



ELECTRO-MECHANICS

50W Dimmable Single Output LED Driver

PSDV500108U



■ **Model Name : PSDV500108U**

■ **Features :**

- Suitable for LED lighting application
- UL8750, UL1310 Class 2
- For use in Dry and Damp Location
- Full-protection provided: OCP/OVP/OTP/SCP
- Sink & Source Dimming Control
- Non potting product



SAMSUNG ELECTRO-MECHANICS CO., LTD

150, Maeyoung-Ro, Youngtong-Gu, Suwon-Si, Gyeonggi-Do, Republic of Korea 443-743

TEL: +82-31-210-5114, www.samsungsem.co.kr



■ Electrical specification

No.	Item	Min	Typ	Max	Unit	Remark	
1	Nominal Input Voltage	100		277	Vac		
2	Wide Input Voltage	90		305	Vac		
3	Maximum Input Current			0.8	Arms		
4	Nominal Input Frequency	50		60	Hz		
5	Wide Input Frequency	47		63	Hz		
6	Power Factor (PF)	0.9				1)	
7	Total Harmonic Distortion(THD)			20	%	1)	
8	Inrush Current	Meets NEMA 410				@Cold Start, 8)	
9	Earth Leakage Current			500	μA		
10	Output Voltage	30	38	45.3	Vdc		
11	Output Current	945	1,050	1,155	mA	@30min Aging, 2)	
12	Output Peak Current			1,700	mA	2)	
13	Output Current Ripple			115	mA	2)	
14	LED Output Aging Current Differential			57.8	mA	@2hr Aging	
15	Turn-on Delay Time			750	ms	10)	
16	Electrical Efficiency	86.5			%	3)	
17	Dimming Ratio w/Source Dimming	10		100	%		
18	Dimming Ratio w/Sink Dimming	10		100	%		
19	Output Open LED Protection	-	-	-	Vdc	Auto-recovery	
20	Output Short Circuit Protection	-	-	-	-	Auto-recovery	
21	Over-temperature Protection	105			°C	Auto-recovery	
22	Case Temperature (Tc)			90	°C		
23	Storage Temperature	-30		90	°C		
24	Operating Temperature	-40		50	°C		
25	Insulation Resistance	100			MΩ	500Vdc between Input & Output	
26	Differential Mode (Line to Line)	-4		4	kV	4)	
27	Common Mode(Line to Ground)	-6		6	kV	4) 5)	
28	Contact Discharge Test Voltage	-4		4	kV	6)	
29	Air Discharge Test Voltage	-8		8	kV	6) 7)	
30	Dielectric Withstand Voltage	Input to Output		1,554		Vac	Apply for 1 minute 9)
31		Input to Case		1,554		Vac	
32		Output to Case		500		Vdc	
33	Humidity			90	%		
34	Vibration			3	G		

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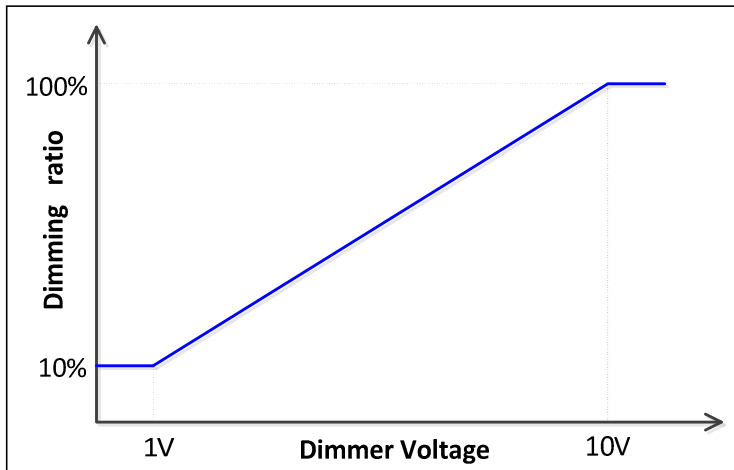
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Application Notes

