



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## LED Driver

# Outdoor 50W Driver SL-LA1425002US



## Constant Current LED Driver

### Features & Benefits

- Output Current Range: 1400mA Fixed
- Output Voltage Range: 18 ~ 36Vdc
- Output Power Range: Max 50 W
- Dimming Control: 0-10 V
- Input Voltage: 120 ~ 277 Vac, 50/60 Hz
- Safety: UL / cUL(UL 8750, UL Class 2)
- EMI: FCC Part 15 Class B
- Protections: Short Circuit, Over Voltage Protection
- $t_a$  Range: -40 ~ +70 °C
- Expected lifetime: 50,000 hours at  $t_c < 75$  °C
- Environmental Compliance: RoHS
- Long lasting & high reliability
- Metal housing



### Applications

- Outdoor lighting

## Table of Contents

1.	Characteristics	-----	3
2.	Typical Characteristics Graphs	-----	5
3.	Protection	-----	8
4.	Dimming Specification	-----	8
5.	Reliability& standard	-----	9
6.	Outline Drawing & Dimension	-----	10
7.	Label Structure	-----	11
8.	Packing Structure	-----	11
9.	Precautions in Handling & Use	-----	12

## 1. Characteristics

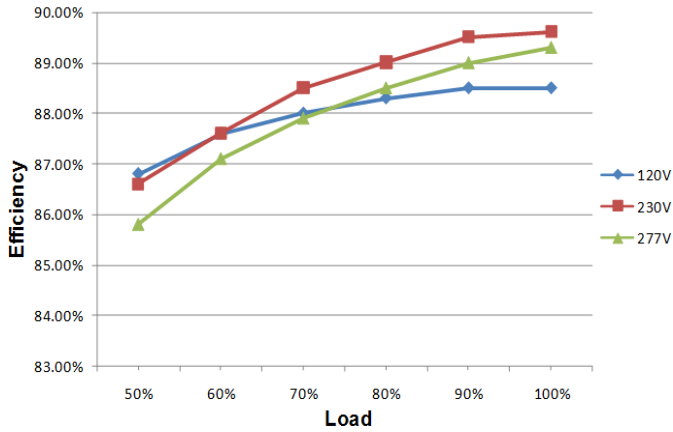
Article	Symbol	Specification			Unit	Note
		Min.	Typ.	Max.		
<b>INPUT SPECIFICATIONS</b>						
Nominal Voltage	V <sub>in</sub>	120		277	Vac	
Nominal Frequency	F <sub>in</sub>		50 / 60		Hz	
Input Current	At 110 Vac	I <sub>in</sub>		0.7	A	At full load
	At 277 Vac	I <sub>in</sub>		0.3	A	At full load
Total Harmonic Distortion	THD			20	%	At 120-277 Vac
Power Factor	PF	0.9			-	1) At 120-277 Vac
Efficiency	η	86	88		%	2) 110Vac/ 60 Hz, 100% Load 277Vac/ 60 Hz, 100% Load
		86	88			
In-rush Current				50	A <sub>pk</sub>	@ 277Vac input, 25°C Cold start.
<b>OUTPUT SPECIFICATIONS</b>						
Voltage Range	V <sub>o</sub>	18		36	Vdc	
Max. Voltage				50	Vdc	Open circuit, No-load protection No Hot plug protection
Current Range	I <sub>o</sub>	1330	1400	1470	mA	0-10 Fixed current
Nominal Power	P <sub>o</sub>			50	W	
Turn-on Delay Time	T <sub>d</sub>			1	s	

- 1) PF, THD can meet the electrical performance from 80% of MA X power.
- 2) Measured the unit is thermally stabilized after half an hour, Ta 25°C.

