

KEY FEATURES

- Open Frame LED Power Supply
- With Constant Current & Constant Voltage (C.C+C.V mode)
- Dimming fuction: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



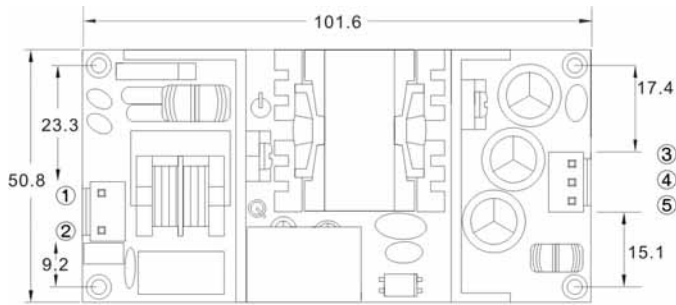
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	ZQF60-13.5S	ZQF60-24S	ZQF60-28S	ZQF60-48S	ZQF60-54S	
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	48V	54V
	Constant Current Operation Voltage (max) (CC Mode) (Note3)	11~13.5VDC	17~ 24VDC	21~28VDC	33.5~ 48VDC	38~54VDC
	Voltage Tolerance	±10%				
	Current Adjustment Range (mA) (CC Mode)	3570 ~ 4200	1700 ~ 2500	1400 ~ 2100	825 ~ 1250	700 ~ 1100
	Minimum Load (mA)	3570	1700	1400	825	700
	Line Regulation (115-230) (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%	87%	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 (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(at Full Load) · EN 61000-3-3 (Pending)				

Note:

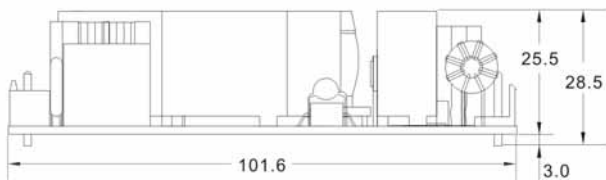
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please check the derating curve for more details.
3. Input Voltage=115 or 230 VAC. This is the suitable operation region for LED related application. but please reconfirm special electrical requirements for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

MECHANICAL DIMENSION (Top View)

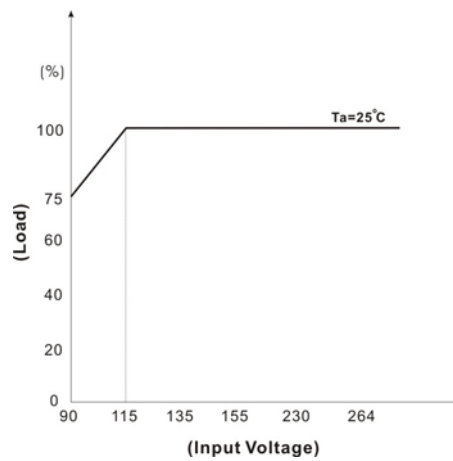
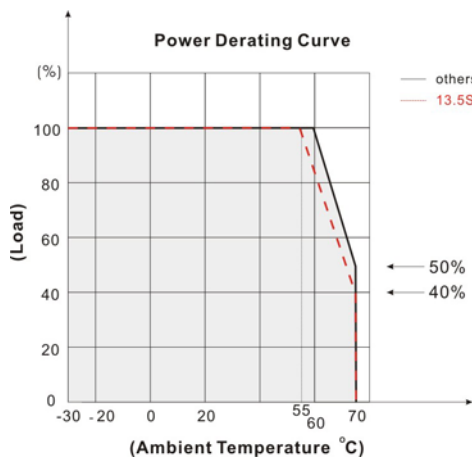


