

D388A IC Designer's Kit Guide

Introduction:

Rogers DUREL® D388A IC Designer's Kit is intended to aid you in developing an electroluminescent (EL) lamp and high-brightness LED (HBLED) driver configuration using the D388A IC. A list of components contained in the kit is in Table 1.

Table 1: List of Components	
Description	Qty
D388A IC Unit Samples	5
D388A IC Designer's Kit Board	1
D388A IC Mini-Module Board	1
Kit Board Power Connector	1
EL Lamp Sample	1
White HBLEDs	3
Wire Jumpers	2
Assorted SMT Inductors	>2
SMT adapter boards	2
Leaded Capacitors – Various Values and Ratings	>2
Leaded Resistors – Various Values	2

The D388A IC Designer's Kit Board:

The D388A IC Evaluation Board (see Figure 1), which is preconfigured with a D388A IC Combination EL and HBLED driver IC, is a useful tool for optimizing a driver circuit that meets your power draw budget while achieving your brightness requirements from both backlighting solutions. Refer to the D388A IC datasheet for reference circuits to use as a starting point for your particular design and instructions on component selection.

Simply insert an appropriate value of inductor (L) between the socket labeled as VBAT and L as shown in Figure 1, and connect your required number of HBLEDs and wire jumpers in the labeled HBLED sockets to complete your driving circuit. Default values of the other required components are already pre-soldered surface mount devices on the board. You have the option to remove any of these pre-soldered components and replace them with leaded components in the appropriate sockets or with alternate surface mount type devices. A selection of standard values of capacitors, resistors, and inductors are included in the D388A IC Designer's Kit for your use.

Make sure that an appropriate load is connected between Va and Vb before applying power to the chip through the Kit Board power connections when E_{EL} is enabled. A sample DUREL 3 PROTOLIGHT® EL lamp is provided in the Designer's Kit. This lamp may be cut to your required lit area.

Jumper headers on the Designer's Kit Board are normally attached to connect E_{EL} and E_{LED} pins to Vcc or GND. These jumper headers can be removed to control the enable pins with an externally supplied signal. External DC voltage input signals to the DIMled and DIMel sockets may also be used to regulate the LED and EL brightness, respectively. If external brightness control is not required in the design, the DIMled and DIMel pins must be connected with a jumper to Vbat. Consult the datasheet for additional details on designing application circuits with the D388A IC.

