



## HIGH EFFICIENCY LED CONTROLLER

**Main Features:** output current adjustable, supply current monitoring, high efficiency, high power density, high precision, small size, fault protection, low output ripple current and low cost.

### Specifications

|                          |                                   |
|--------------------------|-----------------------------------|
| Part number:             | LED22V1A                          |
| Input voltage:           | 7V to 22V                         |
| Output voltage:          | 1V to power supply voltage – 0.5V |
| Maximum output current:  | 1A                                |
| Efficiency:              | 90% typical                       |
| Dimming control voltage: | 0 to 1.25V                        |
| Packaging:               | FR-4 PCB                          |
| Operating temperature:   | –10°C to 85°C                     |
| Dimension:               | <b>25mm × 14mm × 5.5mm</b>        |

### Output Pin Description

- Pin 1, GND,** the signal and power ground. Connect the negative power supply terminal to this pin.
- Pin 2, VSPR,** the power supply positive input. Connect the positive power supply terminal to this pin. When using this pin, the power supply current will be monitored (See Pin 7) and the controller will be turned off when the current exceeds 2.27A. The current sense resistor is of 0.022Ω.
- Pin 3, VPSDR,** the power supply positive input. Connect the positive power supply terminal to this pin. When using this pin, the power supply current will not be monitored and the controller will not be turned off when the power supply current exceeds 2.27A. The efficiency will be higher by using this pin since the power supply current does not go through the 0.022Ω resistor, as opposed to using Pin 2.
- Pin 4, LIS,** analog input control voltage. Setting this voltage by using a POT (Potentiometer) or a DAC from 0 to 1.25V will set the output current from 0 to 1A. The input impedance of this pin is 100KΩ. Leaving this pin float will allow the POT on the PCB to set the output current which sets the output current from 0 to 1A, turning clock-wise to increase the current.
- Pin 5, 2.5V,** analog output, reference voltage, 20ppm/°C, ± 1mA.
- Pin 6, SDNG,** digital input, shut down negative logic, 0 to 0.8V = shut down; 2V to 5V = turn on. Leaving this pin open will enable the controller.
- Pin 7, PSIO,** analog output, power supply current indication. It will be effective when connecting the positive power supply terminal through VSPR (Pin 2).  
Power supply current = [voltage at PSIO]\*0.91. For example, when the output voltage is 2V, the power supply current = 2\*0.91 = 1.82A.
- Pin 8, LEDA,** analog output for LED anode. Connect this pin to the LED positive terminal, the anode.
- Pin 9, GND,** power ground, connect this pin to the LED negative terminal, the cathode.

