

## 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
- 3-Years Product Warranty



## ELECTRICAL SPECIFICATIONS



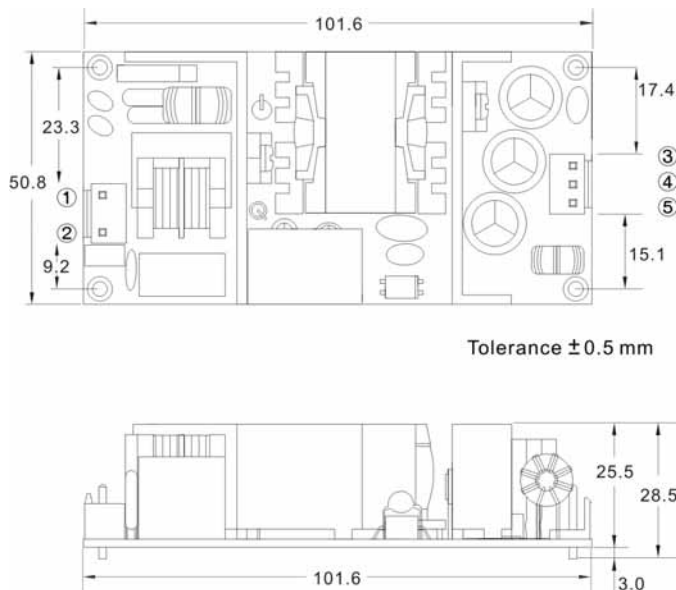
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No.                |                                                            | ZQF30-13.5S                                                          | ZQF30-24S   | ZQF30-48S |
|--------------------------|------------------------------------------------------------|----------------------------------------------------------------------|-------------|-----------|
| Max output wattage ( W ) |                                                            | 31.4W                                                                | 33.6W       | 33.6W     |
| 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)                                        | 0.4A max. (115 VAC) / 0.2A max. (230 VAC)                            |             |           |
|                          | Inrush current                                             | 40 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         | 48V       |
|                          | Constant Current Operation Voltage (max) (CC Mode) (Note3) | 11~13.5VDC                                                           | 18~ 24VDC   | 36~ 48VDC |
|                          | Voltage Tolerance                                          | ±10%                                                                 |             |           |
|                          | Current Adjustment Range (mA) (CC Mode)                    | 1700 ~ 2330                                                          | 1050 ~ 1400 | 525 ~ 700 |
|                          | Minimum Load (mA)                                          | 1700                                                                 | 1050        | 525       |
|                          | Line Regulation (115-230) (typ.)                           | ±4%                                                                  |             |           |
|                          | Load Regulation (Min-Max) (typ.)                           | ±5%                                                                  |             |           |
|                          | Ripple & Noise (max)                                       | 2.4Vp-p                                                              | 2.4Vp-p     | 4.8Vp-p   |
|                          | Efficiency (at 230VAC.)(typ)                               | 85%                                                                  | 88%         | 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                                           | 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:

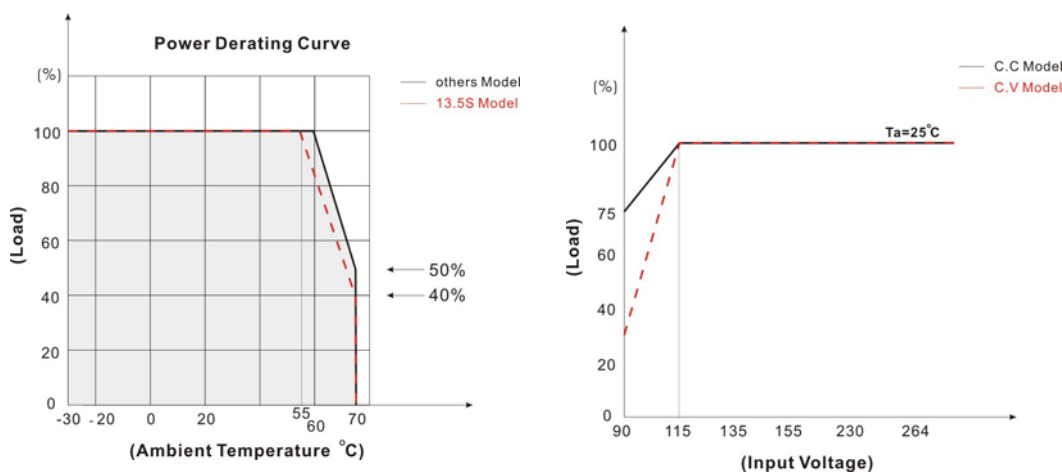
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please check the derating curve for more details.
3. Input Voltage=115 / 230 VAC. This is the suitable operation region for LED related application. but please reconfirm special electrical requirements for some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