- 1) Test Condition: 100/277Vac 50/60Hz Input, Typical LED Load, Ambient Temperature 25°C
- 2) Test Condition: 100/277Vac 50/60Hz Input, LED Typ. Load, Ambient Temperature 25°C
- 3) Efficiency Test Condition: 240Vac Input, 30min. Aging, LED Typ. Load, Ambient Temperature 25°C
- 4) Surge Specification above is higher than IEC/EN 61000-4-5 (Differential 1kV, Common 2kV)
- 5) The metal case of the LED driver must be connected with F.G
- 6) ESD Specification above meets IEC/EN 61000-4-2 Requirements (Contact 4kV, Air 8kV)
- 7) The metal case of the driver should be grounded.
- 8) Input 120Vac, < 107Apeak, < 0.48ms, < 24A2sec
- 9) Determined by Paragraph 34.1.2, UL1310 or Paragraph 8.4.2, UL8750, EN61347-1, EN61347-2-13
- 10) Test Condition : Input 277Vac 60Hz, Typ. Load@25°C, Cold Start

Dimming Curve : Compatible sink & source dimming



Safety Standards

Including safety requirements above, the LED driver complies with the following safety standards:

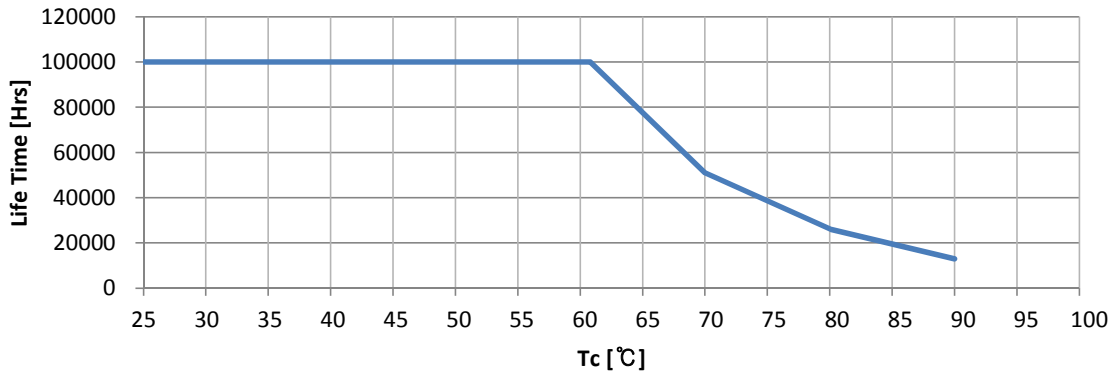
No.	Item	Description
1	UL8750, UL1310	UL Safety Standards (Class 2, Dry and Damp Location)
2	IEC 61000-3-2	Harmonic current emissions: Class C
3	IEC 61000-3-3	Voltage Fluctuations and Flicker
4	IEC/EN 61000-4-2	Electrostatic Discharge (ESD): Contact 4kV, Air 8kV
5	IEC 61000-4-3	Radio-frequency Electromagnetic Fields
6	IEC 61000-4-4	Electrical Fast Transients (EFT)
7	IEC/EN 61000-4-5	Surges: Differential 1kV, Common 2kV
8	IEC 61000-4-6	Injected Currents
9	IEC 61000-4-8	Power Frequency Magnetic Fields
10	IEC 61000-4-11	Voltage Dips and Short Interruptions

