



150W Single Output Switching Power Supply

PSDV151101A



■ Model Name

- PSDV151101A, for UL/Cul/CE

■ Features :

- Suitable for LED lighting application
- CE, UL8750/UL1012 Non Class 2
- For use in Dry and Damp Location
- Full-protection provided : OCP/OLP/OTP/SCP
- 0-10V Dimming Control
- Potting product



IP 67



SAMSUNG ELECTRO-MECHANICS CO., LTD

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

1. 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			2	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	NEMA410				8)
9	Earth Leakage Current			500	μA	
10	Output Voltage	100	-	210	Vdc	1)
11	Output Current	350	-	700	mA	±10%, 1) 10)
12	Output Current Ripple			10	%	
13	Output Peak Current			1500	mA	2)
14	Output Aging Current Differential			35	mA	2hr Aging, ta=25°C
15	Turn-on Delay Time			750	ms	2)
16	Electrical Efficiency	92			%	3)
17	12V Output Voltage	10.8	12	13.2	Vdc	
18	12V Output Current			50	mA	
19	Dimming Control	10		100	%	
20	Output Open LED Protection	-	-	-	-	Auto-recovery
21	Output Short Circuit Protection	-	-	-	-	Auto-recovery
22	12V Output Short Circuit Protection	-	-	-	-	Auto-recovery
23	Over-temperature Protection	105			°C	Auto-recovery
24	Case Temperature (Tc)			90	°C	@Amb.50°C,Input 120Vac,Load(Typ.)
25	Storage Temperature	-40		90	°C	
26	Operating Temperature	-40		50	°C	
27	Insulation Resistance	100			MΩ	500Vdc between Input & Output
28	Differential Mode (Line to Line)	-4		4	kV	4)
29	Common Mode (Line to Ground)	-6		6	kV	4) 5) 7)
30	Contact Discharge Test Voltage	-4		4	kV	6)
31	Air Discharge Test Voltage	-8		8	kV	6)
32	Dielectric Withstand Voltage	Input to Output	3854		Vac	Apply for 1 minute 9)
33		Input to Case	1554		Vac	
34		Output to Case	500		Vdc	
35	Vibration			3	G	
36	Humidity			90	%	

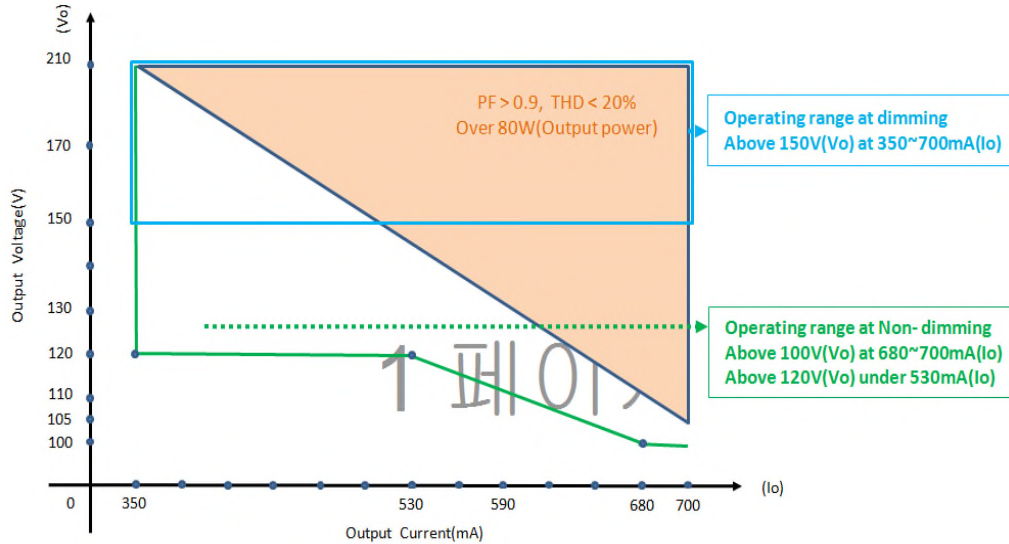
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Application Notes

