

FEATURES

High Input Voltage: up to 8V

Five Times Longer Battery Run Time than Using an Incandescent Bulb

High Luminous Output: > 90 lumens

High Immunity to RF Interference

High Efficiency: 92% (most competitions: 70% to 80%)

Long Lasting: > 10 Years

Low Cost: pays off by itself in 12 days by saving the batteries for railway companies

APPLICATIONS

Drop-in replacement for incandescent bulbs in railway lanterns or 3 cell flash lights

DESCRIPTION

The SILVERLED™-1N8V is an LED bulb. Its physical photo is shown in Figure 1. It runs off from either a 3 cell battery array or a lantern battery and can be installed instantly into industrial flashlights as shown in Figure 4 below as a drop-in replacement for the original incandescent bulb as shown in Figure 2.

Since the controller works at high efficiency within a wide input voltage range, 4.75V to 8.0V, the energy in the battery is much deeper drain out than other similar products, resulting in a > 40% longer usage time.

This bulb uses a highly stable current stabilization circuit to keep the output current constant, so that it can tolerate strong interferences from other electronics, such as Walkie-Talkies.

The SILVERLED comes with over temperature protection function. In case the LED gets too hot due to improper heat-sinking or high ambient temperature, the controller will keep working but lower the driving current sent to the LED so that the life time of the LED will not be shortened, nor its electrical-to-optical conversion efficiency will be degraded.

SPECIFICATIONS

Table 1 Characteristics ($T_{\text{ambient}} = 25^{\circ}\text{C}$)

Parameter	Value	Unit/Note
Input voltage range	4.75 ~ 8.0	V
Output voltage range	3.0 ~ 3.6	V
Output current setting	350 ± 20	mA
Output current variation	350 ± 20	mA
Luminous output	> 90	lumen
Illumination intensity	> 2500	lux @ 2 meters
Maximum efficiency	92%	@ $V_{\text{in}} = 5.5\text{V}$
Operating temperature range	-40 ~ 110	°C

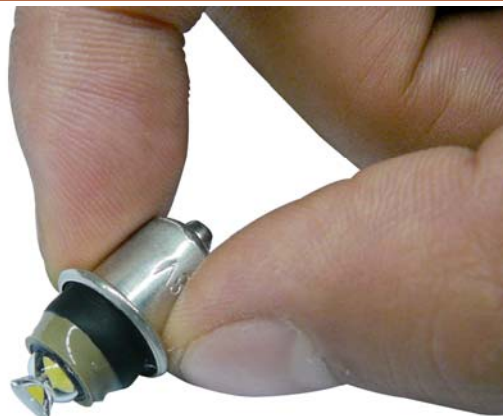


Figure 1 Physical Photo of SILVERLED-1N8V

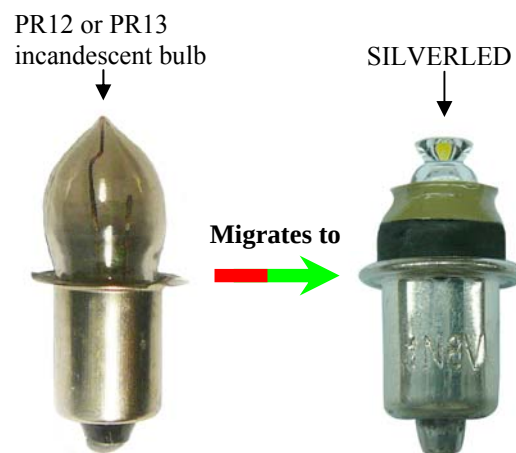


Figure 2 Incandescent Bulb Is Replaced by SILVERLED

CONDUCTOR INTRODUCTION

Negative Terminal: It is the center nipple of the bulb and connects to the negative terminal of the battery, see Figure 3 below.

Positive Terminal: It is the main body of the bulb and connects to the positive terminal of the battery, see Figure 3 below.

