



■ Model Name : PSDV900103U

■ Features :

- Suitable for LED lighting application
- UL8750_UL1310 Class 2
- Suitable for dry and damp locations
- Full-protection provided : OCP/OLP/OTP/SCP
- Adjustable external Rset and Non dimming
- Non potting product



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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			1.2	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			1000	μA	
10	Output Voltage	34	38.8	42	Vdc	
11	Output Current	2197	2300	2404	mA	±4.5%
12	Output Current Ripple			10	%	1)
13	Output Peak Current			3500	mA	Cold start, 1)
14	Output Aging Current Differential			115	mA	2hr Aging
15	Turn-on Delay Time			750	ms	2)
16	Electrical Efficiency	89			%	3)
17	AOC Range	50		100	%	10)
18	Output Open LED Protection	-	-	-	Vdc	Auto-recovery
19	Output Short Circuit Protection	-	-	-	-	Auto-recovery
20	12V Output Short Circuit Protection	-	-	-	-	Auto-recovery
21	Over-temperature Protection	105			°C	Auto-recovery
22	Case Temperature (Tc)			85	°C	@Amb.50°C, Input 120Vac, Load(Typ.)
23	Storage Temperature	-40		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	1554		Vac	Apply for 1 minute 9)
31		Input to Case	1554		Vac	
32		Output to Case	500		Vdc	

No.	Item	Min	Typ	Max	Unit	Remark
33	Vibration			3	G	
34	Humidity			90	%	

Application Notes

- 1) Test Condition: 120/277Vac 50/60Hz Input, LED Typ Load, Ambient Temperature 25°C, at cold start
Cold start : After the all capacitors have been discharged
- 2) Test Condition: Input voltage 277Vac 60Hz, Room Temperature, at cold start
- 3) Test Condition: 240Vac Input, 2hr Aging, LED Typ Load and I_{max}, 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, < 144A_{peak}, < 0.7ms, < 41A_{2sec}
- 9) Determined by Paragraph 8.4.2, UL8750, IEC/EN61347-1, IEC/EN61347-2-13
- 10) AOC(Adjustable Output Current) function can change the LED output current 50~100% with Rset Resistor
Rset Resistor should be located between Rset(Blue) and GND(Black) of Control Wire
※ Rset=open → I_o=100%, Rset=12kΩ → I_o=50%

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 61000-3-2	Harmonic current emissions: Class C
3	IEC/EN 61000-3-3	Voltage Fluctuations and Flicker
4	IEC/EN 61000-4-2	Electrostatic Discharge (ESD): Contact 4kV, Air 8kV
5	IEC/EN 61000-4-3	Radio-frequency Electromagnetic Fields
6	IEC/EN 61000-4-4	Electrical Fast Transients (EFT)
7	IEC/EN 61000-4-5	Surges: Differential 1kV, Common 2kV
8	IEC/EN 61000-4-6	Injected Currents
9	IEC/EN 61000-4-8	Power Frequency Magnetic Fields
10	IEC/EN 61000-4-11	Voltage Dips and Short Interruptions

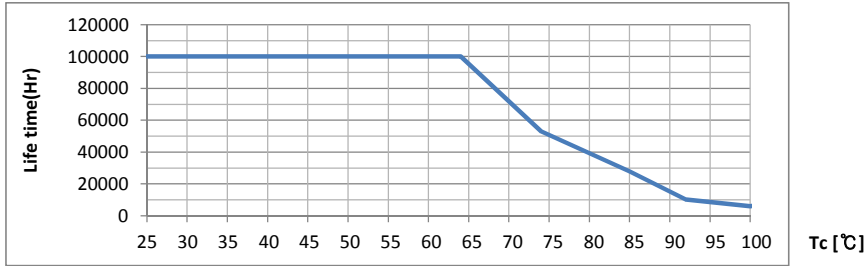


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90W Single Output Switching Power Supply