PIN#	SINGLE
1	AC IN (N)
2	AC IN (L)
3	+Dim
4	+DC OUT
5	-DC OUT

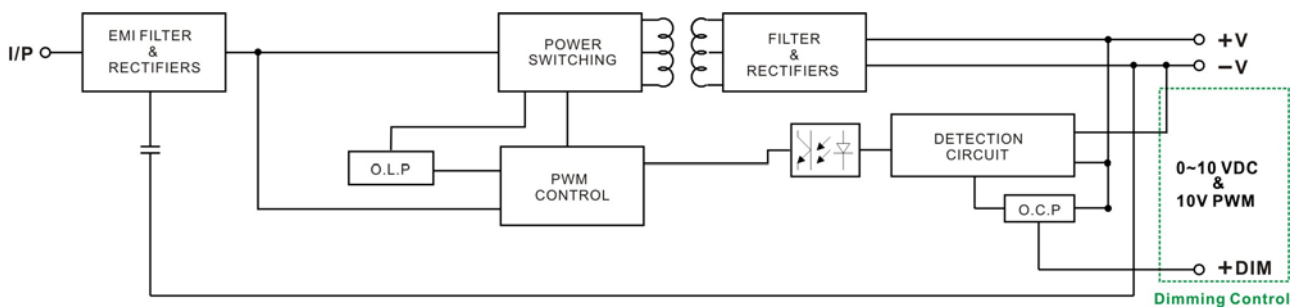
Tolerance ±0.5 mm



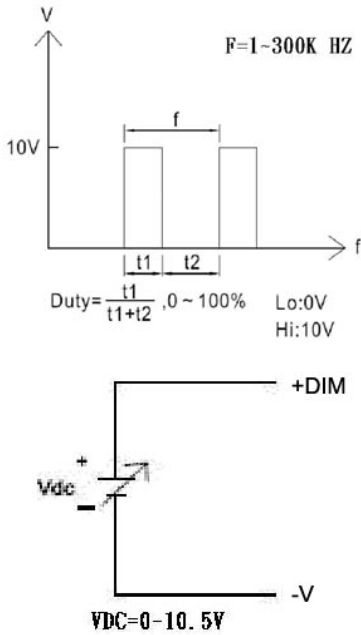
DERATING



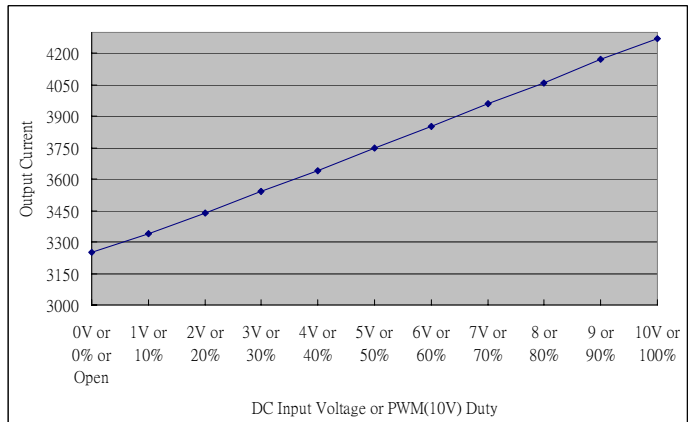
BLOCK DIAGRAM



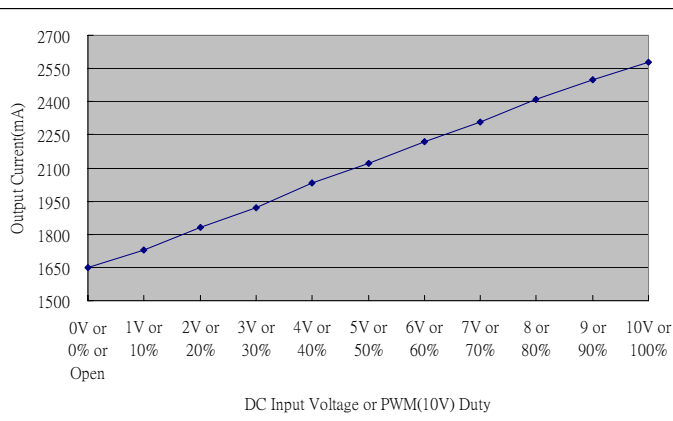
DIMMING CONTROL (CC Mode) (at 230VAC)



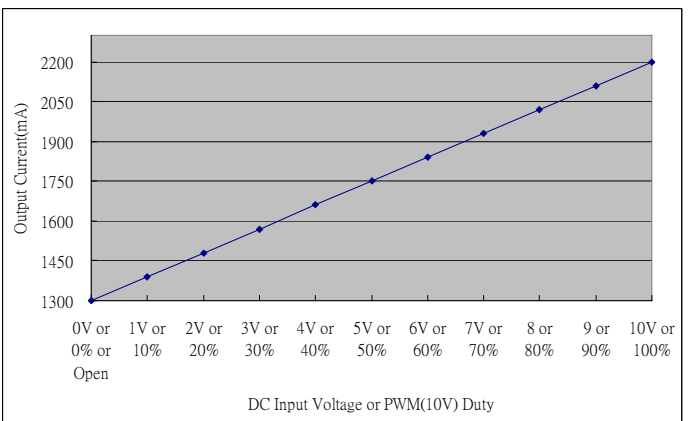
ZQF60-13.5



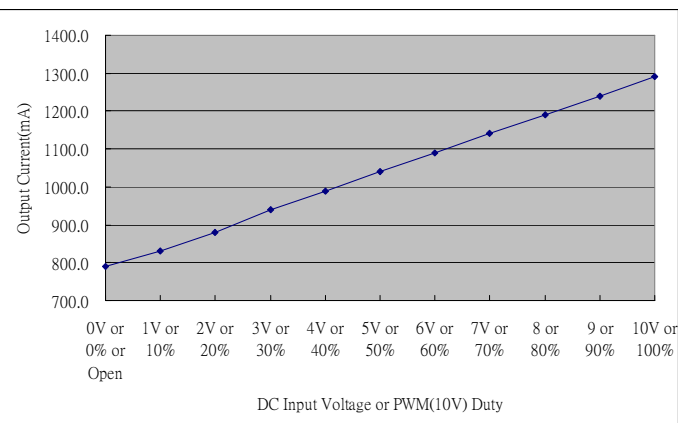
ZQF60-24S



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