

PRODUCT SPECIFICATION

Product Model: 25 W —PPL25W

Version Number: V3.1

Created	Validated	Approved
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Version	Description of change	Date
V3.1	1.Output Voltage changed to 9-42V.	2023-04-19

25W —PPL25W Series Mini. Size, High efficiency, No flicker, Constant current LED driver

PPL25W230 series drive is a high performance LED drive power supply, using constant current output control, Safety isolation, lowest output ripple.

Key Features

- Drive Mode: No Flicker Constant Current
- Technology: Boost + Flyback Technology
- Input Voltage: 220 to 240Vac (Max. Range: 198~264Vac)
- Output Frequency: 47-63Hz
- Output Power: 25Watt Max.
- Output Voltage: 9Vdc to 42Vdc
- Output Current: 450mA to 600mA (2 DIP, 4 current outputs)
- Efficiency: Up to 88%
- Warranty: 3 years

Special Features

- No flicker constant current.
- A rated lifetime of 30,000 hours @ Tc = 80 °C.
- Safety isolation between primary and secondary.
- Surge: AC Power Line: line to line 1KV/2Ω 8/20us.
- Accord to RoHS Standard.
- IP20, Suitable for use in dry environment.
- Suitable for Class II luminaries.

Electrical Parameter

Model	Max. output Power	Output Voltage Range	Output Current	Current Accuracy	Max.Eff.
PPL25W-42-C0600-D-A	25W	9-42Vdc	600mA	±5%	88%
PPL25W-42-C0600-D-B	25W	9-42Vdc	600mA	±5%	88%
PPL23W-42-C0550-A	23W	9-42Vdc	550mA	±5%	87.8%
PPL23W-42-C0550-B	23W	9-42Vdc	550mA	±5%	87.8%
PPL21W-42-C0500-A	21W	9-42Vdc	500mA	±5%	87.5%
PPL21W-42-C0500-B	21W	9-42Vdc	500mA	±5%	87.5%
PPL19W-42-C0450-A	19W	9-42Vdc	450mA	±5%	87%
PPL19W-42-C0450-B	19W	9-42Vdc	450mA	±5%	87%

Note: "-A": EMI uses Class I/Class II test - the product input has a common mode inductor, "-B": EMI uses Class II test, the product input lacks a common mode inductor, "-D": The model with DIP switch to change the current, no "-D" is a constant current product.

Enclosure



Size	Unit	Inch	Millimeter
Case Length		5.00	127.0
Case Width		1.54	39.0
Case Height		0.98	25.0
Mounting Length		3.06	77.8

Programmable Output Parameters with DIP

Model	Output Voltage Range	Output Current	DIP1	DIP2	Current Accuracy	Output Power	Max. Eff.
PPL25W-42-C0600-D-A PPL25W-42-C0600-D-B	9-42Vdc	600mA	ON	ON	±5%	25W	88%
		550mA	ON	OFF	±5%	23.1W	87.8%
		500mA	OFF	ON	±5%	21W	87.5%
		450mA	OFF	OFF	±5%	18.9W	87%

Input Specifications

Parameter	Min.	Typ.	Max.	Notes /Conditions
Input Voltage	198Vac	---	264Vac	
Input Frequency	47Hz	50/60 Hz	63Hz	
Input AC Current	---	---	0.15A	Measured at 230Vac 50/60Hz Input, Output Full Load.
No-load power	---	---	0.5W	No-load.
Inrush Current (Peak)	---	15A / 350uS	---	Measured at 50% Ipeak & 240Vac / 50Hz Input, Output Full Load
Leakage Current	---	---	2mA	Measured at 230Vac Input, Output Full Load.
THD	---	---	20%	Measured at 230Vac Input, Output Full Load.
Power Factor (PF)	0.9	---	---	Measured at 230Vac Input, Output Full Load.