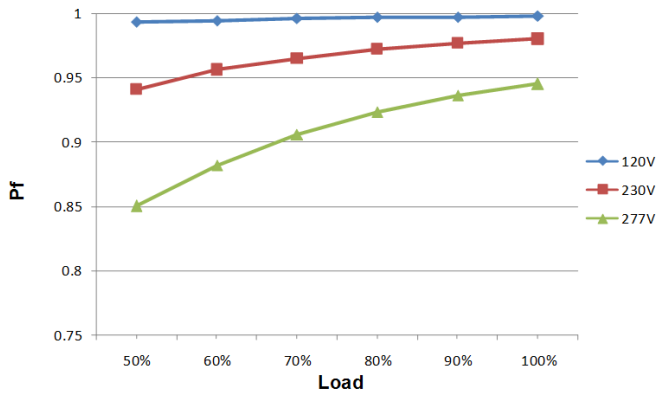
Article	Symbol	Specification			Unit	Note
		Min.	Typ.	Max.		
<b>DIMMING SPECIFICATIONS</b>						
Vdc		0		10	V	See Dimming Specification section
Dimming voltage		1		8.5	V	
<b>ENVIRONMENTAL SPECIFICATIONS</b>						
Operating Temperature	$t_a$	-40		70	°C	
Operating Humidity		20		95	%	Not condensing
Storage Temperature	$t_s$	-40		85	°C	
Storage Humidity		10		95	%	Not condensing
Case Temperature	$t_c$			88.9	°C	
Surge Transient Protection	L / N			±4	kV	IEC 61000-4-5
	LN / GND			±6	kV	
IP Rating			IP67		-	Suitable for indoor environment
Expected Lifetime (e-cap)		50,000			h	At $t_c = 75^\circ\text{C}$ , full load, 120-277 Vac
MTBF			300,000			
Dimensions	L x W x H		193 x 42.5 x 34.5		mm	
Net Weight			550		g	

## 2. Typical Characteristics Graphs

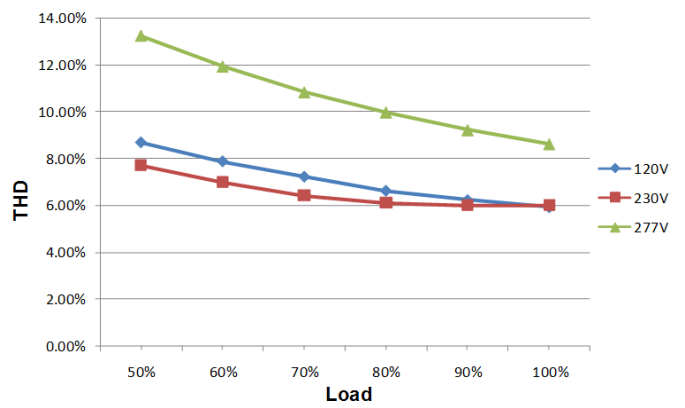
### a) Efficiency vs. Load



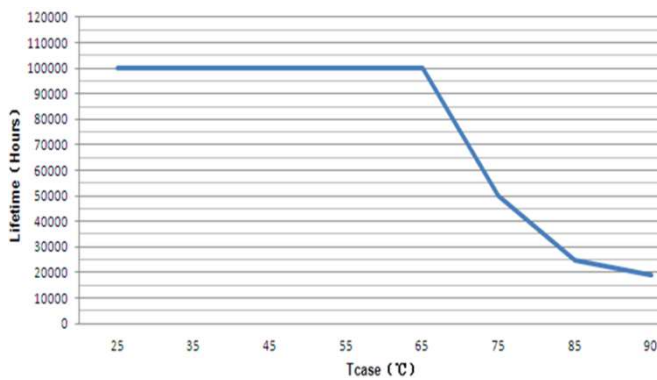
### b) Power Factor vs. Load



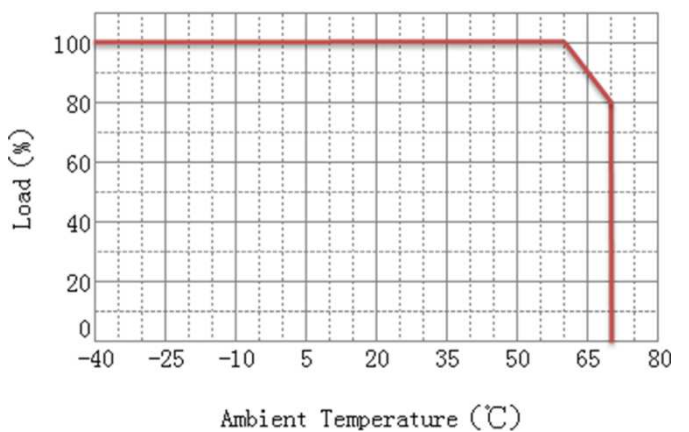
### c) Total Harmonic Distortion vs. Load