1) Operating Window for Output Voltage(V_o) & Output Current(I_o), Ambient Temperature 25°C



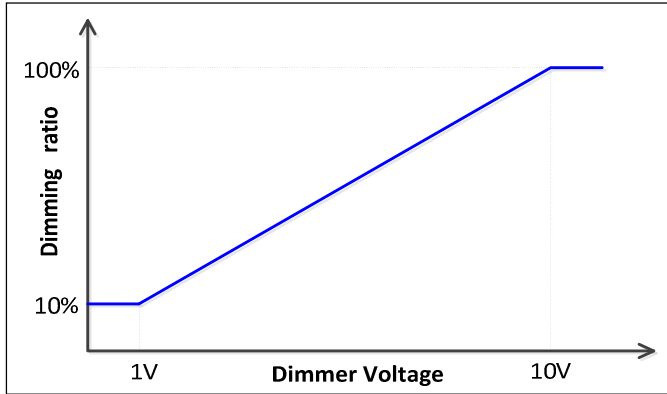
- 2) Test Condition: Input voltage 277Vac 60Hz, Room Temperature, Cold start
- 3) Test Condition: 240Vac Input, 2hr Aging, LED Load_210V, Ambient Temperature 25°C
- 4) Surge Specification above is higher than IEC/EN 61000-4-5 (Differential 1kV, Common 2kV)
- 5) The metal case of the LED driver must be 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, < 144Apeak, < 0.7ms, < 41A2sec
- 9) Determined by Paragraph 8.4.2, UL8750, IEC/EN61347-1, IEC/EN61347-2-13
- 10) Adjustable output current for external Rset[kΩ], Refer to the 1-6

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1-1. Dimming Curve



Safety Standards

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

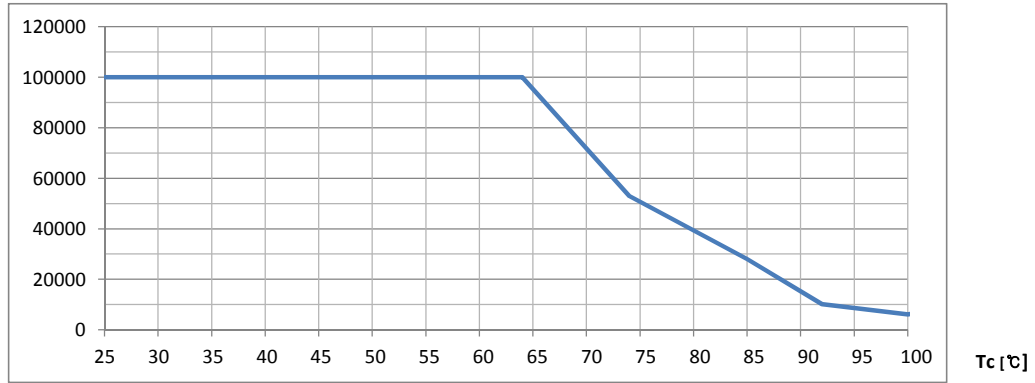
No.	Item	Description
1	UL8750	UL Safety Standards
2	IEC/EN 61347-1, IEC/EN 61347-2-13	IEC Safety Standards
3	EN 55015	Conducted and Radiated Emission Test
4	IEC/EN 61000-3-2	Harmonic current emissions: Class C
5	IEC/EN 61000-3-3	Voltage Fluctuations and Flicker
6	IEC/EN 61000-4-2	Electrostatic Discharge (ESD): Contact 4kV, Air 8kV
7	IEC/EN 61000-4-3	Radio-frequency Electromagnetic Fields
8	IEC/EN 61000-4-4	Electrical Fast Transients (EFT)
9	IEC/EN 61000-4-5	Surges: Differential 1kV, Common 2kV
10	IEC/EN 61000-4-6	Injected Currents
11	IEC/EN 61000-4-8	Power Frequency Magnetic Fields
12	IEC/EN 61000-4-11	Voltage Dips and Short Interruptions
13	IP Grade	IP67