### MECHANICAL DIMENSION ( Top View )

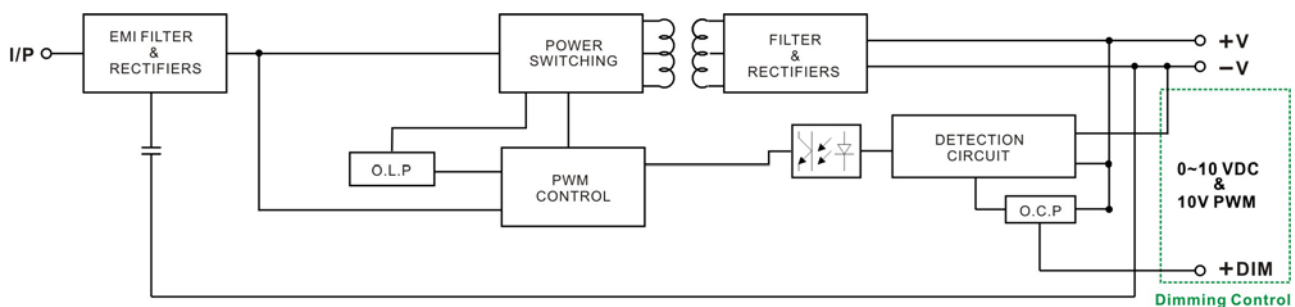


| PIN# | SINGLE    |
|------|-----------|
| 1    | AC IN (N) |
| 2    | AC IN (L) |
| 3    | +Dim      |
| 4    | +DC OUT   |
| 5    | -DC OUT   |

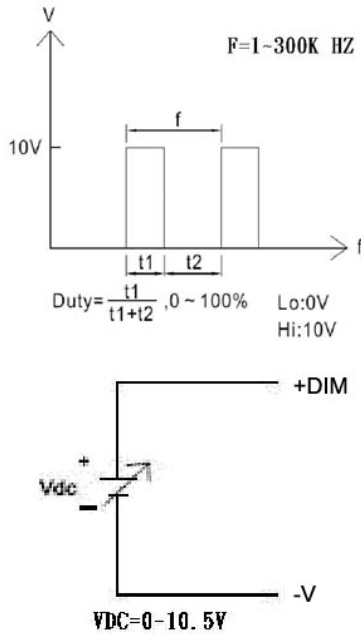
### DERATING



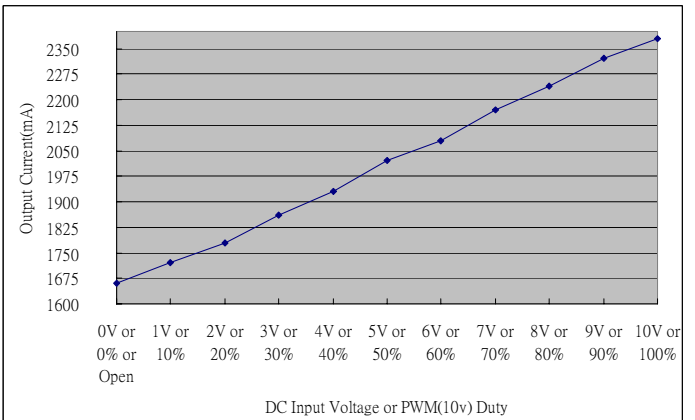
### BLOCK DIAGRAM



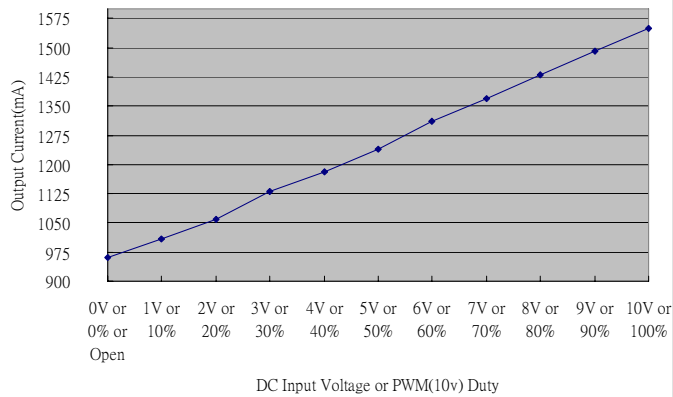
# DIMMING CONTROL ( CC Mode ) ( at 230VAC )



## ZQF30-13.5



## ZQF30-24S



## ZQF30-48S