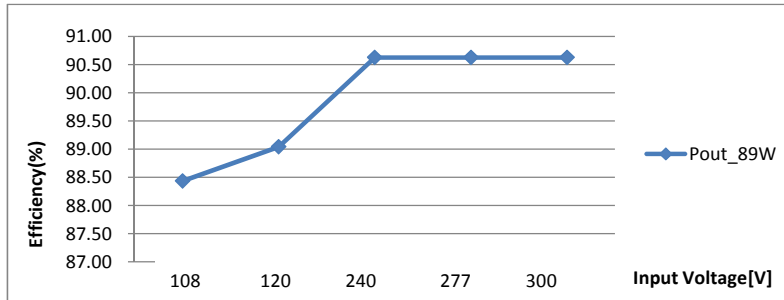
PSDV900103U

Life Time vs Tcase_Typical Load

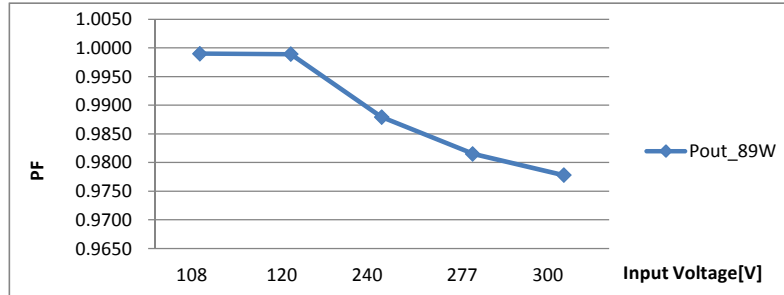


Remark) LED Driver has a rated lifetime of 50,000 hours @ $T_c \leq 75^\circ\text{C}$

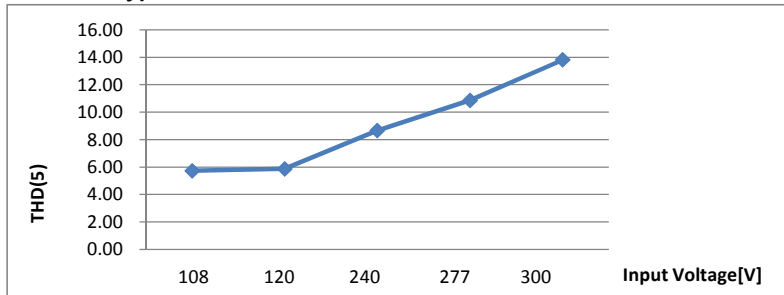
Efficiency(%)_Typical Load



Power Factor_Typical Load



THD(%)_Typical Load



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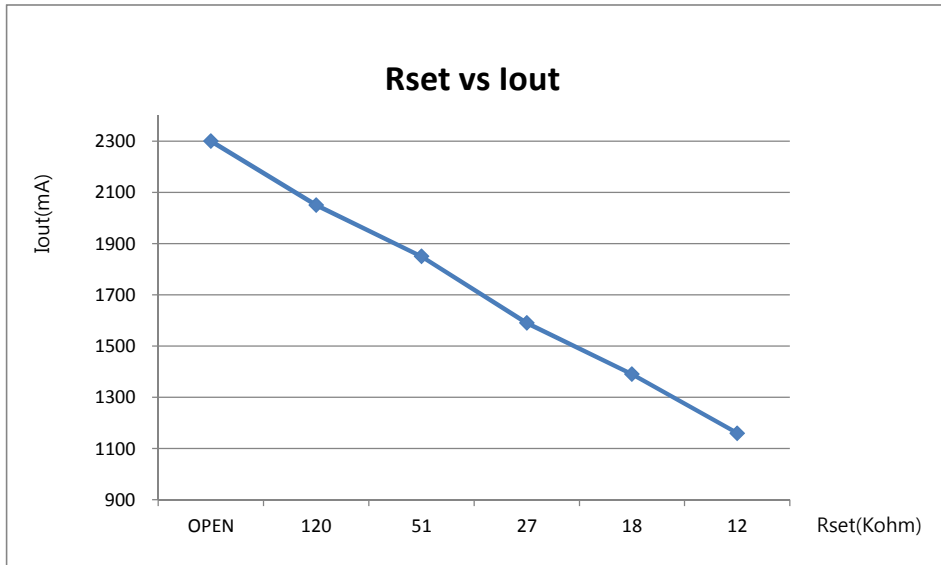
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90W Single Output Switching Power Supply