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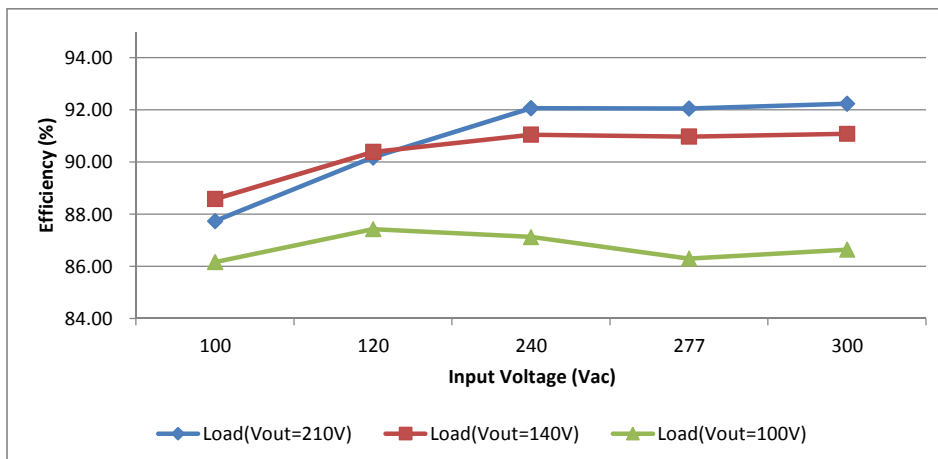
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1-2. Life Time vs Tcase



