



150W Single Output Power Driver for LED Lighting

PSDV151102A



■ Model Name

- PSDV151102A, for UL / cUL

■ Features :

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



SAMSUNG ELECTRO-MECHANICS CO., LTD

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■ Electrical specification

No.	Item	Min	Typ	Max	Unit	Remark
1	Nominal Input Voltage	120		277	Vac	
2	Wide Input Voltage	108		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				10)
9	Earth Leakage Current			500	μ A	
10	Output Voltage	200		425	Vdc	3)
11	Adjustable Output Current Range	250		350	mA	
12	Output Current	333	350	367	mA	
13	Output Current Ripple			10	%	1)
14	Output Peak Current			700	mA	1)
15	Output Aging Current Differential			17	mA	2hr Aging
16	Turn-on Delay Time			750	ms	4)
17	Electrical Efficiency	92			%	5)
18	12V Output Voltage	10.8	12	13.2	Vdc	
19	12V Output Current			50	mA	
20	Dimming Control	10		100	%	
21	Output Open LED Protection	-	-	-	-	Auto-recovery
22	Output Short Circuit Protection	-	-	-	-	Auto-recovery
23	12V Output Short Circuit Protection	-	-	-	-	Auto-recovery
24	Over-temperature Protection	105			$^{\circ}$ C	Auto-recovery
25	Case Temperature (Tc)			85	$^{\circ}$ C	Input 120Vac
26	Storage Temperature	-40		85	$^{\circ}$ C	
27	Operating Temperature	-40		50	$^{\circ}$ C	
28	Insulation Resistance	100			M Ω	500Vdc between Input & Output
29	Differential Mode (Line to Line)	-4		4	kV	6)
30	Common Mode (Line to Ground)	-6		6	kV	6) 7)
31	Contact Discharge Test Voltage	-4		4	kV	8)
32	Air Discharge Test Voltage	-8		8	kV	8) 9)

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No.	Item		Min	Typ	Max	Unit	Remark
33	Dielectric Withstand Voltage	Input to Output	3854			Vac	Apply for 1 minute 11)
34		Input to Case	1554			Vac	
35		Output to Case	500			Vdc	
36	Vibration				3	G	
37	Humidity				90	%	

☞ Application Notes

- 1) Test Condition: 120/277Vac 50/60Hz Input, LED Load_410V, Ambient Temperature 25°C
- 2) Output Voltage of 200Vdc~410Vdc can be applied at Non Dimming and Output Current 350mA
- 3) LED load having Vf of this range can be driven until Vf drop to below 410V by self-heating.
- 4) Test Condition: Input voltage 277Vac 60Hz, Room Temperature, Cold start
- 5) Test Condition: 240Vac Input, 1hr Aging, LED Load_410V, Ambient Temperature 25°C
- 6) Surge Specification above is higher than IEC/EN 61000-4-5 (Line to Line 1kV, Line to GND 2kV)
- 7) The metal case of the LED driver must be connected with F.G
- 8) ESD Specification above meets IEC/EN 61000-4-2 Requirements (Contact 4KV, Air 8KV)
- 9) The metal case of the driver should be grounded.
- 10) Input 120Vac, < 144Apeak, < 0.7ms, < 41A2sec
- 11) Determined by Paragraph 8.4.2, UL8750, IEC/EN61347-1, IEC/EN61347-2-13

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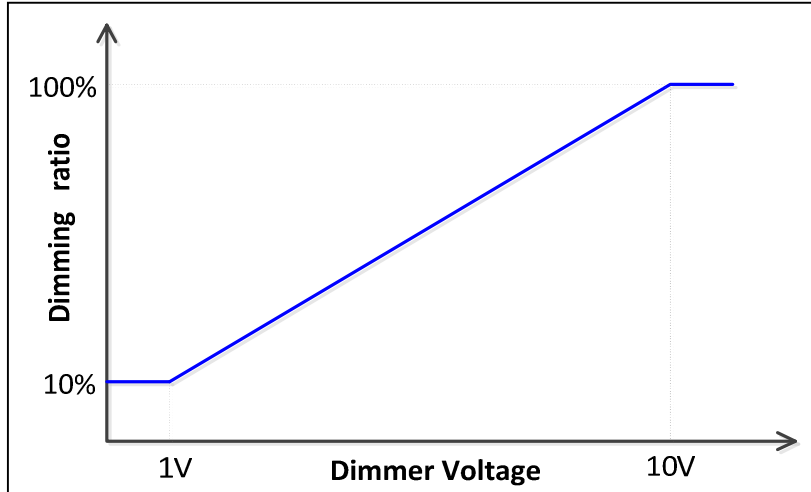
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■ Dimming Curve