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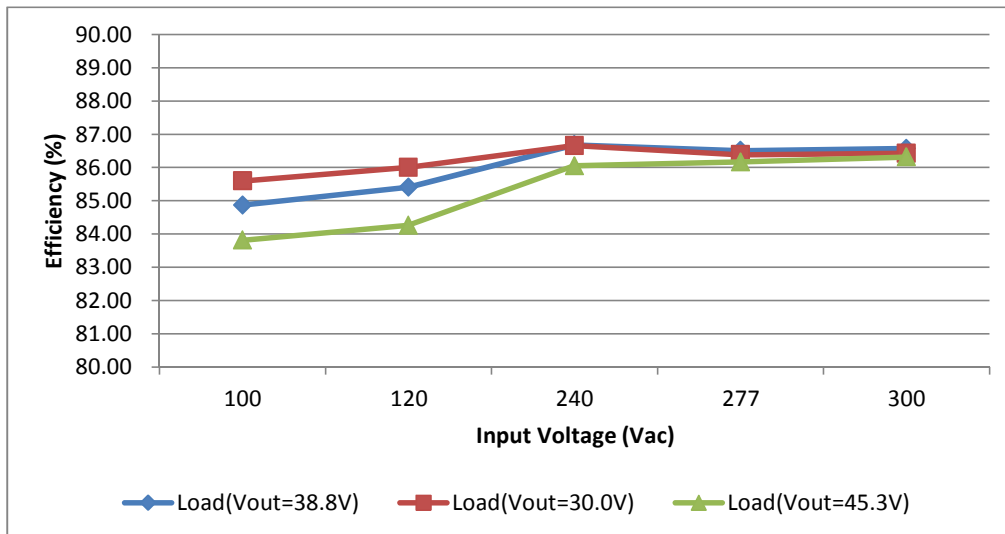
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■ Life Time vs Tcase



Remark) LED Driver has a rated lifetime of 50,000 hours @ Tc≤70°C

■ Efficiency(%)

