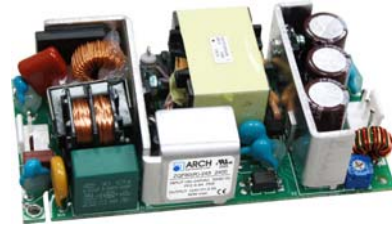


## KEY FEATURES

- 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
- 3-Year Product Warranty



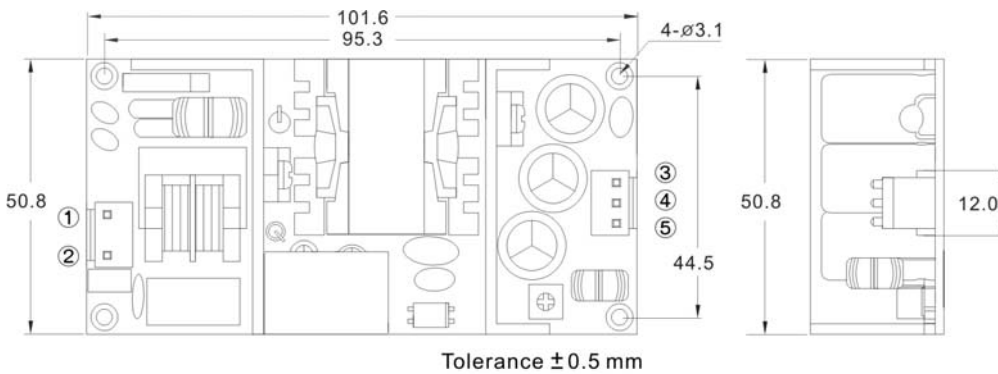
## ELECTRICAL SPECIFICATIONS

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

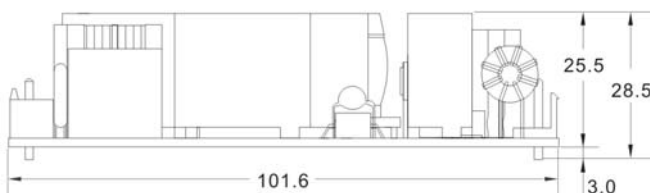
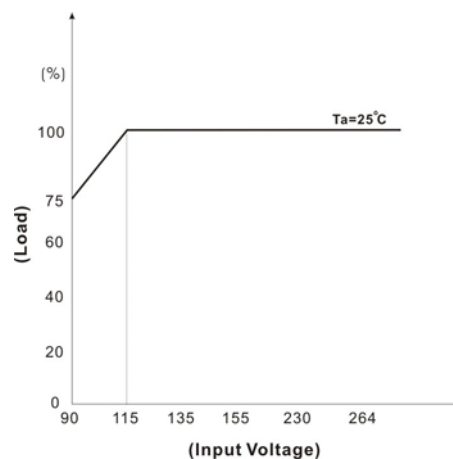
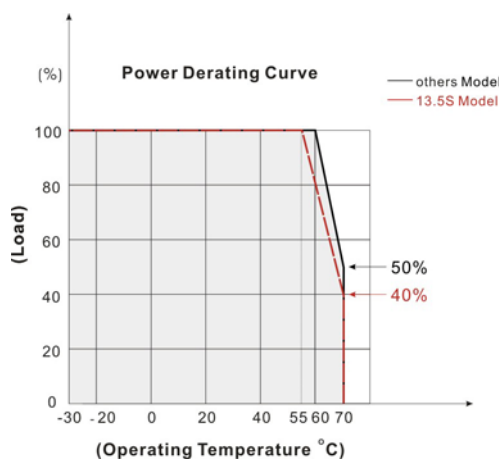
Model No.	ZQF60(R)-13.5S 4200	ZQF60(R)-24S 1700	ZQF60(R)-28S 1400	ZQF60(R)-28S 2100	ZQF60(R)-48S 1050	ZQF60(R)-54S 700	ZQF60(R)-54S 1050	
Max output wattage ( W )	60W							
Input	Voltage (Note2)	90-264 VAC						
	Frequency (Hz)	50 / 60 Hz						
	Power factor	PF>0.9 at Full load (115 VAC / 230 VAC)						
	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	UL8750、IEC / EN 61347-2-13、 IEC / EN 61347-1						
EMC	EMI (Conducted & Radiated Emission)	EN 55015						
	EMS (Noise Immunity)	EN 61547						
	Harmonic Current	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.
4. Please contact us for more information.
5. It's recommended to add Varistor 14S471K at L / N input side in parallel.
6. This driver is suggested for LED application only.
7. Direct connection to LEDs is suggested. Connecting additional drivers would not be appropriate.

**MECHANICAL DIMENSION ( Top View )**


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


**DERATING**

**BLOCK DIAGRAM**