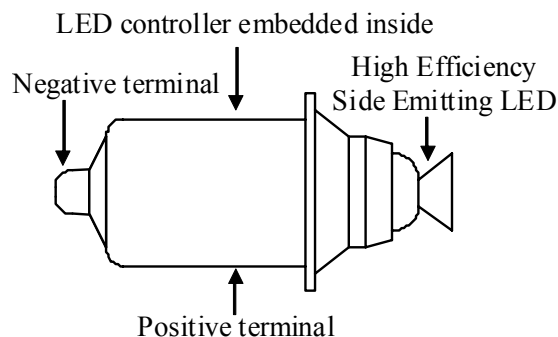


Figure 3 Side View of SILVERLED-1N8V



Figure 4 Physical Photos of Flashlight

INSTALLATION

To use the SILVERLED-1N8V bulb in the industrial type of flashlights as shown in the photos, just remove the incandescent bulb and insert the LED bulb. See Figure 4.

To use the SILVERLED-1N8V in 3 cell flashlights, **make sure to reverse the orientation of the battery cells** and then install the LED bulb.

For Maglite customers, please contact us, we will deliver special versions of the SILVERLED-1N8V dedicated for Maglite.

PACKAGING

SILVERLED-1N8V comes with a protection cap for the LED. **Remove this cap carefully by not pulling it too hard** when installing this LED bulb into a flashlight. **Make sure that the LED optical lens is not touched by the fingers thus reducing the optical output.**

The photo below shows the protection cap.



Figure 5 Physical Photo of SILVERLED-1N8V with a Protection Cap



TYPICAL PERFORMANCE CHARACTERISTICS

Unless otherwise specified: $T_{\text{ambient}} = 25^{\circ}\text{C}$.

