

**KEY FEATURES**

- Open Frame LED Power Supply
- With Constant Current & Constant Voltage (C.C+C.V mode)
- Universal Input: 100-277 VAC
- With P.F.C. Function, PF>0.9
- High Efficiency up to 90%
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.0 x 2.0 x 1.12 Inches
- 3-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

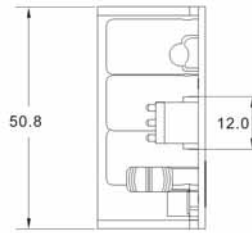
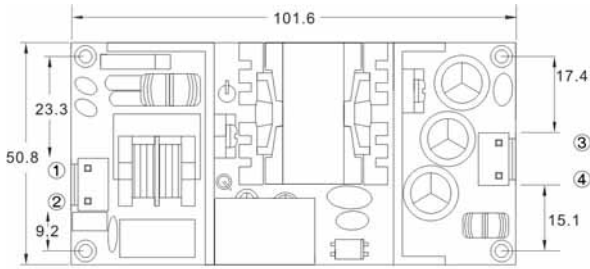
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	ZLF60-13.5S	ZLF60-24S	ZLF60-28S	ZLF60-42S	ZLF60-54S		
Max output wattage ( W )	60W						
Input	Voltage (Note2)		90-295 VAC				
	Frequency (Hz)		50 / 60 Hz				
	Power factor		PF>0.9 at Full load (115 VAC / 230 VAC)				
	Current (Full load)		0.8A max. (115 VAC) / 0.4A max. (230 VAC)				
	Inrush current		50 A max. (Cold Start at 230 VAC)				
	Leakage Current		< 0.7 mA max at 240 VAC				
Output	Voltage (V.DC.)		13.5V	24V	28V	42V	54V
	Constant Current Operation Voltage (max) (CC Mode) (Note3)		11~13.5 VDC	18~ 24 VDC	21~28 VDC	33.5~ 42 VDC	38~54 VDC
	Voltage Tolerance		±10%				
	Preset Current (mA) (CC Mode)		4200	2400	2100	1400	1050
	Current Adjustment Range (mA) (CC Mode)		3570~4200	1700~2500	1400~2100	1100~1400	700~1100
	Minimum Load (mA)		3570	1700	1400	1100	700
	Line Regulation (100-277VAC) (typ.)		±4%				
	Load Regulation (Min-Max) (typ.)		±5%				
	Ripple & Noise (max)		4Vp-p	4.5Vp-p	5Vp-p	5Vp-p	5Vp-p
	Efficiency (at 230VAC.)(typ)		85%	88%	89%	89%	90%
Protection	Over current protection		Auto recovery				
	Over voltage protection		Zener diode clamp				
	Short circuit protection		Auto recovery				
Isolation	Input-Output (V.AC)		3750V				
	Input-FG (V.AC)		1880V				
	Output-FG (V.AC)		500V				
Environment	Operating temperature		-30°C...+70°C (with derating)				
	Storage temperature		-40°C...+85°C				
	Temperature coefficient		0.02%/°C				
	Humidity		95% RH				
	MTBF		>583,000 h @ 25°C (MIL-HDBK-217F)				
Physical	Dimension (L x W x H)		4.0 x 2.0 x 1.12 Inches ( 101.6 x 50.8 x 28.5 mm ) Tolerance ±0.5 mm				
	Weight		g				
	Cooling method		Free air convection				
Safety	Agency Approvals		UL8750、IEC / EN 61347-2-13、 IEC / EN 61347-1 (Pending)				
EMC	EMI (Conducted & Radiated Emission)		EN 55015 (Pending)				
	EMS (Noise Immunity)		EN 61547 (Pending)				
	Harmonic Current		EN 61000-3-2(at Full Load)、EN 61000-3-3 (Pending)				
	Surge		2KV L-L, 4KV L-E				

**Note:**

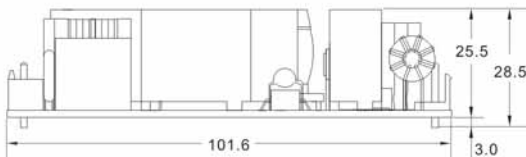
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please check the derating curve for more details.
3. Input Voltage=115 or 230 VAC. This is the suitable operation region for LED related application.but please reconfirm special electrical requirements for some specific ststem design.

**MECHANICAL DIMENSION ( Top View )**

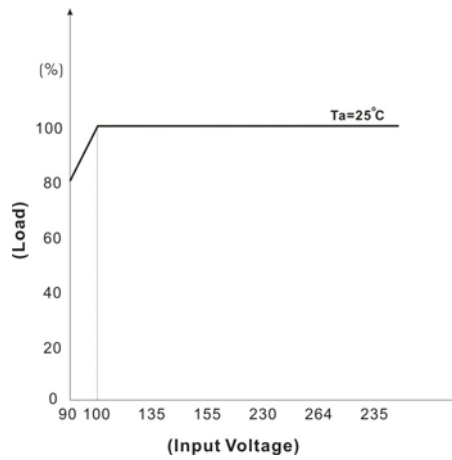
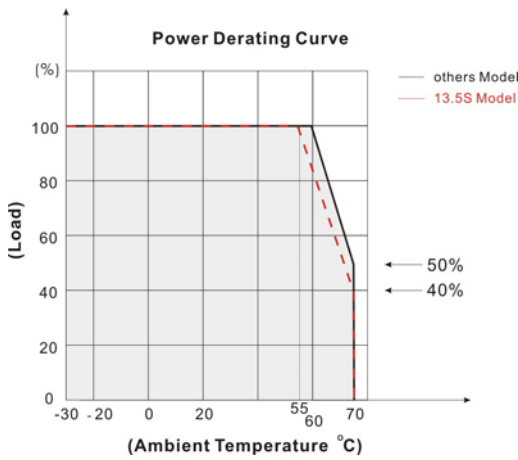


PIN#	SINGLE
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT

Tolerance  $\pm 0.5$  mm



**DERATING**



**BLOCK DIAGRAM**