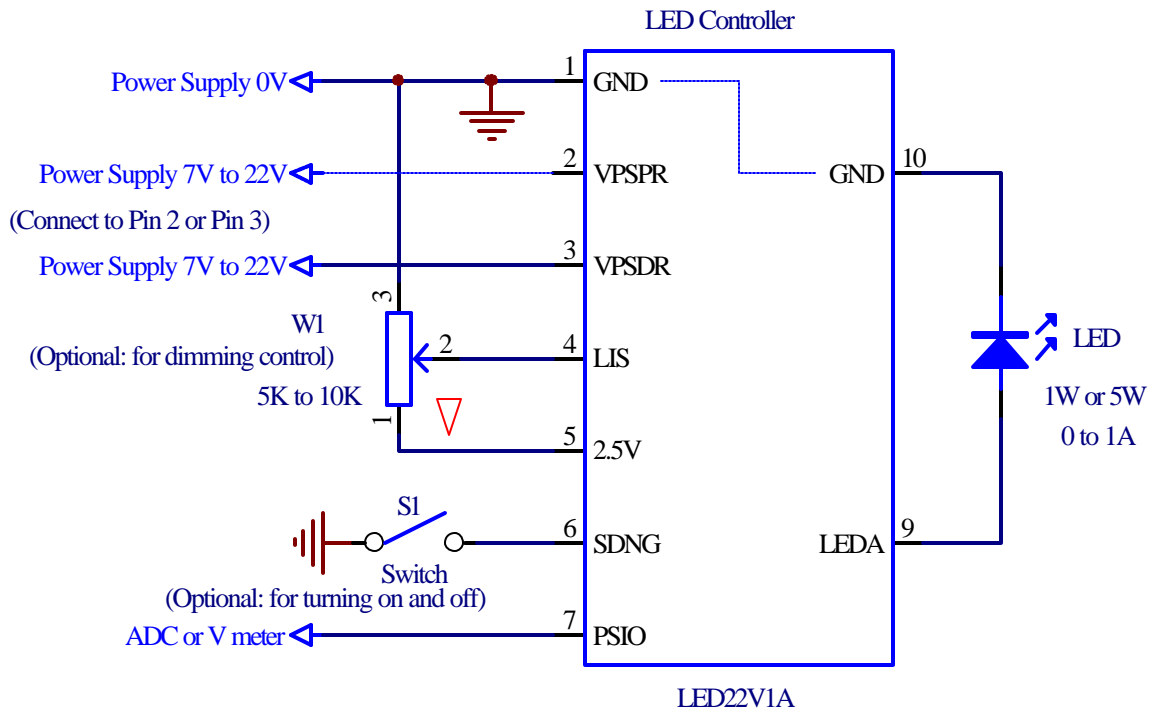


Figure 1 Typical Application of LED Controller LED22V1A

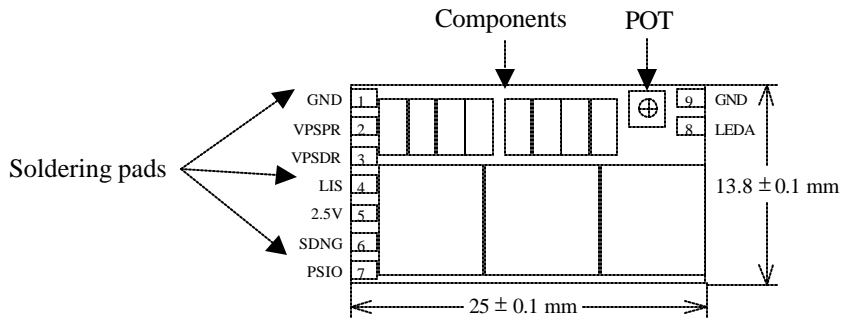


Figure 2 Top View

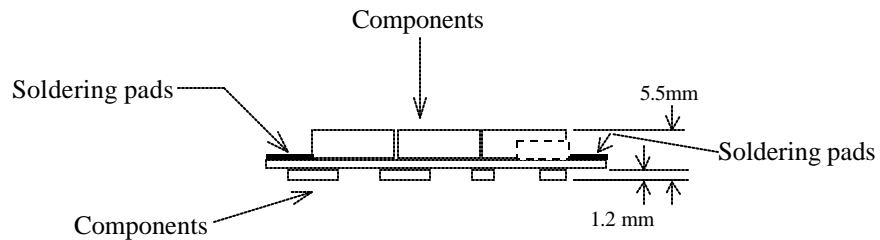


Figure 3 Side View



Part Numbers for Ordering

| Part Number    | Input Voltage | Output Current | Application   |
|----------------|---------------|----------------|---|
| LED22V1A-350MA | 7V ~ 22V      | 350mA          | For driving one to five 1W Luxeon LED                             |
| LED22V1A-700MA | 7V ~ 22V      | 700mA          | For driving one to two 5W Luxeon LED                              |
| LED22V1A-ADJ   | 7V ~ 22V      | Adjustable     | For driving one to five 1W Luxeon LED or one to two 5W Luxeon LED |

Prices and Lead-Times for Ordering

| Part Number    | 1 – 9 PCs | 10 – 49 PCs | 50 – 249 PCs | 250 – 999 PCs | 1000 PCs and up |
|----------------|-----------|-------------|--------------|---------------|-----------------|
| LED22V1A-350MA | \$19      | \$16        | \$14         | \$11          | \$9.5           |
| LED22V1A-700MA | \$19      | \$16        | \$14         | \$11          | \$9.5           |
| LED22V1A-ADJ   | \$28      | \$24        | \$18         | \$14          | \$12            |
| Lead Time      | 1 week    | 2 weeks     | 2 weeks      | 3 weeks       | Contact us      |

Payment Term: Credit cards or P.O.s with 50% down payment 50% net 30.

Note: ATI retains the ownership of full rights for its LED controller technologies, associated the designs for mechanics and electronics, plus all modifications, improvements, and inventions made by ATI.