☞ Safety Standards

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

No.	Item	Description
1	UL8750	UL Safety Standards
2	FCC Part 15	Conducted and Radiated Emission Test, Class B
3	IEC/EN 61347-1, IEC/EN 61347-2-13	IEC Safety Standards
4	EN 55015	Conducted and Radiated Emission Test
5	IEC/EN 61000-3-2	Harmonic current emissions: Class C
6	IEC/EN 61000-3-3	Voltage Fluctuations and Flicker
7	IEC/EN 61000-4-2	Electrostatic Discharge (ESD): Contact 4kV, Air 8kV
8	IEC/EN 61000-4-3	Radio-frequency Electromagnetic Fields
9	IEC/EN 61000-4-4	Electrical Fast Transients (EFT)
10	IEC/EN 61000-4-5	Surges: Line to Line 1kV, Line to GND 2kV
11	IEC/EN 61000-4-6	Injected Currents
12	IEC/EN 61000-4-8	Power Frequency Magnetic Fields
13	IEC/EN 61000-4-11	Voltage Dips and Short Interruptions

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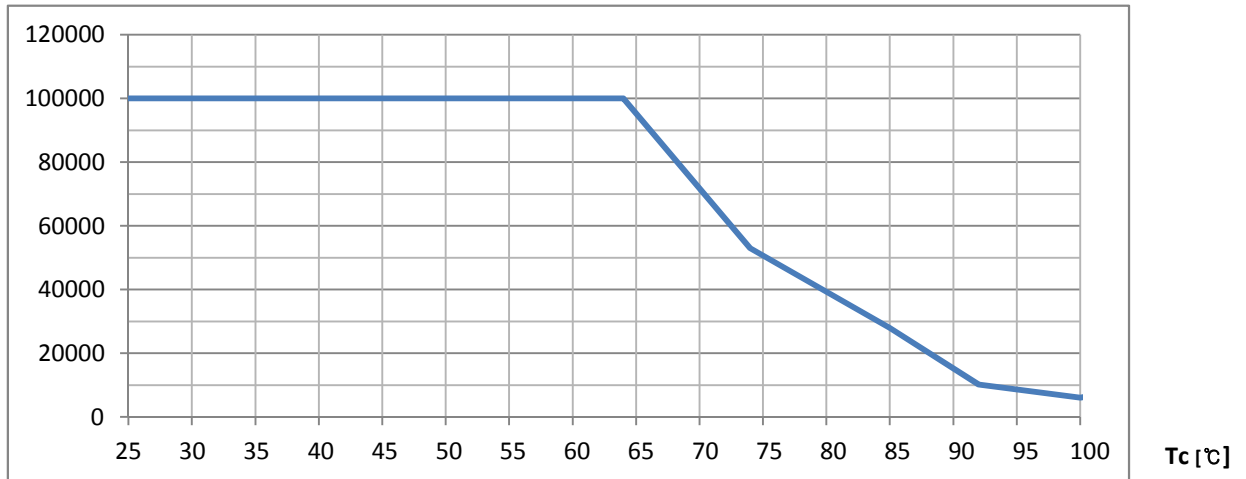
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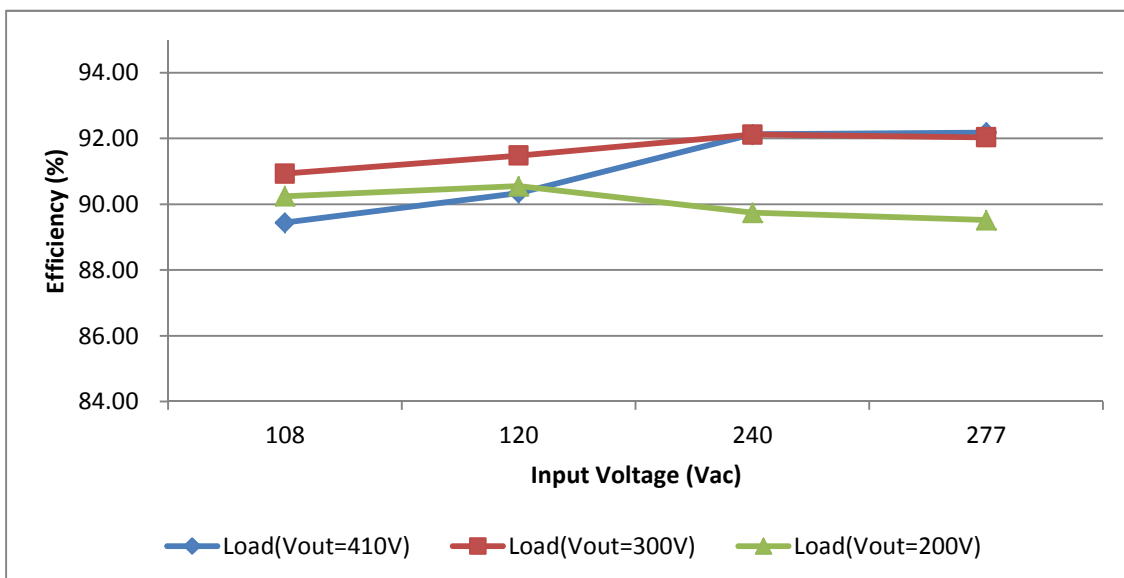
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Life Time vs Tcase



