

## KEY FEATURES

- Open Frame LED Power Supply
- With Constant Current & Constant Voltage (C.C+C.V mode)
- Universal Input: 100-240 VAC
- With P.F.C. Function, PF>0.9
- 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
- 2-Years Product Warranty



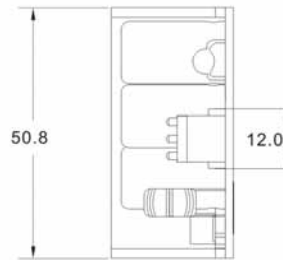
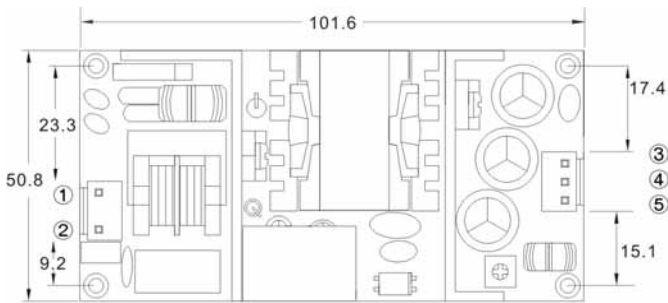
## ELECTRICAL SPECIFICATIONS

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

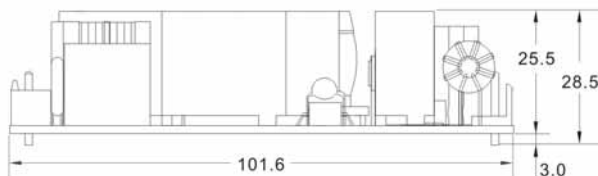
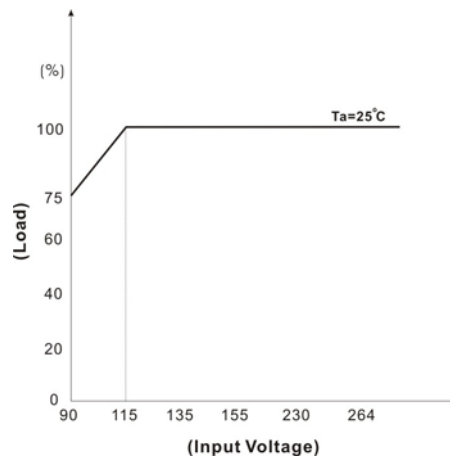
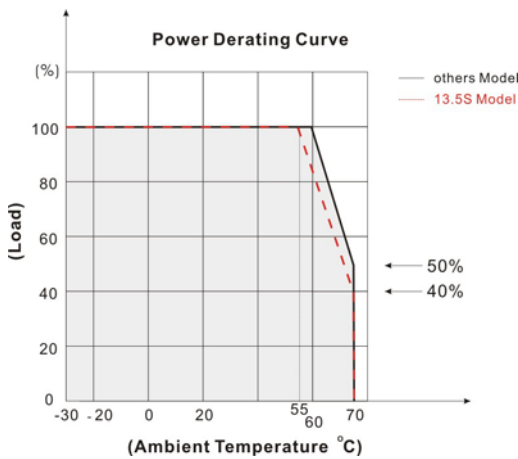
Model No.	ZQF60(R)-13.5S 4200	ZQF60(R)-24S 1700	ZQF60(R)-28S 1400	ZQF60(R)-28S 2100	ZQF60(R)-48S 1050	ZQF60(R)-54S 700	ZQF60(R)-54S 1050	
Max output wattage ( W )	60W							
Input	Voltage (Note2)	90-264 VAC						
	Frequency (Hz)	50 / 60 Hz						
	Power factor	PF>0.9 at Full load (115 VAC / 230 VAC)						
	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 / 63 Hz						
Output	Voltage (V.DC.)	13.5V	24V	28V	28V	48V	54V	54V
	Constant Current Operation Voltage (max) (CC Mode) (Note3)	11~13.5 VDC	17~ 24 VDC	21~28 VDC	21~28 VDC	33.5~ 48 VDC	38~54 VDC	38~54 VDC
	Voltage Tolerance	±10%						
	Preset Current (mA) (CC Mode)	4200	2400	1400	2100	1050	700	1050
	Current Adjustment Range (mA) (CC Mode)	3570~4200	1700~2500	1400~2100	1400~2100	825~1250	700~1100	700~1100
	Minimum Load (mA)	3570	1700	1400	1400	825	700	700
	Line Regulation (115-230VAC) (typ.)	±4%						
	Load Regulation (Min-Max) (typ.)	±5%						
	Ripple & Noise (max)	4Vp-p	4.5Vp-p	5Vp-p	5Vp-p	5Vp-p	5Vp-p	5Vp-p
	Efficiency (at 230VAC.) (typ)	85%	87%	89%	89%	89%	89%	89%
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	165 g						
	Cooling method	Free air convection						
Safety	Agency Approvals	Design refer to UL8750, EN61347-2-13						
EMC	EMI (Conducted & Radiated Emission)	Design refer to EN 55015						
	EMS (Noise Immunity)	Design refer to EN 61547						
	Harmonic Current	Design refer to EN 61000-3-2(at Full Load) 、 EN 61000-3-3						

**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 system design.

**MECHANICAL DIMENSION ( Top View )**


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

 Tolerance  $\pm 0.5$  mm

**DERATING**

**BLOCK DIAGRAM**