### d) Lifetime vs. Tc



### e) Ta de-rating according to the load condition



## 3. Protection

### a) Output Short Circuit Protection

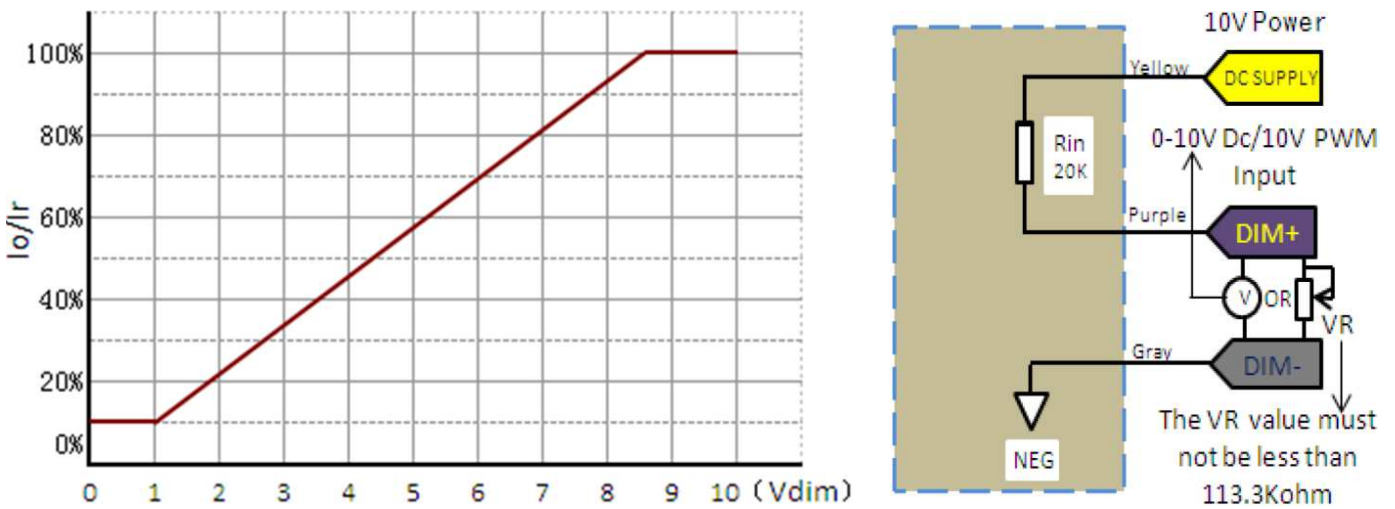
The unit is protected when output is short thus avoiding safety hazard, shock hazard and damage to the unit. After the short circuit fault condition is removed, the unit will enter the auto-recovery mode.

### b) Output Over Voltage Protection

When no load condition occurs, the unit will clamp output voltage to the OVP Voltage avoiding damage to the unit ( $V_{out} < 50V$ ). After the load is connected, the unit will enter the auto-recovery mode.

## 4. Dimming Specification

The unit has Analog Dimming (AD) function, using 0-10 Vdc. The typical dimming curve is shown below.



ARTICLE	SYMBOL	UNIT	MIN	TYP.	MAX	REMARKS
Dimming	Range	Vdc	1	-	8.5	
	Dim OFF		-		-	No Off mode
	Dim. MIN	Vdc	1	-		
	Dim. MAX	Vdc	8.5		10	

## 5. Reliability& Standards

### Test Items and Conditions

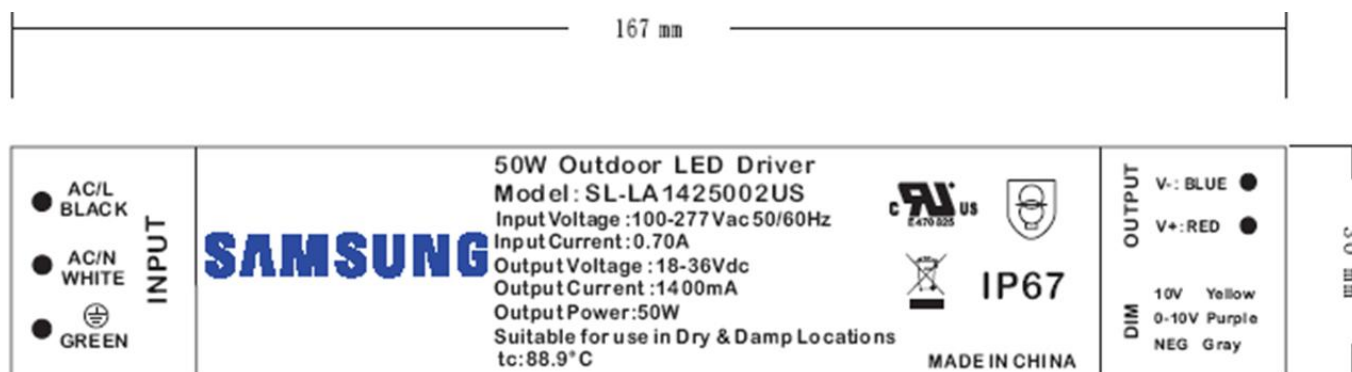
Test Item	Specification	Condition	
Leakage Current	< 0.7 mA	$V_{in}=300V$ $F_{in}=60Hz$	
Earth Continuity	< 0.5 $\Omega$	According to IEC/EN 61347	
Hi-Pot	Input – Output	3750 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
	Input – F.G	1857 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
	Output – F.G	1500 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
Insulation Resistance	Input – Output	500 Vdc, 60 s, insulation resistance 10 M $\Omega$	100 % tested in production line
Surge	L / N	$\pm 4$ kV	According to IEC 61000-4-5
	LN / GND	$\pm 6$ kV	
ESD	Contact	$\pm 8$ kV	According to IEC 61000-4-2
	Air	$\pm 15$ kV	





