

D381B IC Designer’s Kit Guide

Introduction:

Rogers DUREL® D381B IC Designer’s Kit is intended to aid you in developing an EL lamp driver configuration using the DUREL D381B IC driver that meets your power draw budget while achieving your brightness requirements from the EL lamp. A list of components contained in the kit is in Table 1.

Table 1: List of Components	
Description	Qty
D381B IC unit samples	5
D381B IC Designer’s Kit Board	1
D381B IC Mini-Module Board	1
Kit Board Power Connector	1
EL Lamp sample with connector	1
Assorted SMT Inductors	>2
SMT adapter boards	2
Leaded CHF Capacitors – various values	>2
Bypass cap: 1.0uF	1

The D381B IC Designer’s Kit Board:

The Designer’s Kit Board (see Figure 1), which comes with a D381B IC already soldered to the board, is a useful tool for optimizing a D381B IC driver circuit for any application. Refer to the D381A IC datasheet as a guideline with sample circuits as a starting point of your design. Simply insert an appropriate value of inductor (L) and timing capacitors (CLF and CHF) into the labeled sockets, as shown in Figure 1, and connect your choice of wave-shaping resistor (R_{ES}) to complete your driving circuit. Additional sockets are provided in the Designer’s Kit Board for a bypass capacitor between V+ and ground (GND) to absorb electrical noise in the DC input.

A jumper header on the Designer’s Kit Board is normally attached to connect E to V+ or GND. This jumper header can be removed to control the enable pin (E) with an externally supplied signal. A jumper header is also used to select the connection for DCH to Open or GND, depending on the discharge level desired (see datasheet for details on wave-shaping feature for D381B IC). Make sure that an appropriate load is connected between the output (V_{out}) and GND before applying power to the chip through the Designer’s 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 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 capacitors and inductors are included in the D381B IC Designer’s Kit for your use.

The information contained in this data sheet is intended to assist you in designing with Rogers EL systems. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on the data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers EL drivers for each application.

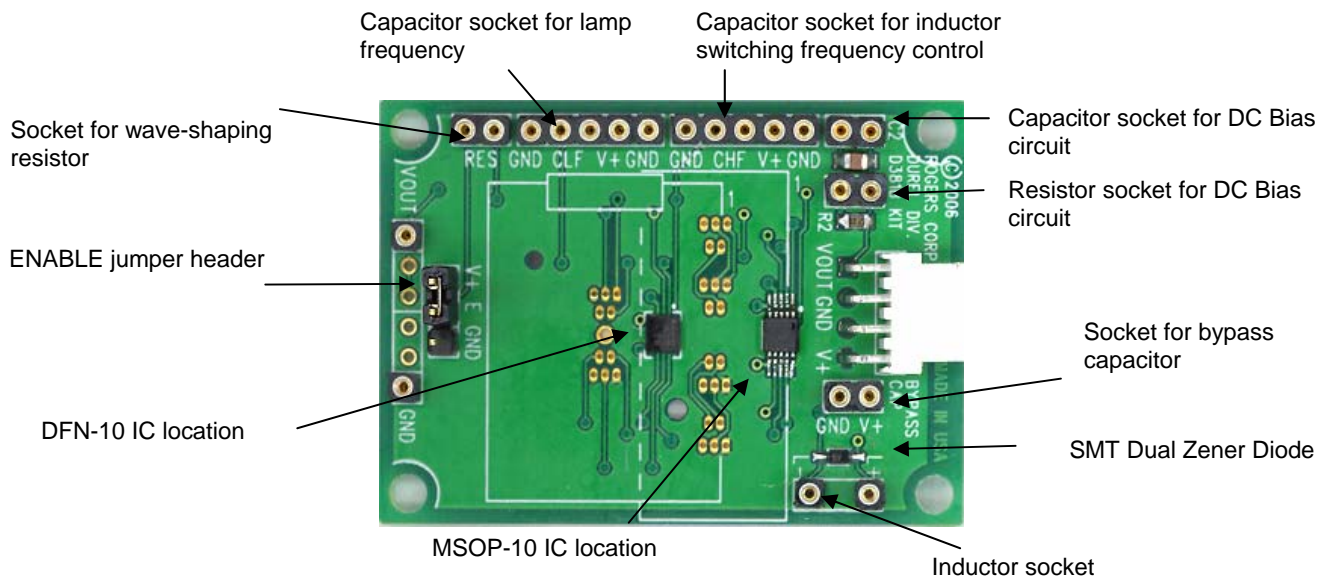


Figure 1: The D381B IC Designer's Kit Board

The D381B IC Mini-Module Board:

The D381B IC Mini-Module Board (see Figure 2) is an example of a finished circuit based on the D381B IC. It is meant as a representation of the board area requirement for the EL lamp driver circuit in the application. Most of the external components have been selected and pre-soldered onto the module board, except for the surface mount inductor. The mini-module board can be configured to fit into finished product for demos.

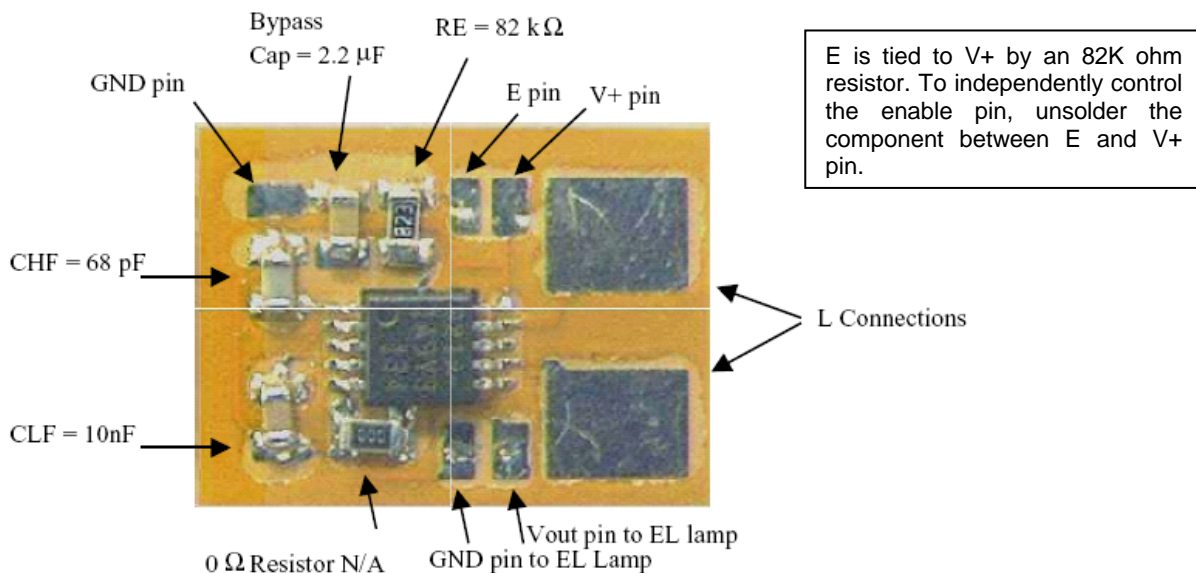


Figure 2: The D381B IC Mini-Module Board

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

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