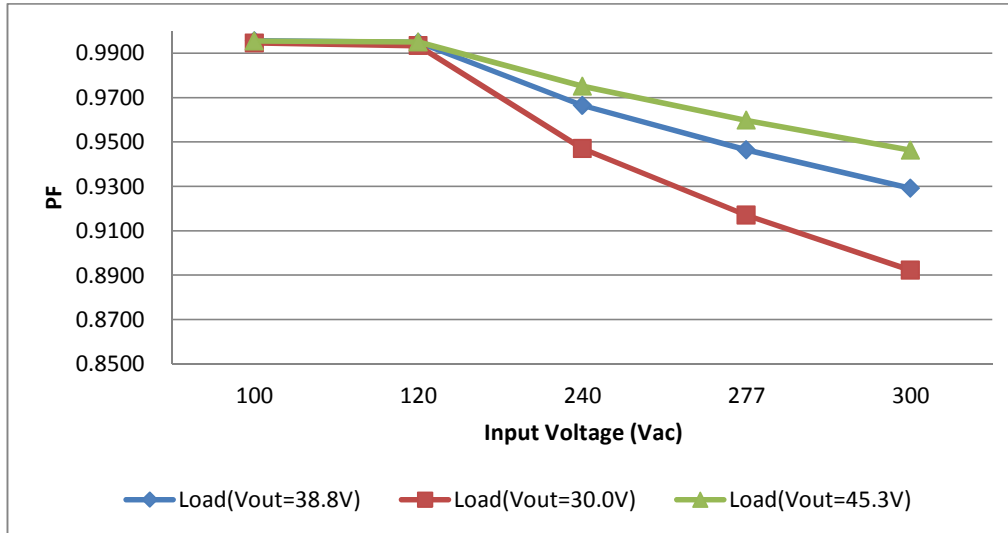


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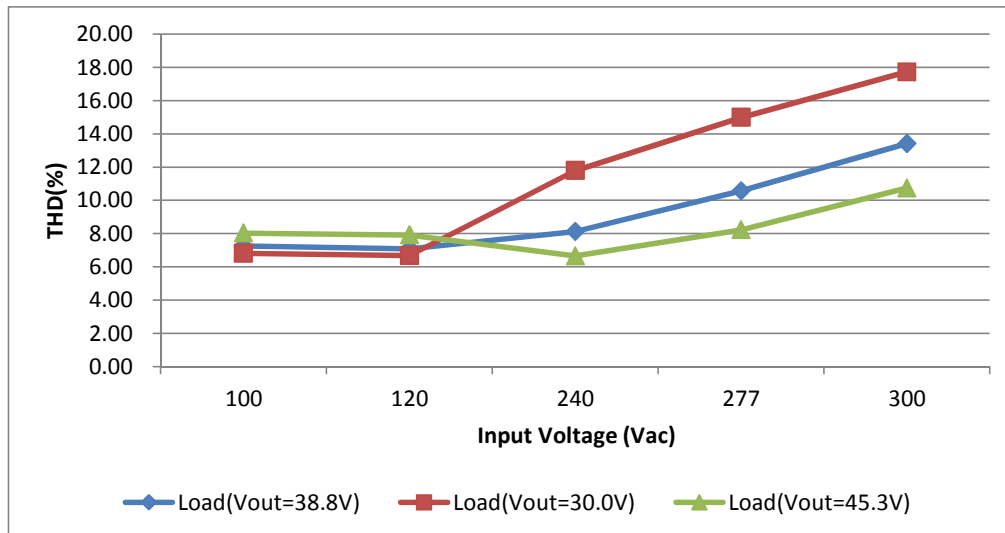
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■ Power Factor



■ THD(%)