Remark) LED Driver has a rated lifetime of 50,000 hours @ $T_c \leq 75^\circ\text{C}$

Efficiency(%) (LED Current = 350mA)



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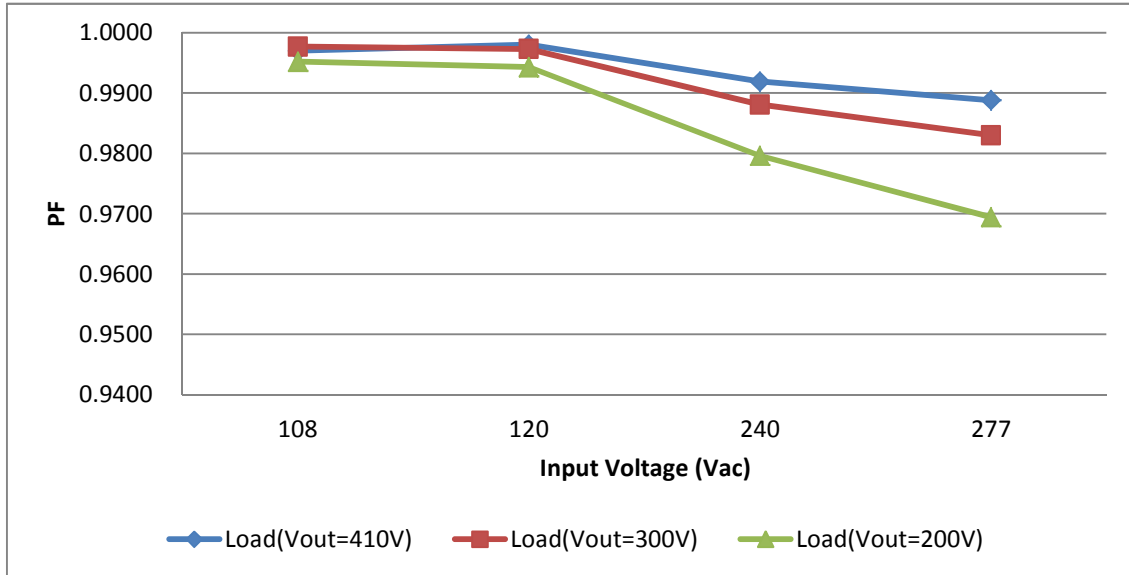
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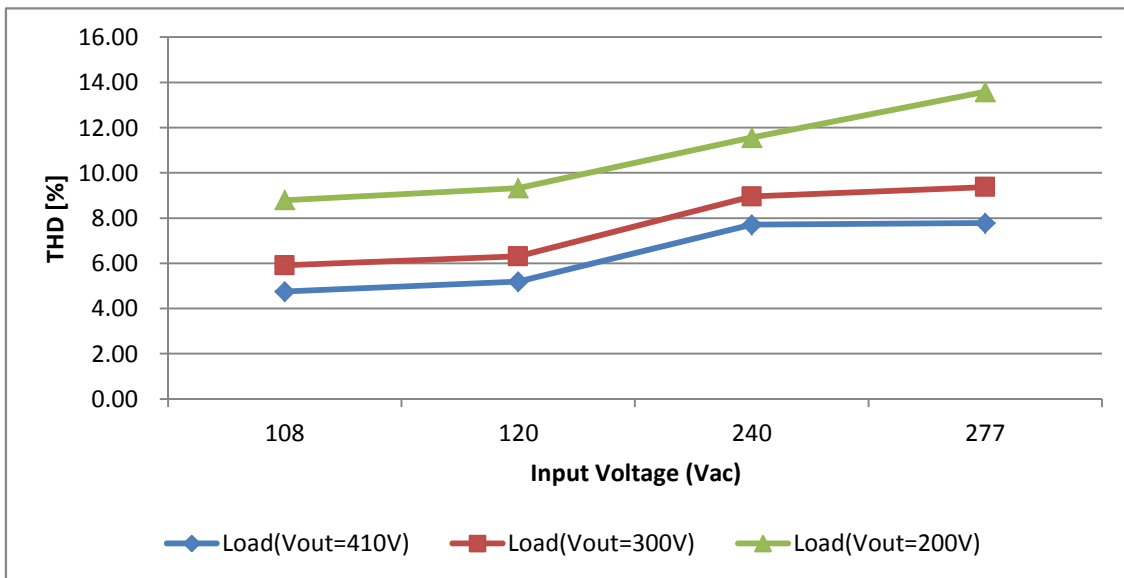
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■ Power Factor (LED Current = 350mA)