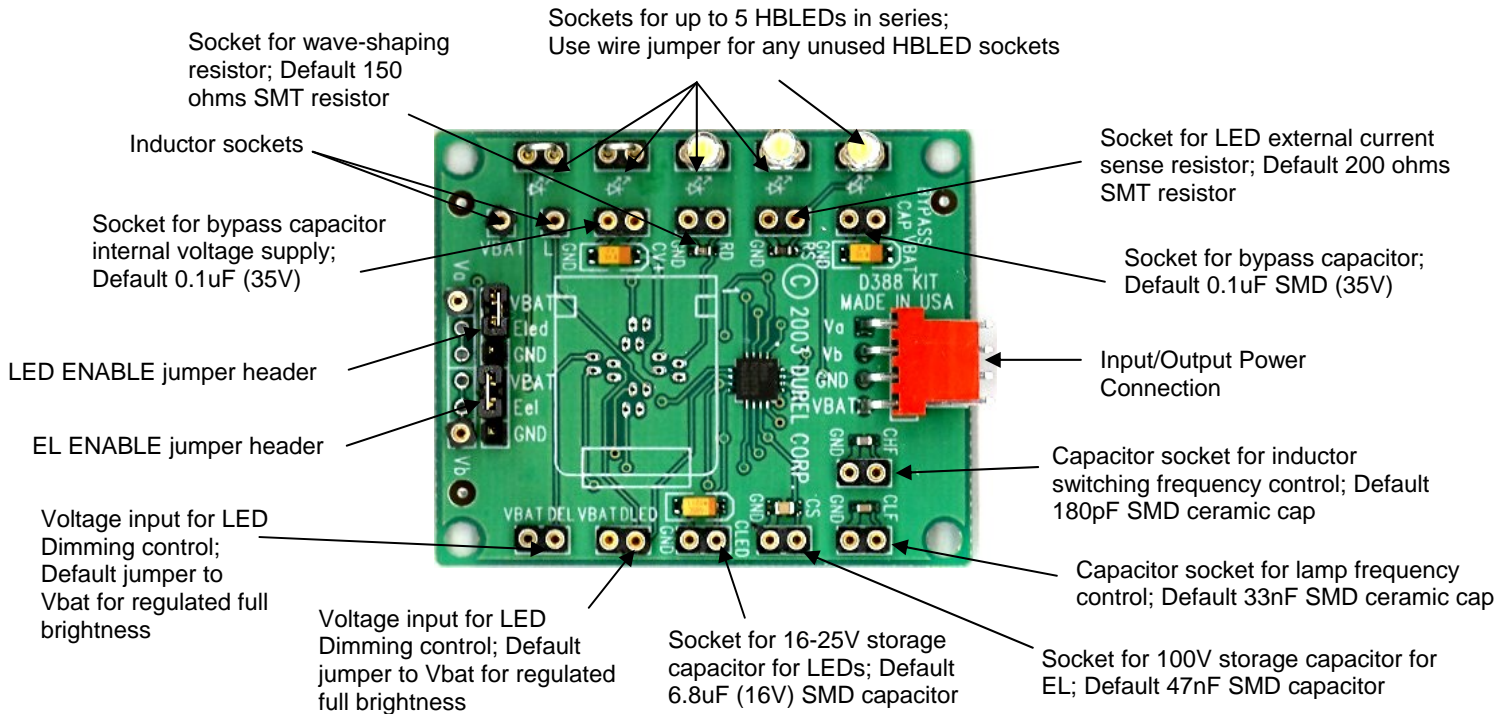


Figure 1: The D388A IC Designer's Kit Board

The D388A IC Mini-Module Board:

The D388A IC Mini-Module Board (see Figure 2) is an example of a finished circuit based on the D388A IC chip. It is meant as a representation of the board area requirement for the D388A IC 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 demonstrations.

E_{EL} and E_{LED} pins are tied to V_{bat} by a trace on the backside of the board. To control these enable pins independently, cut its respective trace. DIM_{el} and DIM_{led} must be wired to V_{bat} if not connected to external DC dimming voltage control.

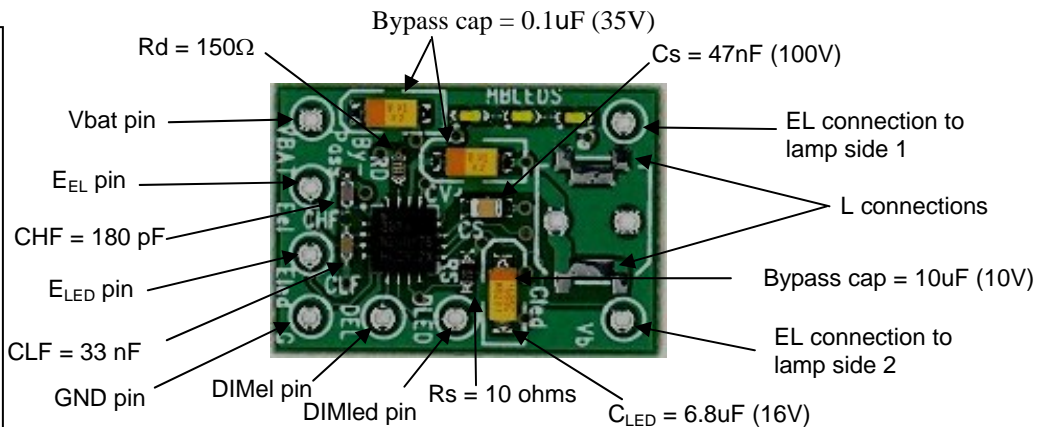


Figure 2: The D388A IC Mini-Module Board

ISO 9001:2000, ISO/TS 16949:2002, and ISO 14001:1996 Certified

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 systems for each application.

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.