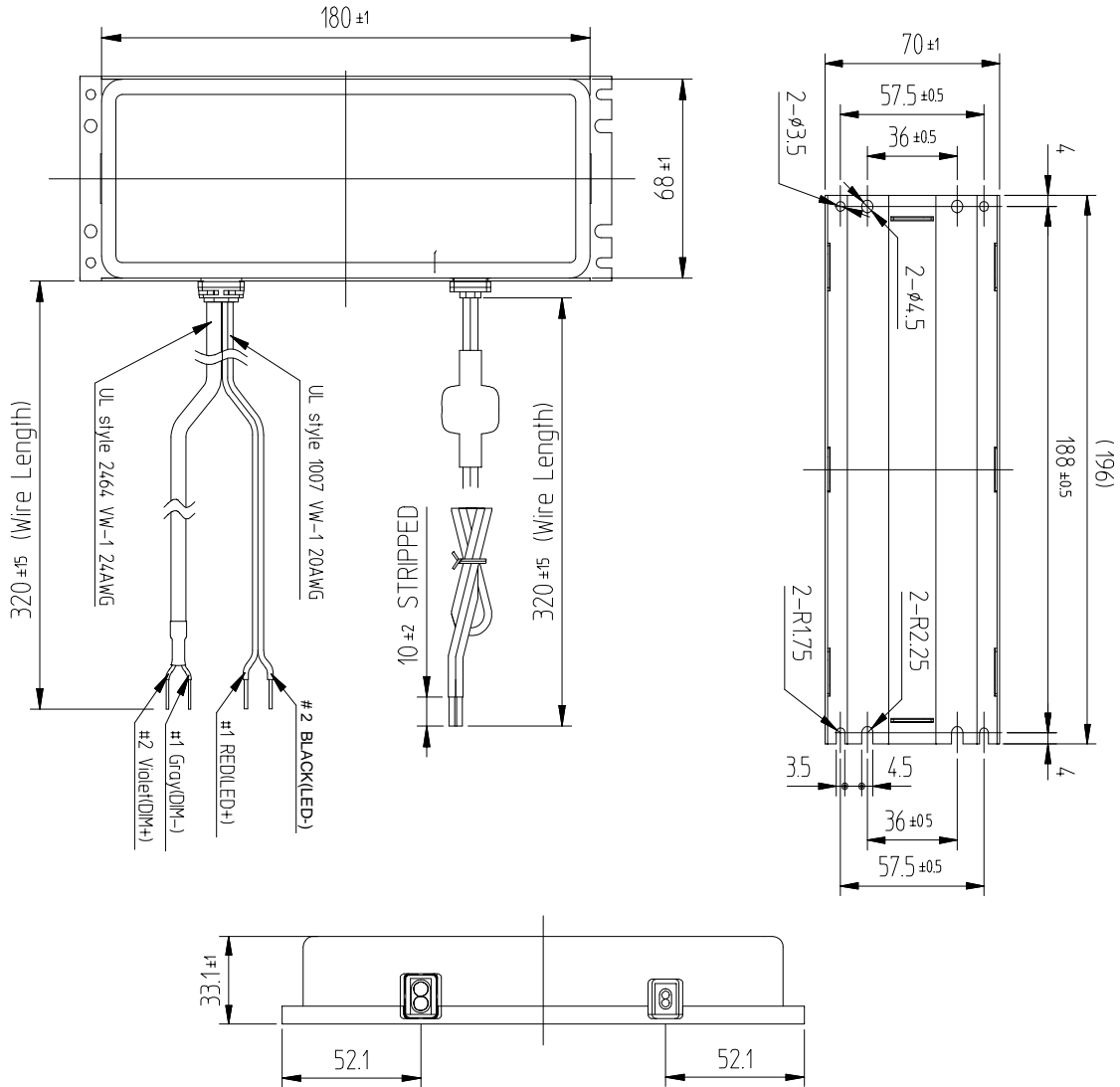


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■ Mechanical Specification



■ Metal Enclosure Size

Unit	Case Width	Case Length	Case Height	Mount Length	Overall Length
mm	70	180	33	188	196
inch	2.76	7.09	1.30	7.40	7.72

■ Case Material : Aluminium

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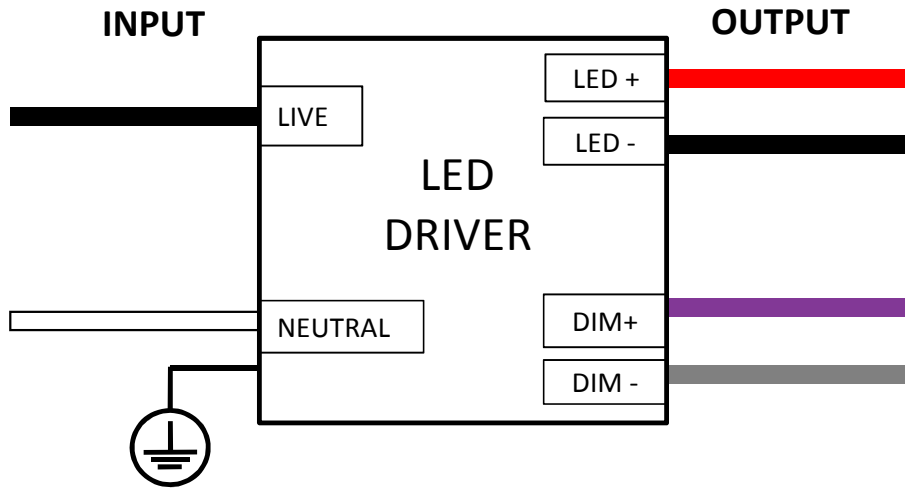


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50W Dimmable Single Output LED Driver

PSDV500106U

■ Wiring Diagram



Remark) Output wiring specifications can be changed.

■ Rating Label Drawing

LED Electronic Driver Model : PSDV500108U

INPUT : 100-277V~, 50/60Hz, 70W, Max 0.8A, λ=0.9
OUTPUTS : 30-45.3VDC / 1050mA
DIMMING CONTROL : Source & Sink Dimming
 Ta = -40°C ~ 50°C, Tc = 90°C

INPUT/OUTPUT WIRING DIAGRAM:

Black	Live	LED+	Red
		LED-	Black
White	Neutral	DIM+ (Source & Sink)	Violet
		DIM-	Gray

CAUTION:
 Suitable for dry and damp locations.
 Do not open the case, hazardous voltage inside.
 Install in accordance with national and local electrical code.
 This product is used for LED module only.

Made in China Dongguan SAMSUNG ELECTRO-MECHANICS

Technical Support : www.sem.samsung.com

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