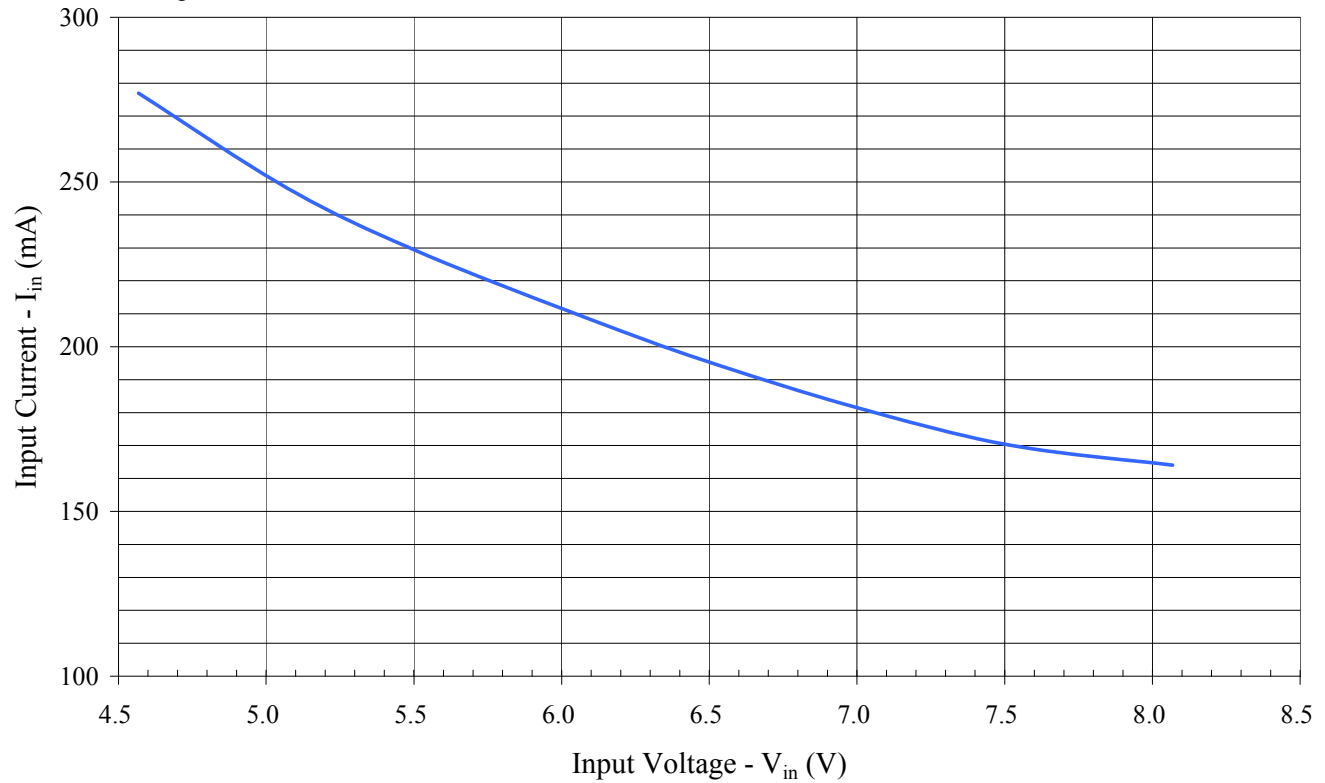


Figure 6 Input Current VS. Input Voltage

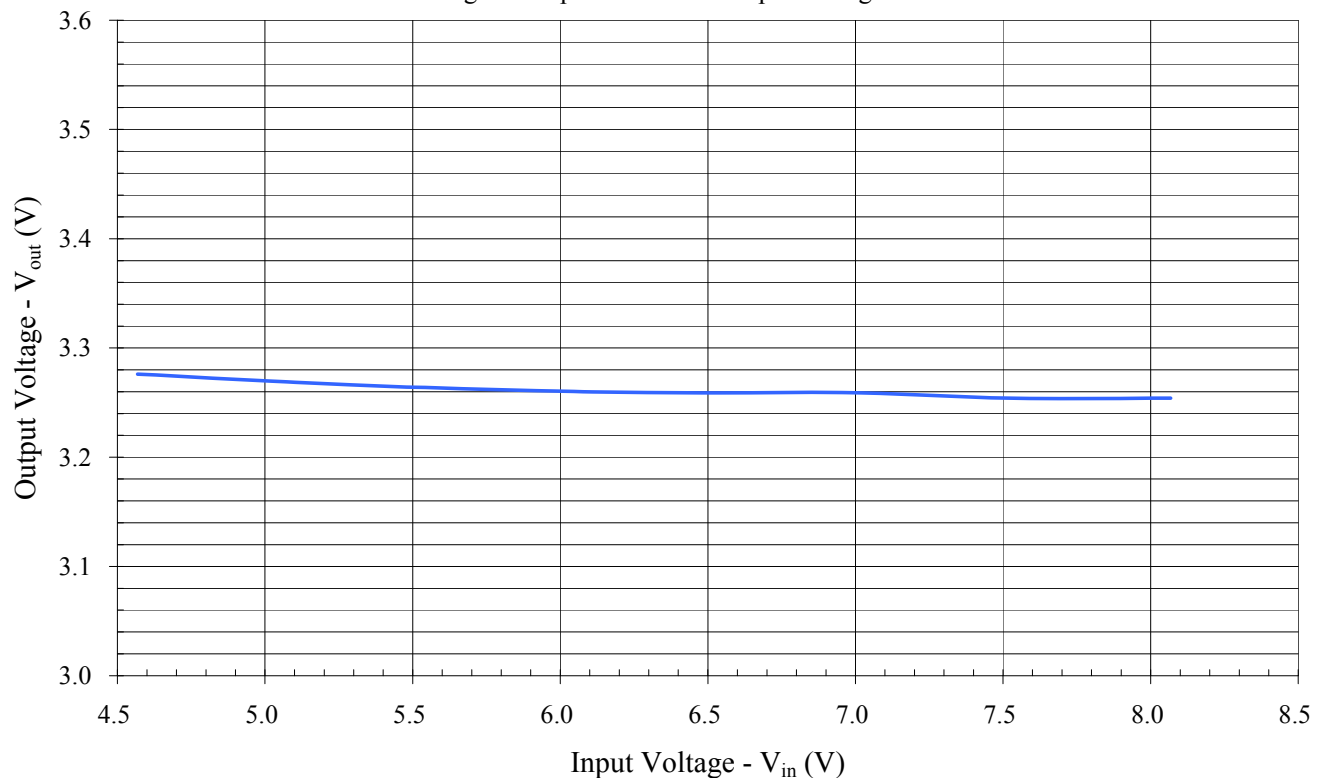


Figure 7 Output Voltage VS. Input Voltage

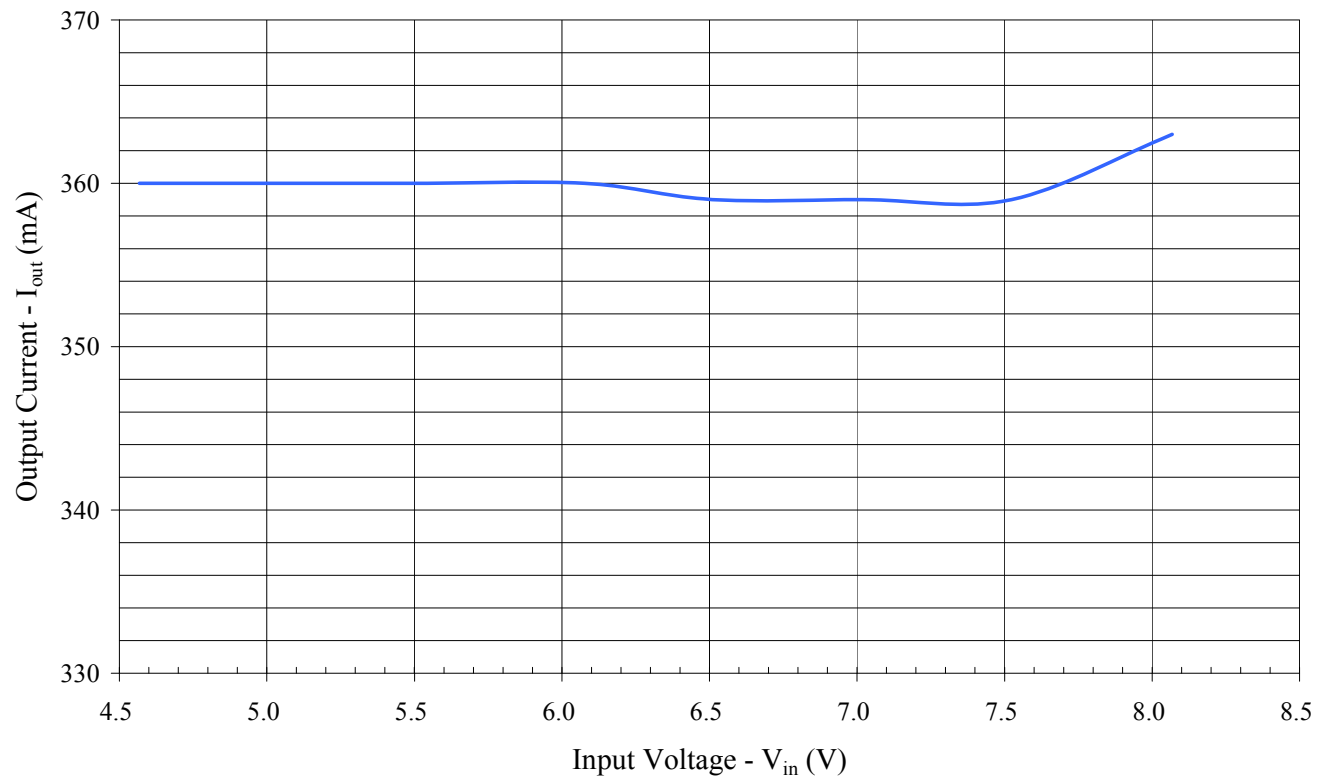


Figure 8 Output Current VS. Input Voltage

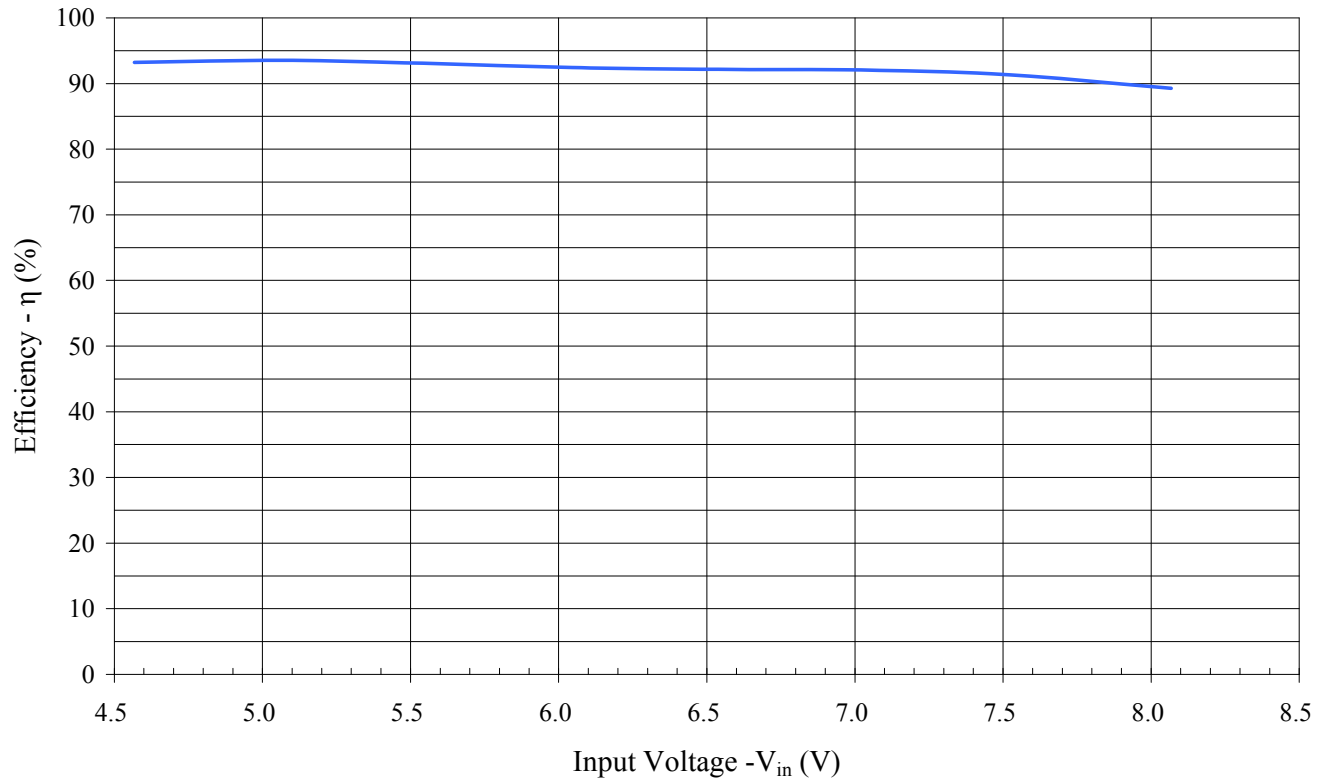


Figure 9 Efficiency VS. Input Voltage

**ORDERING INFORMATION**

Table 2 Part Number

Part #	Description
SILVERLED-1N8V	1W, $\eta_{\max.} = 92\%$, Luminous output > 90 Lumens , $V_{PS} = 4.75V$ to $8.0V$ @ $I_{out} = 350mA$.

Table 3 Unit Prices

Quantity	1 – 9 PCs	10 – 49 PCs	50 – 199 PCs	200 – 499 PCs	≥500 PCs
SILVERLED-1N8V	\$11.0	\$10.5	\$9.9	\$9.4	\$8.8

NOTICE

- ATI warrants performance of its products for one year to the specifications applicable at the time of sale, except for those being damaged by excessive abuse. Products found not meeting the specifications within one year from the date of sale can be exchanged free of charge.
- ATI reserves the right to make changes to its products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete.
- All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgment, including those pertaining to warranty, patent infringement, and limitation of liability. Testing and other quality control techniques are utilized to the extent ATI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.
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