

## D307A IC Designer’s Kit Guide

### Introduction

Rogers DUREL® D307A Designer’s Kit is intended to aid you in developing an EL lamp driver configuration using the DUREL D307A IC chip which meets your power budget while achieving your luminance requirements. Table 1 shows a list of the components included in the kit.

**Table 1—List of components**

Description	Qty
D307A Unit Samples	5
D307A Designer’s Kit Board	1
Kit Board Power Connector	1
EL Lamp Sample with Connector	1
Leaded Capacitors – Various Values	>2
Leaded Resistors – Various Values	>2
High Voltage N-Channel MOSFET	1
Assorted SMT Inductors	>2
SMT Adapter Boards	2

### The D307A Designer’s Kit Board

The D307A Designer’s Kit Board (see Table 1), which is preconfigured with a D307A IC, is a useful tool for optimizing a powerful electroluminescent (EL) lamp driver circuit for any application. Refer to the D307A datasheet for example reference circuits to use as a starting point for your particular design. Simply insert an appropriate value of inductor (L) between the socket labeled as Vbat and the pre-soldered surface-mount diode (SMD) to complete the preconfigured driving circuit.

On the Designer’s Kit Board a jumper header is normally attached to connect E to Vcc or GND. This jumper header can be removed to control the enable pin (E) with an externally supplied signal. Make sure that an appropriate load is connected between Va and Vb before applying power to the chip through the Kit Board power connections. A sample DUREL 3 PROTOLIGHT® EL lamp is provided in the Designer’s Kit. This lamp may be cut to your required lit area.

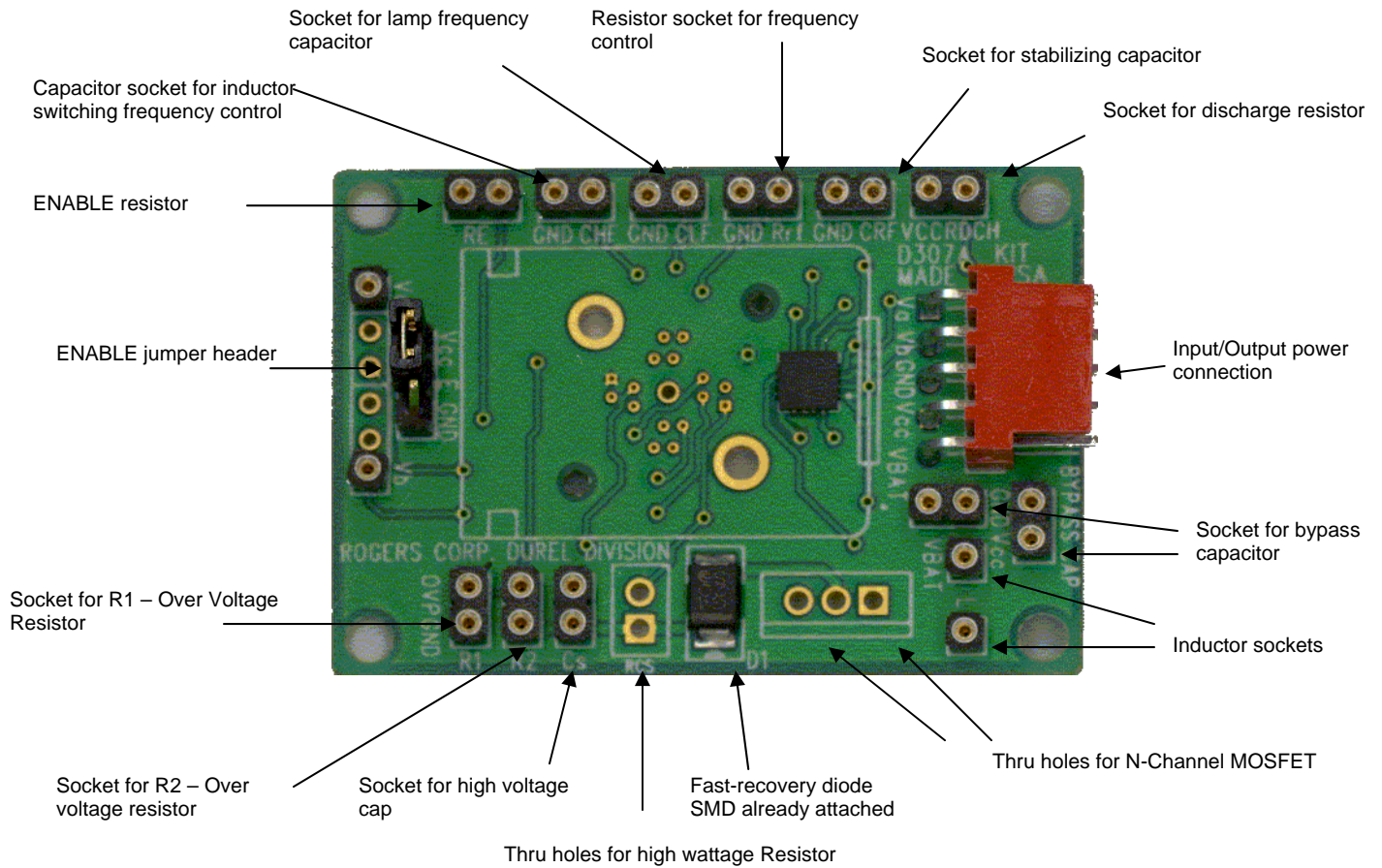
The role and criteria of the external MOSFET is better explained and demonstrated on the D307A data sheet.

The user can easily replace all the external components with different values on the Designer’s Kit Board in order to achieve design goals. A selection of standard values of resistors, capacitors and inductors are included in the D307A Designer’s Kit for your use. The value of timing components (CLF, CHF, and RF) may be replaced in the labeled sockets, as shown in Figure 1. Sockets have been added for the high voltage storage capacitor (Cs), R1 & R2 (OVP), and stabilizing capacitor (CRf) for optional components that can be found on the kit board for different design options. A bypass capacitor between Vcc & ground (GND) and Vbat & ground should be connected to absorb electrical noise in the DC input. A high voltage fast-

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recovery SMD is already attached to the board. Additional specific design support is also available through Rogers's global sales engineering team upon request.



**Figure 1—The D307A IC Designer's kit Board**

**ISO 9001:2000, ISO/TS 16949:2002, and ISO 14001:2004 Certified**

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Rogers EL drivers are covered by one or more of the following U.S. patents #5,313,141; #5,789,870; #5,677,599; #6,043,610. Corresponding foreign patents are issued or pending.

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