Output Specifications

Parameter	Min.	Typ.	Max.	Notes /Conditions
DC Output Voltage	Per Table	Per Table	Per Table	Per Tables on Page 1
PPL25W-42-C0600-D-A PPL25W-42-C0600-D-B	-5%	600mA	+5%	Pin1-ON, Pin2-ON.
		550mA		Pin1-OFF, Pin2-ON.
		500mA		Pin1-ON, Pin2-OFF.
		450mA		Pin1-OFF, Pin2-OFF.
PPL23W-42-C0550-A	-5%	550mA	+5%	"-D": The model with DIP switch to change the current, no "-D" is a constant current product.
PPL23W-42-C0550-B		550mA		
PPL21W-42-C0500-A		500mA		
PPL21W-42-C0500-B		500mA		
PPL19W-42-C0450-A		450mA		
PPL19W-42-C0450-B		450mA		
Output Power	---	---	Per Table	Per Tables on Page 1
Flickering Index (Vpk-pk)	---	---	1% Vo	Output Full Load. 20MHz BW, Full load output in parallel with 0.1uF & 10uF CAP. Flickering Index is defined as $[(Y_{max}-Y_{min})/(Y_{max}+Y_{min})] * 100\%$. Y may be V or I
Flickering Index (Ipk-pk)	---	---	1% Io	
Line Regulation	-5%	---	+5%	Measured at 220, 230, 240Vac / 50Hz Input, Output Full Load
Load Regulation	-5%	---	+5%	Measured at 220, 230, 240Vac / 50Hz Input, Output Full Load
Start-up Time	---	100ms	500ms	Measured at 220, 230, 240Vac / 50Hz Input, Output Full Load
Output Overshoot	-2%	---	+10%	Measured at 220, 230, 240 Vac Input, When power on or off

Protection Specifications

Parameter	Min.	Typ.	Max.	Notes /Conditions
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Output Short Circuit (SCP)	---	---	---	No Damage. Auto recovery after short is removed.
Output Over Current (OCP)	---	---	+10% Io	Constant Current Limiting circuit.
Output Over Voltage (OVP)	---	---	120% Vo	No Damage. Auto recovery after the abnormal disappearance.

General Specifications

Parameter	Typ.	Notes /Conditions
Cooling	Convection	
MTBF	410,000 hours	Measured at 230Vac input, 100% Load and Ta=25°C(MIL-HDBK-217F)
Life Time	30,000 hours	Measured at 230Vac input, 100% Load and TC=80°C
Noise	< 24 dBA	Class A, no more than one meter away.

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes /Conditions
Operating Temperature (Ta)	-20°C	---	+50°C	@230Vac. This is a reference range. Tc controls temperature range.
Case Temperature (Tc)	-20°C	---	+90°C	Measured at location specified on case.
Storage Temperature (Ts)	-25°C	---	+85°C	Non operating temperature range.
Operating Humidity	5% RH	---	95% RH	Relative Humidity. Non-condensing.
Vibration	5Hz	---	55Hz	2G, 10 minutes / 1 cycle, period 30 minutes, each along X, Y, Z axis.

Safety Compliance

Safety Category	Standards / Notes
Withstand Voltage	Input to Output 3750Vac
Case – Output	1.5KVac
Case - Input	1.5KVac
Isolation Resistance	Input to Output > 10MΩ, 500Vdc @ 25°C, 70% RH.

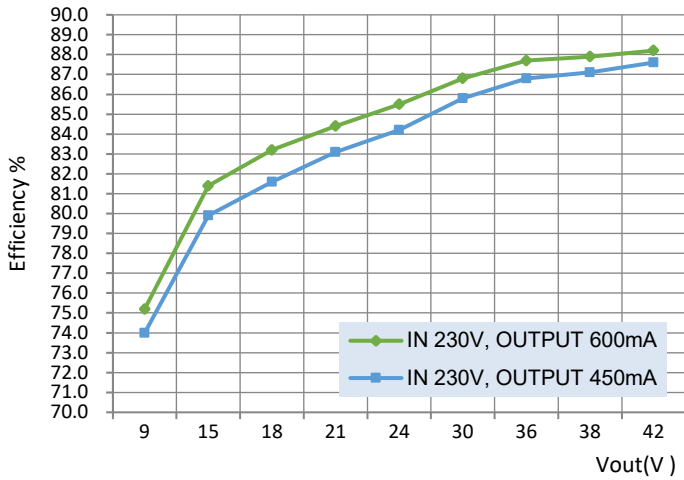
EMC Compliance

EMI Category	Standards
CCC	GB19510.14-2009, GB19510.1-2009
CE	EN55015:2013+A1:2015, EN 61000-3-2:2014, EN 61000-3-3:2013.
EMS Category	Notes
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 1.0 KV/2Ω
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61547	Electromagnetic Immunity Requirements Applies to Lighting Equipment