PSDV900103U

■ Rset vs. Electrical Characteristics(at 240Vac)

Rset [kΩ]	Input					Output			
	Vltg [V]	Crnt [A]	PF	THD [%]	Power[W]	Vltg [V]	Crnt [A]	Power[W]	Efficiency [%]
(Open)	240	0.404	0.9896	6.93	98.30	38.87	2.300	89.40	90.95
120	240	0.361	0.9880	7.98	85.30	37.75	2.050	77.39	90.72
51	240	0.316	0.9855	9.90	74.70	36.51	1.850	67.54	90.42
27	240	0.266	0.9816	12.59	62.10	35.03	1.590	55.70	89.69
18	240	0.227	0.9770	15.35	53.00	33.82	1.390	47.01	88.70
12	240	0.189	0.9703	18.63	43.25	32.52	1.160	37.72	87.22

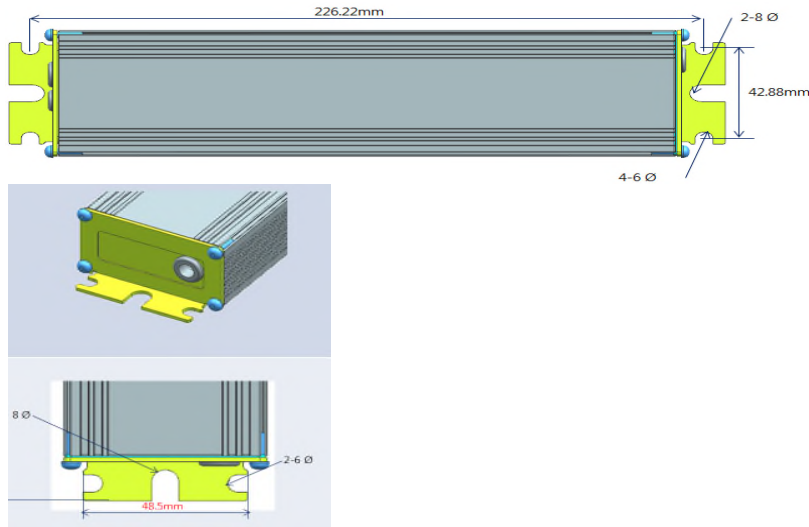


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■ Mechanical Specification

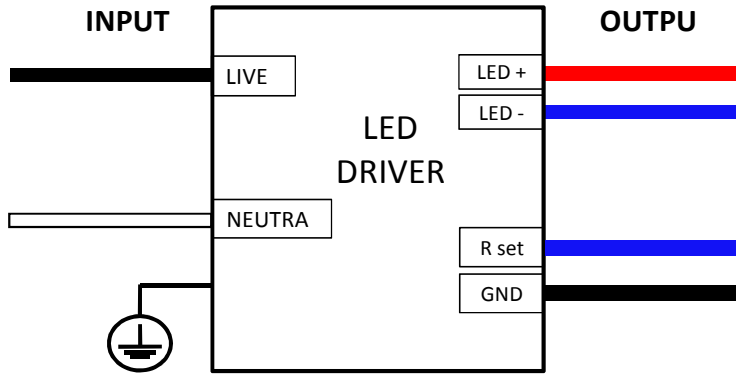


■ Enclosure Size

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

■ Wiring Diagram



Remark) Output wiring specifications can be changed.

■ Rating Label Drawing

	LED Electronic Driver Model : PSDV900103U		DIAGRAM OF INPUT/OUTPUT CONNECTION:
<small>INPUT : 120-277 V~, 50/60 Hz, 120 W, Max 1.2 A, λ(PF)=0.9 OUTPUT : 34-42 V \pm / 2300 mA(constant current type) $t_c=85^\circ\text{C}$</small>	<small>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.</small>	<small>IC</small>	 <small>Suitable for Class 2 Wiring E321686</small>
<small>Made in China Dongguan SAMSUNG ELECTRO-MECHANICS Technical Support : www.sem.samsung.com</small>			

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