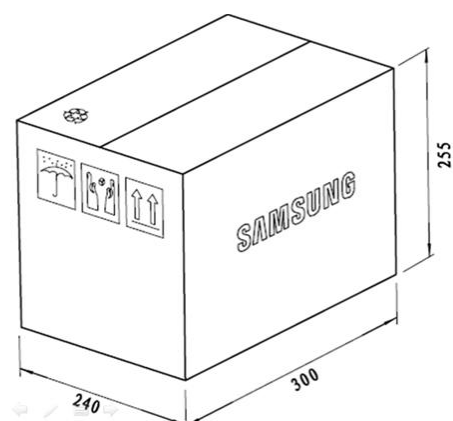
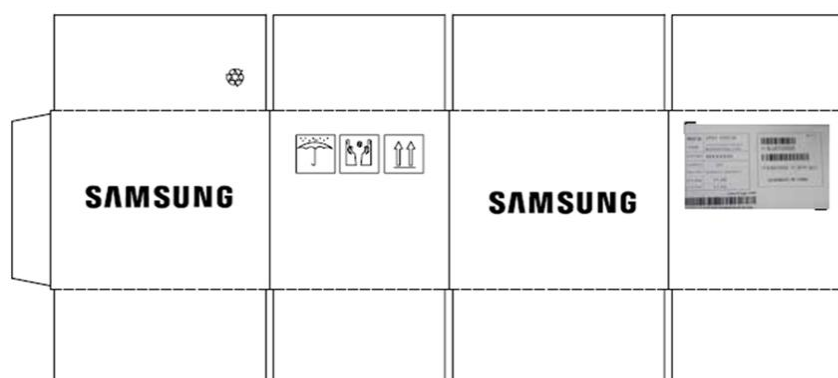


## 7. Label Structure



## 8. Packing Structure

Packing material	Max. quantity (pcs)	Dimension (mm)		
		Length	Width	Height
Outer Box	20	300	240	255
Pallet	1280 (64 outer boxes)	1,219	1,016	1152



## 9. Precautions in Handling & Use

- To prevent the LED Driver from any defect, please handle and store it with care
  - Do not drop or give shock
  - Do not store in very humid location or at extreme temperature
  - Do not open or disassemble the product
- Static electricity or surge voltage may damage the components inside LED Driver, as such please observe proper anti-electrostatic working process
  - People handling the Driver should be well grounded (e.g. using ESD wrist band) and wear anti-static working clothes and gloves
  - All related devices and instruments in the production line should be well grounded (e.g. working table, measuring equipment, assembly jigs)
- Observe the correct polarity of output terminal
- Avoid input voltage exceeds the maximum rating, which will cause damage to the circuit and result in malfunction

# Legal and additional information.

## [About Samsung Electronics Co., Ltd.](#)

Samsung Electronics Co., Ltd. inspires the world and shapes the future with transformative ideas and technologies that redefine the worlds of TVs, smartphones, wearable devices, tablets, cameras, digital appliances, printers, medical equipment, network systems, and semiconductor and LED solutions. We are also leading in the Internet of Things space with the open platform SmartThings, our broad range of smart devices, and through proactive cross-industry collaboration. We employ 319,000 people across 84 countries with annual sales of US \$196 billion. To discover more, and for the latest news, feature articles and press material, please visit the Samsung Newsroom at [news.samsung.com](http://news.samsung.com)

Copyright © 2016 Samsung Electronics Co., Ltd. All rights reserved.  
Samsung is a registered trademark of Samsung Electronics Co., Ltd.  
Specifications and designs are subject to change without notice. Non-metric weights and measurements are approximate. All data were deemed correct at time of creation. Samsung is not liable for errors or omissions. All brand, product, service names and logos are trademarks and/or registered trademarks of their respective owners and are hereby recognized and acknowledged.

Samsung Electronics Co., Ltd.  
95, Samsung 2-ro  
Giheung-gu  
Yongin-si, Gyeonggi-do, 446-711  
KOREA

[www.samsungled.com](http://www.samsungled.com)

