

## KEY FEATURES

- Open Frame LED Power Supply
- With Constant Current & Constant Voltage (C.C+C.V mode)
- Dimming function: 0~10VDC & PWM Duty Controlled
- 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



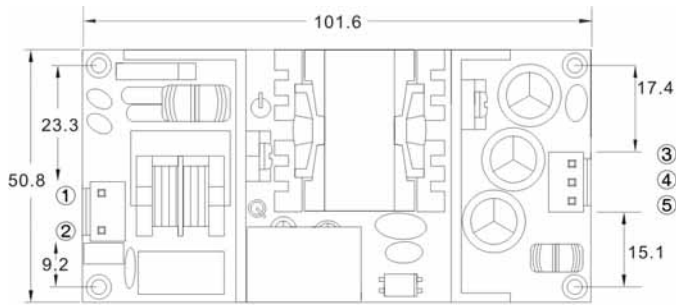
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	ZQF30-13.5S	ZQF30-24S	ZQF30-48S	ZQF30-54S	
Max output wattage ( W )	30W				
Input	Voltage (Note2)	90-264 VAC			
	Frequency (Hz)	47-63 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	< 0.75 mA max at 240 VAC / 63 Hz			
Output	Voltage (V.DC.)	13.5V	24V	48V	54V
	Constant Current Operation Voltage (CC Mode) (Note3)	11~13.5VDC	17~ 24VDC	33.5~ 48VDC	38~54VDC
	Voltage Tolerance	±10%			
	Current Adjustment Range (mA) (CC Mode)	2000 ~ 2400	940 ~ 1250	525 ~ 700	470 ~ 625
	Minimum Load (mA)	2000	940	525	470
	Line Regulation (115-230) (typ.)	±4%			
	Load Regulation (Min-Max) (typ.)	±5%			
	Ripple & Noise (max)	4Vp-p	4.5Vp-p	5Vp-p	5Vp-p
Efficiency (at 230VAC.) (typ)	85%	87%	89%	89%	
Protection	Over current protection	Auto recovery			
	Over voltage protection	Zener diode clamp			
	Short circuit protection	Auto recovery			
Isolation	Input-Output (V.AC)	3000V			
	Input-FG (V.AC)	1500V			
	Output-FG (V.AC)	500V			
Environment	Operating temperature	-25°C...+70°C (with derating)			
	Storage temperature	-40°C...+85°C			
	Temperature coefficient	0.02%/°C			
	Humidity	95% RH			
	MTBF	>300,000 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	300 g			
	Cooling method	Free air convection			
Safety	Agency Approvals	Design refer to UL60950-1, UL8750, EN61347-2-13 (Pending)			
EMC	EMI (Conducted & Radiated Emission)	Design refer to EN 55015 (Pending)			
	EMS (Noise Immunity)	Design refer to EN 61547 (Pending)			
	Harmonic Current	Design refer to EN 61000-3-2 · EN 61000-3-3 (Pending)			

**Note:**

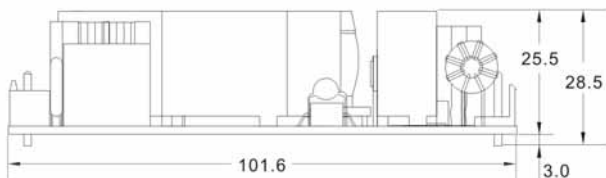
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please check the derating curve for more details.
3. Input Voltage=115 or 230 VAC. This is the suitable operation region for LED related application. but please reconfirm special electrical requirements for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

**MECHANICAL DIMENSION ( Top View )**



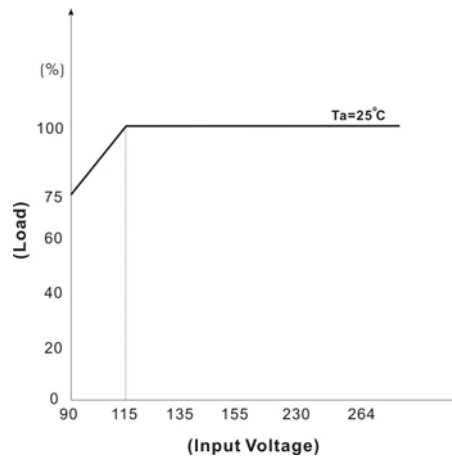
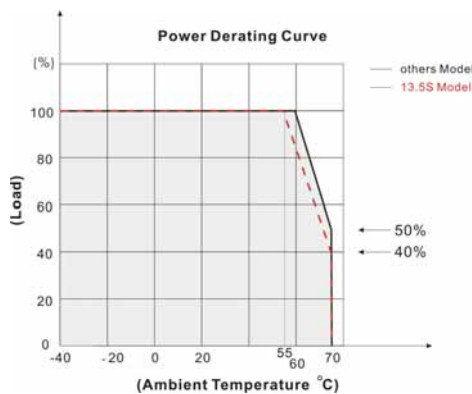
PIN#	SINGLE
1	AC IN (N)
2	AC IN (L)
3	+Dim
4	+DC OUT
5	-DC OUT

Tolerance ±0.5 mm

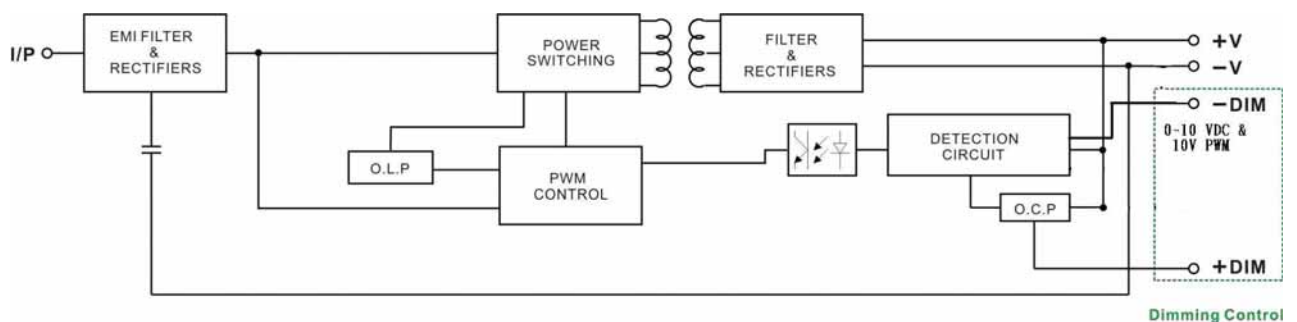


**DERATING**

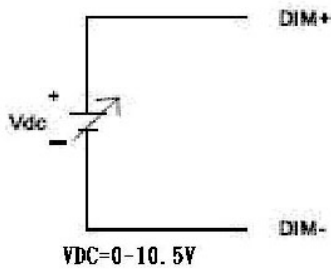
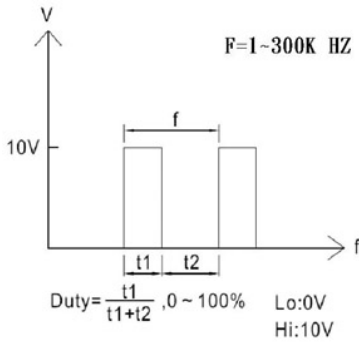
(13.5S=>100%=56.7W, Other=>100%=60W)



**BLOCK DIAGRAM**



**DIMMING CONTROL ( CC Mode )**



ZQF30-13.5

ZQF30-24S	ZQF30-28S

ZQF30-48S	ZQF30-54S