Remark) LED Driver has a rated lifetime of 50,000 hours @ Tc ≤ 75°C

**1-3. Efficiency (%)
at Iout 700mA**

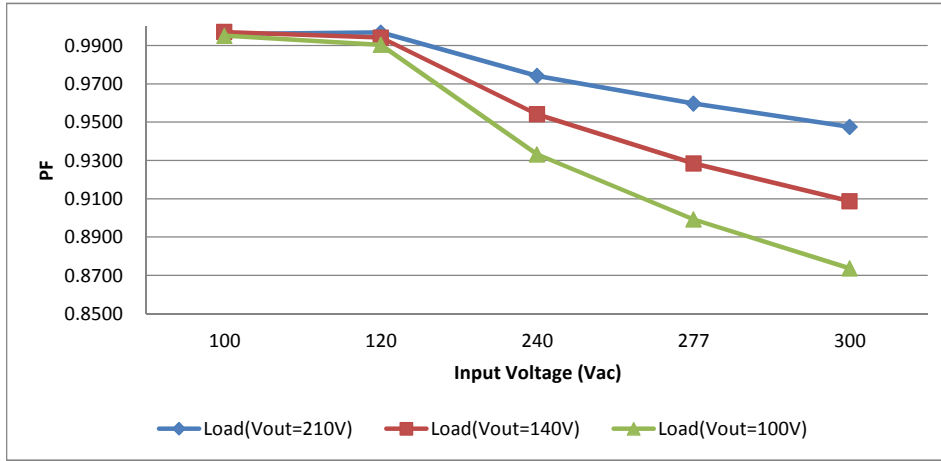


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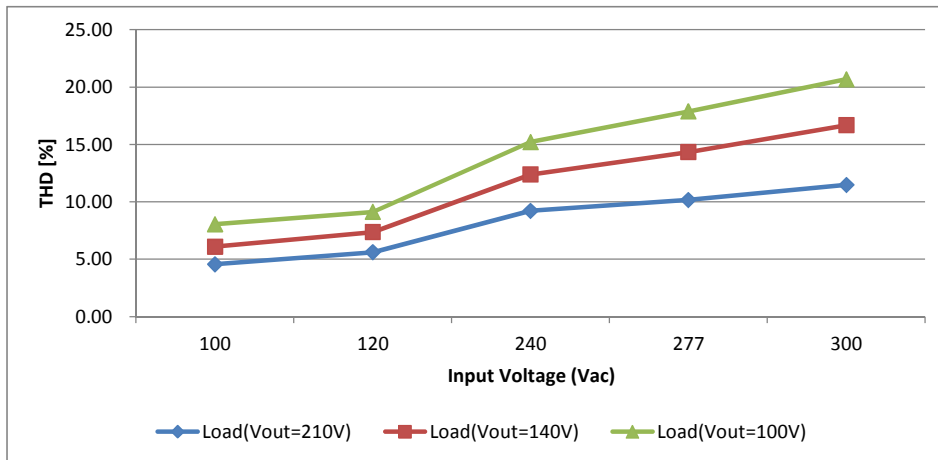
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**1-4. Power Factor
at Iout 700mA**



**1-5. THD(%)
at Iout 700mA**



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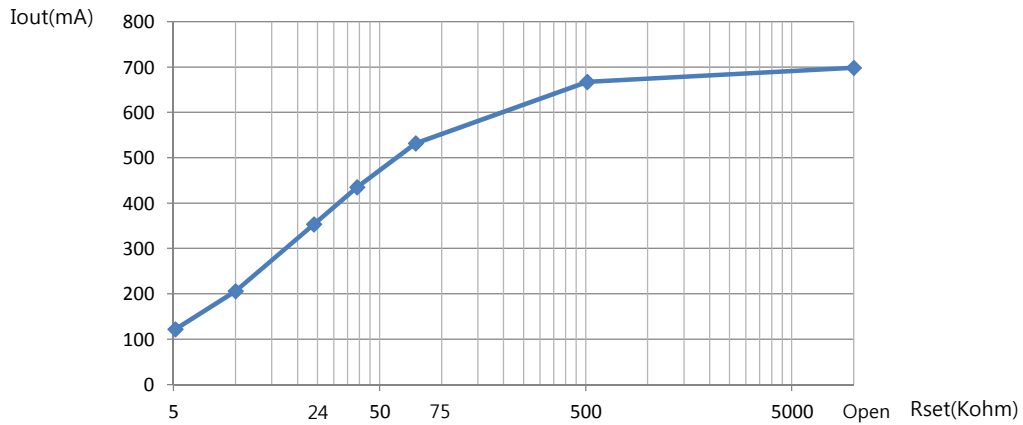
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1-6. Rset vs. Electrical Characteristics

Rset [kΩ]	Input					Output			
	Vltg [V]	Crnt [A]	PF	THD [%]	Power[W]	Vltg [V]	Crnt [A]	Power[W]	Efficiency [%]
(Open)	100	1.664	0.9973	6.08	163.0	209.4	0.700	145.9	89.54%
	120	1.544	0.9923	6.35	161.7	209.4	0.700	145.9	90.37%
	240	0.691	0.9687	15.45	156.8	209.4	0.700	145.9	93.08%
	277	0.639	0.9588	14.21	156.6	209.4	0.700	145.9	93.17%
75	100	1.245	0.9951	8.52	120.9	204.3	0.530	108.7	89.89%
	120	1.120	0.9901	9.05	119.5	204.3	0.530	108.7	90.94%
	240	0.530	0.9568	17.12	118.4	204.3	0.530	108.7	91.82%
	277	0.465	0.9417	16.06	118.2	204.2	0.530	108.6	91.95%
24	100	0.816	0.9898	12.47	79.9	199.7	0.350	69.1	86.48%
	120	0.701	0.9839	12.89	78.8	199.7	0.350	69.1	87.65%
	240	0.367	0.9309	19.79	77.5	199.7	0.350	69.1	89.13%
	277	0.326	0.905	19.10	77.2	199.7	0.350	69.1	88.51%

