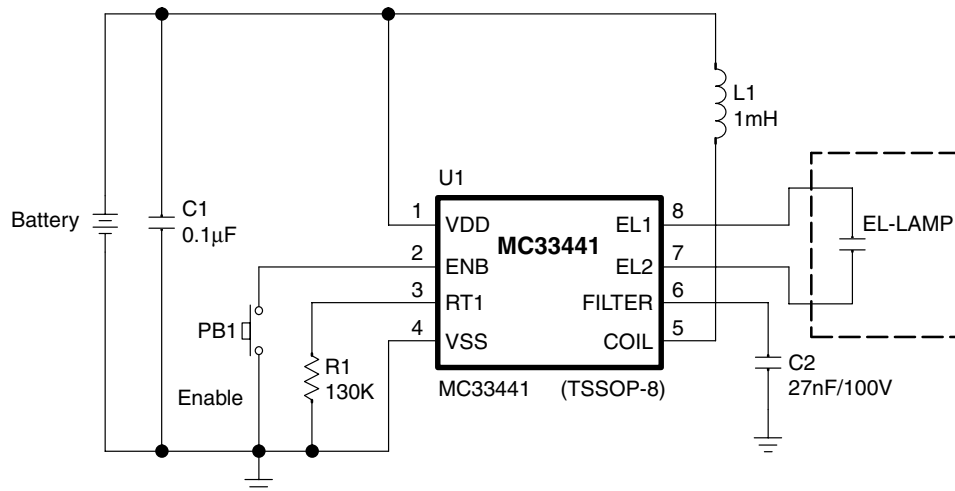
- ◆ Input voltage range: 1.8 V to 3.5 V
- ◆ 140 V_{p-p} typical AC output voltage
- ◆ Typical low standby current of 10 nA
- ◆ Tunable oscillator frequency with an external resistor
- ◆ Enable control pin for EL lamp ON/OFF control
- ◆ TSSOP-8 surface mount package

Types of Applications

- ◆ Pagers
- ◆ Cellular Phones
- ◆ Calculators and Databanks
- ◆ Portable CD players
- ◆ Portable Minidisks

Typical Application

EL Lamp Driver Circuit Inside a Portable Minidisk



Customer Benefits

- ◆ Longer Battery life
 - Low standby current consumption
- ◆ Power Savings
 - Low standby quiescent current of 10 nA
 - External Enable pin to switch EL lamp ON/OFF
- ◆ Cost Savings
 - Minimal passive external components
 - Design simplification
 - PCB space savings
 - Integrated solution
- ◆ EL performance optimization
 - External tuning resistor for oscillator
 - Low bias drive of 2 V extends EL Lamp life

Competitive Analysis

Characteristic	Motorola MC33441	Competitor A
Input Voltage	1.8 to 3.5 V	1.5 to 3.5 V
EL Lamp Bias	2.0 V @ 1 mA & Vin = 2.2 V	94 V @ 1 mA & Vin = 2.2 V
EL Drive Voltage	140 Vp-p Typical	140 Vp-p Typical
EL Drive Frequency	364 Hz	546 Hz
Standby Current	10 nA Typical	100 nA Typical
External Components		
Blocking Diode	No Need	Yes
Charge Pump Capacitor	No Need	Yes
Resistor to Tune the Oscillator Frequency	Yes	Yes
Inductor	Yes	Yes
Filter Capacitor	Optional	Optional
Package	TSSOP-8	TSSOP-10

Literature

A data sheet containing full specifications is available as **MC33441/D**. See the last page for detailed information on how to obtain technical literature.

Lead Time & Pricing

Samples and production quantities are currently available. Pricing for the MC33441 EL Driver IC is suggested at \$0.44 for quantities of 1K.

How to Obtain Technical Literature

There are several ways to obtain SCG's Technical Literature and Publications. Below you will find a list of methods to contact our Literature Distribution Center (LDC). If you need any assistance, or if you are having difficulty contacting LDC, please email us in the SCG Marketing Communications Group at: SCGMKTG1@email.sps.mot.com or call us at 602-244-3882.

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