■ THD(%) (LED Current = 350mA)



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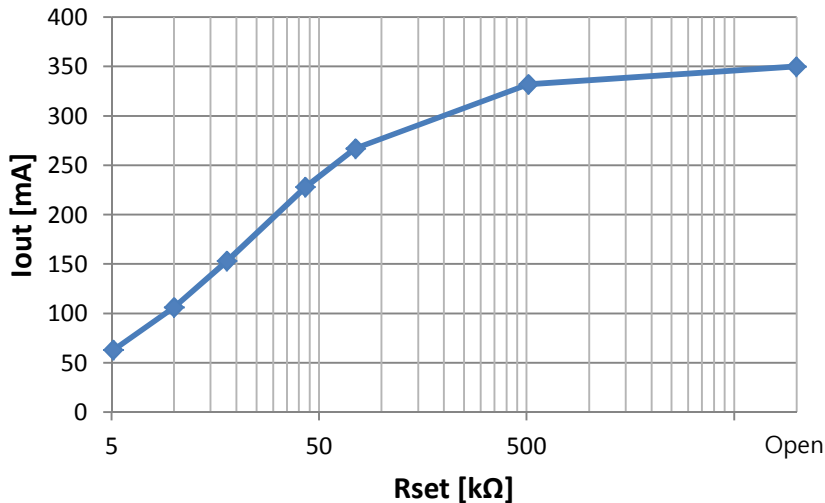
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■ Rset vs. Electrical Characteristics

Rset [kΩ]	Input					Output			
	Vltg [V]	Crnt [A]	PF	THD [%]	Power[W]	Vltg [V]	Crnt [A]	Power[W]	Efficiency [%]
(Open)	108	1.460	0.9970	4.75	157.9	406.9	0.35	141.2	89.44%
	120	1.299	0.9980	5.19	156.3	406.9	0.35	141.2	90.34%
	240	0.640	0.9919	7.71	153.2	406.8	0.35	141.2	92.12%
	277	0.556	0.9888	7.78	153.1	406.8	0.35	141.2	92.18%
75	108	1.103	0.9978	5.68	119.4	402.9	0.27	107.6	90.10%
	120	0.987	0.9974	6.08	118.7	402.9	0.27	107.6	90.66%
	240	0.494	0.9888	8.74	117.8	402.9	0.27	107.6	91.36%
	277	0.430	0.9839	9.09	117.8	402.9	0.27	107.6	91.33%
18	108	0.627	0.9939	9.74	67.7	385.8	0.15	59.0	87.25%
	120	0.563	0.9927	10.24	67.4	385.8	0.15	59.0	87.53%
	240	0.292	0.9711	12.36	68.4	385.8	0.15	59.0	86.27%
	277	0.258	0.9551	15.11	68.7	385.8	0.15	59.0	85.95%