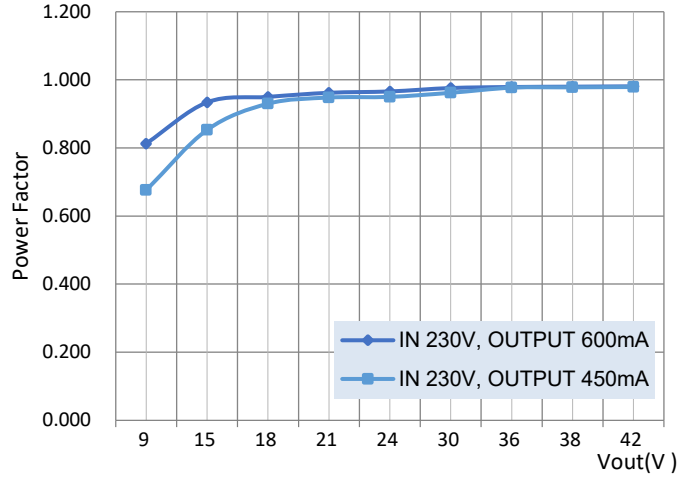
Note: The above test data were carried out under the Ta=25°C except the labeled temperature.

Characteristic Curve

Typical Efficiency vs. Vout at 25°C Ambient Temp

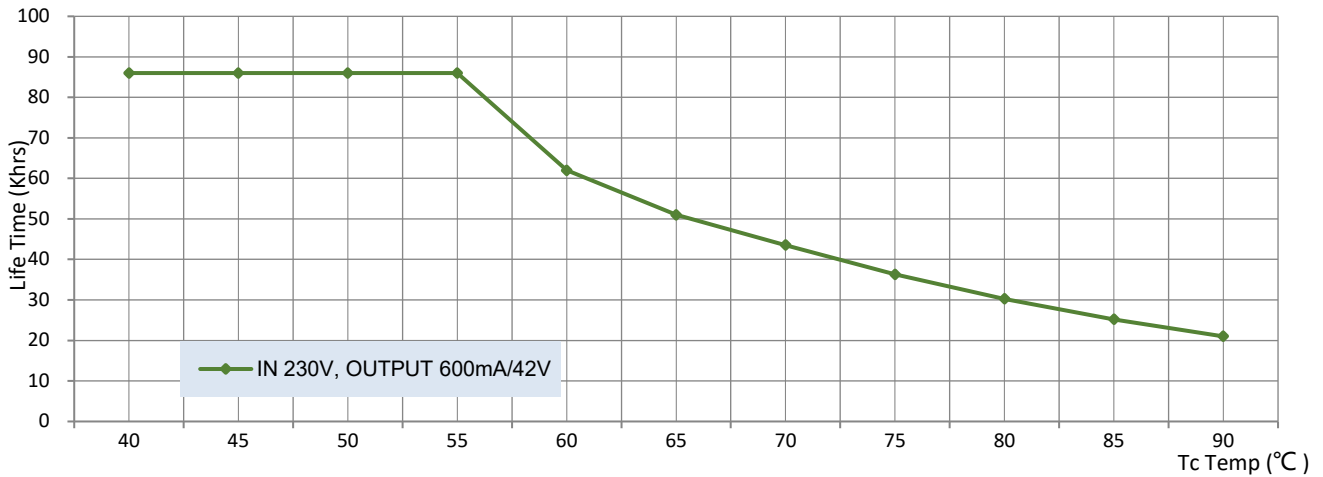


Typical PFvs.Pout at 25°C Ambient Temp



Lifetime Curve

Life Time vs. Tc & Ta Temp



Installation

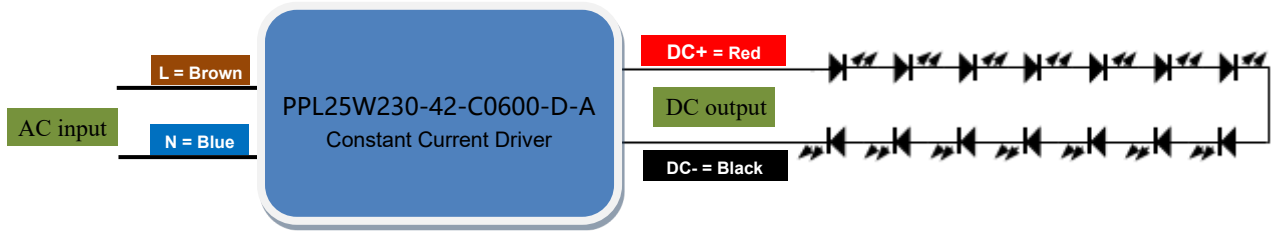
AC input wires cross section: 0.75-1.5²

DC output wires cross section: 0.5-1.5²

This product for indoor use only, it can be installed and fixed in the luminaires, connected with the wire. The max length of output line should be less than 2m.

Note: Since the DC output line is permanently connected and shorter than 3 m, therefore the disturbance voltage of local wired port shall not be required.

