

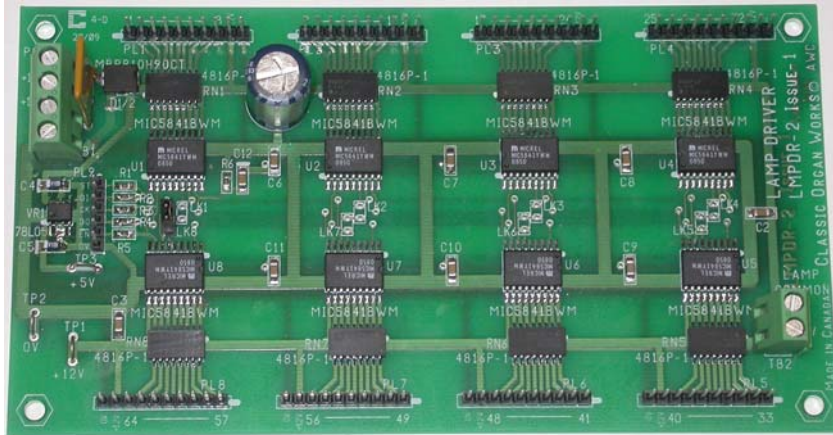
Classic Organ Works

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Lamp Driver LMPDR-2



Description

The LMPDR-2 Lamp Driver board provides up to 64 outputs to drive incandescent lamps from a 12-volt supply.

The input control is by serial Data, Clock and Strobe with a Board Enable. 5V CMOS logic levels are used to match up with Classic serial control systems.

The board uses surface-mount devices and there are no adjustable components.

Lamp outputs pass via 33 Ohms series resistors to limit the in-rush currents and prolong lamp life.

With a change of series resistors (in blocks of 8 to special order), the board may be used to drive LEDs or inductive loads as the outputs have built-in back-emf protection diodes.

Maximum output current is 500 mA continuous for a single active output. Maximum package dissipation is 1.8W, or 150 mA per output with all outputs on in a package. The board is fused at 5 Amps, which allows for all outputs to be on at 80 mA each.

Links allow the cascaded output data to be optionally fed out at multiples of 8 bits so that multiple boards of shorter electrical length may be cascaded.

An input series diode prevents damage due to a reversed supply input.

Output connectors have +12V and 0V and are spaced to suit the OUTT-1 LED Test board.

Lamp common +12V is provided on a terminal block. Active-low outputs pull down to a nominal 0V.

Power input of +12V is via a terminal block.

Features

- 8 groups of 8 outputs, capable of driving incandescent lamps, LEDs or inductive loads.
- Series output resistors of 33 Ohms to limit lamp in-rush current. Other values (for LEDs) to special order.
- Built-in output protection diodes.
- Outputs active-low (pull down to 0V).
- Output data normally delayed 64 clocks but may be at a lower multiple of 8.
- Data output allows boards to be cascaded.
- Output pins on 0.1" spacing, 0.025" square header pins.
- Output connectors spaced to match OUTT-1 LED test board.
- Serial input control at 5V logic levels.
- Control signals are Data, Clock and Strobe with Board Enable.
- Power: +9V to +15V D.C. from console supply, nominally 12V. Need not be regulated.
- Current typically 40mA per lamp at 12V, maximum board current 5A. (Lamps are 14V 80mA). Quiescent current is 3mA.
- Board dimensions (L x W): 16 tabs: 6.4" x 3.50" (16.26cm x 8.89cm).
- Mounting is via four fixing holes for #4 screws but clips may be used instead.

Applications

The LMPDR-2 is intended to be used on organ consoles to drive up to 64 indicator lamps or bargraphs. Lamps are typically 12V at 40 mA. LEDs or inductive loads can also be used with component changes.