Rset vs Iout



Rset [kΩ]	Io [mA]
5.1	60
10	110
18	150
24	180
43	230
68	260
75	270
510	330

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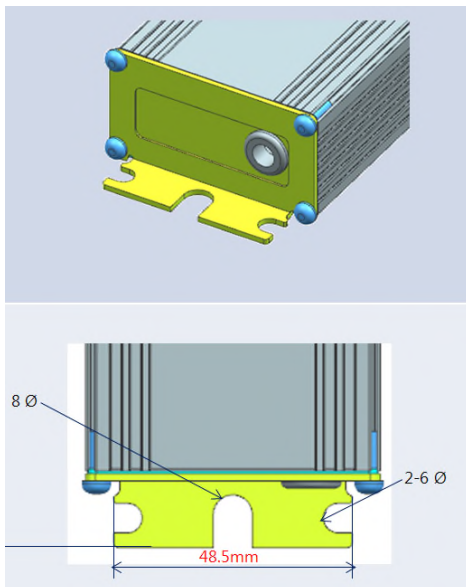
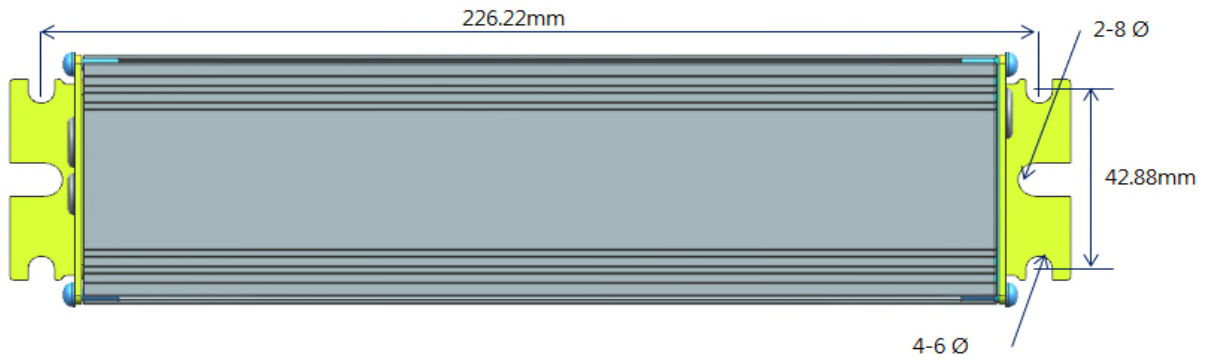
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■ Mechanical Specification



■ 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

■ Case Material : Aluminium

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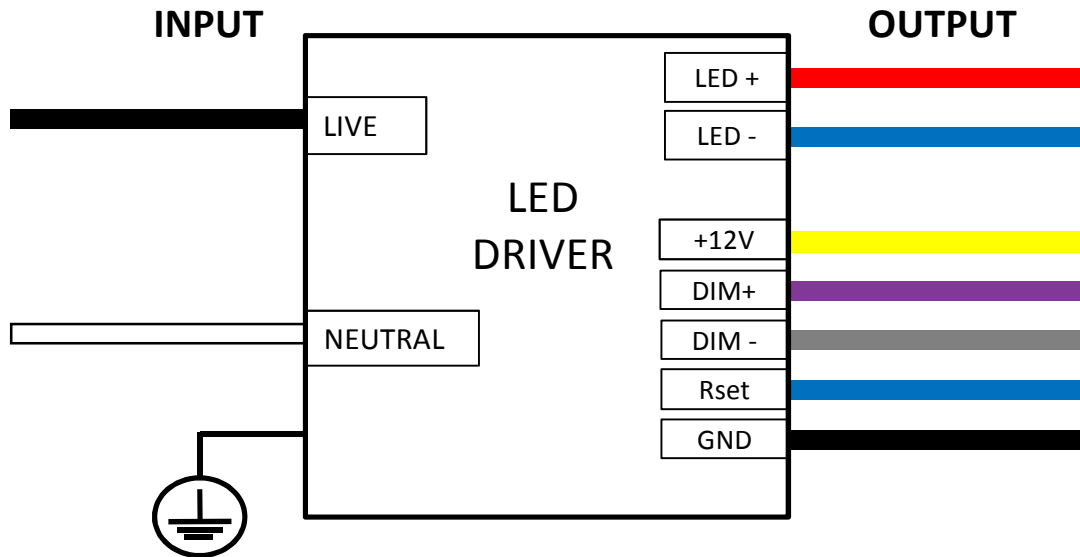
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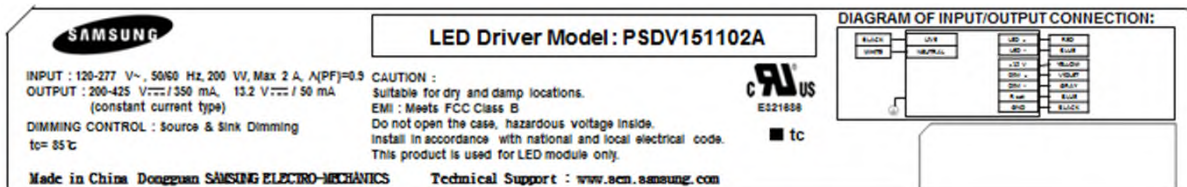
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■ Wiring Diagram



Remark) Output wiring specifications can be changed.

■ Rating Label Drawing



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