Typical Applications Connection diagram



Order ID

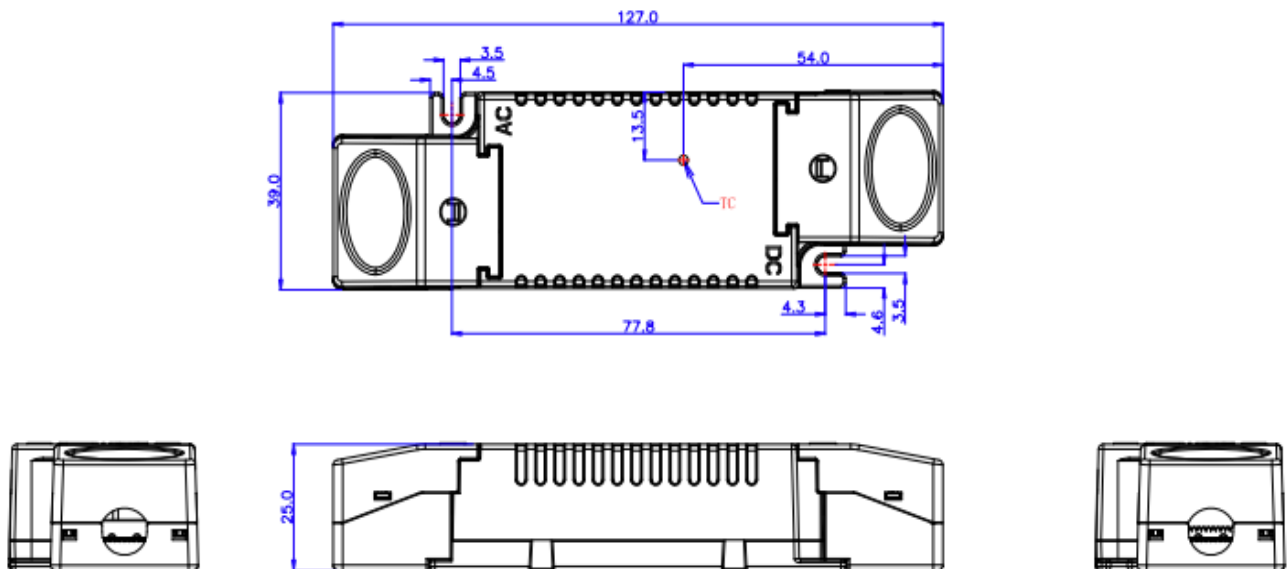
1. P/N: PPL25W230-42-C0600-D-A

Description: 25W, Max. 42Vdc, Constant current value is 600mA, constant current mode.

2. P/N: PPL25W230-42-Cxxxx-x

Note: 25W, Max. 42Vdc, Constant current value is 450-600mA, constant current mode.

Product Size



Note:

- The independent LED drive conforms to the EMC standard. But it is not guaranteed to be qualified, when the drive is mounted in the LED fixture.
- Please forgive us for any discrepancy due to the update of the specifications or the upgrade of the product. If you need the latest information, please contact our marketing department.