Rset vs Iout

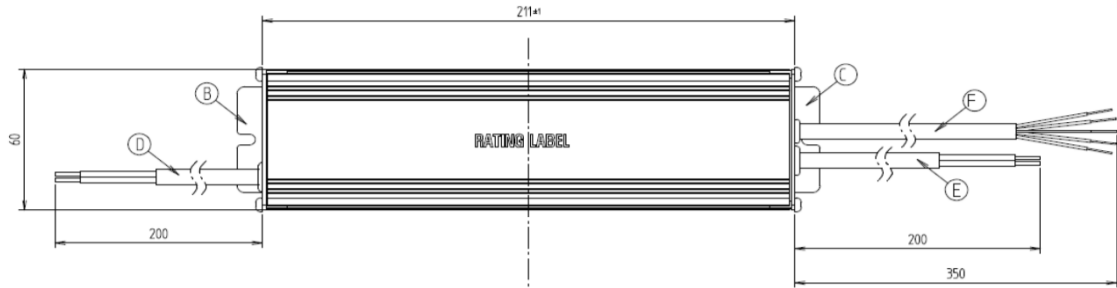


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2. Mechanical Specification



2-1. Enclosure Size

Unit	Case Width	Case Length	Case Height	Mounting Width	Mounting Length	Overall Length
mm	60	211	32	42.9	226	240
inch	2.362	8.307	1.26	1.689	8.898	9.449

2-2. Case Material : Aluminium

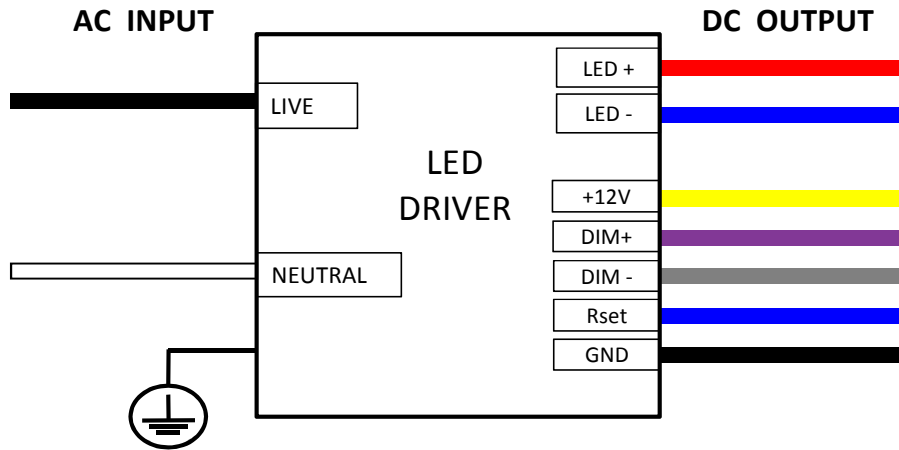
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2-3. Wiring Diagram



Remark) Output wiring specifications can be changed.

2-4. Rating Label Drawing

<p>SAMSUNG</p> <p>LED Driver Model : PSDV151101A</p> <p>INPUT: 100-277V~, 50/60 Hz, 200 W, Max. 2 A, λ(PF)=0.9 OUTPUT: 150-210V$\ddot{=}$/700 mA, 13.2V$\ddot{=}$/50 mA (constant current type) DIMMING CONTROL : 1-10 V ta = -40$^{\circ}$C - 50$^{\circ}$C, tc= 90$^{\circ}$C</p> <p>Made in China Dongguan SAMSUNG ELECTRO-MECHANICS Technical Support : www.sem.samsung.com</p>	<p>CAUTION :</p> <p>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.</p> <p>CE cULus E321686</p> <p>tc</p>	<p>DIAGRAM OF INPUT/OUTPUT CONNECTION:</p> <p>IP67</p> <p>BARCODE LABEL</p>
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