

**KEY FEATURES**

- Low Cost But High Reliability
- With Constant Current
- Isolation Class II
- Open Frame Switching Power Supply
- Universal Input: 90-264 VAC
- Single and Dual Output
- 3000 VAC Input to Output Isolation
- 2-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

Model No. ( Single Output )	ZQ60-5S	ZQ60-12S	ZQ60-15S	ZQ60-24S	ZQ60-48S
Max output wattage ( W )	50W	60W	60W	60W	60W
Input	Voltage				
	90-264 VAC or 100-375 VDC				
	Frequency (Hz)				
	47-440 Hz				
	Current (Full load)				
	2.0A max. (115 VAC) / 1.0A max. (230 VAC)				
Inrush current (<2ms)					
30 A max. (115 VAC) / 60 A max. (230 VAC)					
Leakage Current					
< 0.5 mA max					
External fuse (recommend)					
3.15 A slow blow type					
Output	Voltage (V.DC.)				
	5V	12V	15V	24V	48V
	Voltage set accuracy				
	±2%				
	Current (mA) max				
	10,000	5000	4000	2500	1250
	Maximum capacitive load				
	470-23,000µF depending on model				
	Line regulation (Typ.)				
	0.5%				
	Load regulation(10-100%) (Typ.)				
	1%				
Minimum load					
0%					
Maximum capacitive load					
470-23,000µF depending on model					
Ripple & Noise					
< 1% Vout					
Efficiency (Typ)					
80%	84%	84%	85%	84%	
Hold-up time					
18 ms min.					
Switching frequency					
65 KHz					
Protection	Over current protection				
	Above 105% rated output power				
	Over voltage protection				
Zener diode clamp					
Short circuit protection					
Hiccup mode, indefinite (automatic recovery)					
Isolation	Input-Output (V.AC)				
	3000V				
	Input-FG (V.AC)				
1500V					
Output-FG (V.AC)					
500V					
Environment	Operating temperature				
	-10°C...+70°C (with derating)				
	Storage temperature				
	-40°C...+100°C				
	Temperature coefficient				
0.01%/°C					
Humidity					
95% RH					
MTBF					
>200,000 h @ 25°C (MIL-HDBK-217F)					
Physical	Dimension (L x W x H)				
	4.0 x 2.0 x 1.01 Inches ( 101.6 x 50.8 x 26.0 mm ) Tolerance ±0.5 mm				
	Case Material				
	Plastic resin + Fiberglass (flammability to UL 94V-0)				
Weight					
150 g					
Cooling method					
Free air convection					
Safety	Agency Approvals				
UL , cUL , CE (Pending)					
EMC	EMI (Conducted & Radiated Emission)				
	EN 55022 class B (Pending)				
EMS (Noise Immunity)					
EN 55024 (Pending)					

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

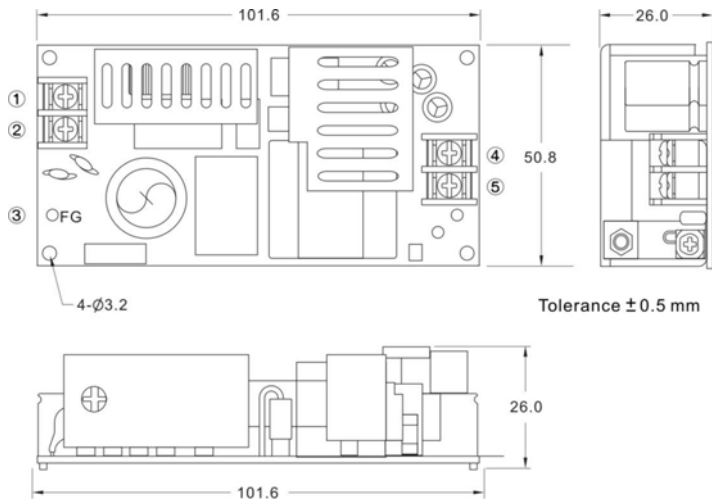
## ZQ60 SERIES

60 Watts

Model No. (Dual Output)	ZQ60-5S12S	ZQ60-5S24S			
Max output wattage (W)	60W	60W			
Input	Voltage	90-264 VAC or 100-375 VDC			
	Frequency (Hz)	47-440 Hz			
	Current (Full load)	2.0A max. (115 VAC) / 1.0A max. (230 VAC)			
	Inrush current (<2ms)	30 A max. (115 VAC) / 60 A max. (230 VAC)			
	Leakage Current	< 0.5 mA max			
	External fuse (recommend)	3.15 A slow blow type			
Output		Output 1	Output 2	Output 1	Output 2
	Voltage (V.DC.)	5V	12V	5V	24V
	Voltage set accuracy	±2%	±5%	±2%	±5%
	Current (mA) max	5000	2080	5000	1040
	Maximum capacitive load	470-23,000µF depending on model			
	Line regulation (Typ.)	0.5%	1%	0.5%	1%
	Load regulation (10-100%) (Typ.)	2% (symmetric load)	6% (symmetric load)	2% (symmetric load)	6% (symmetric load)
	Minimum load	1%	7%	1%	7%
	Maximum capacitive load	470-23,000µF depending on model			
	Ripple & Noise	< 1% Vout			
	Efficiency (Typ)	81%		82%	
	Hold-up time	18 ms min.			
Switching frequency	65 KHz				
Protection	Over current protection	Above 105% rated output power			
	Over voltage protection	Zener diode clamp			
	Short circuit protection	Hiccup mode, indefinite (automatic recovery)			
Isolation	Input-Output (V.AC)	3000V			
	Input-FG (V.AC)	1500V			
	Output-FG (V.AC)	500V			
Environment	Operating temperature	-10°C...+70°C (with derating)			
	Storage temperature	-40°C...+100°C			
	Temperature coefficient	0.01%/°C			
	Humidity	95% RH			
	MTBF	>200,000 h @ 25°C (MIL-HDBK-217F)			
Physical	Dimension (L x W x H)	4.0 x 2.0 x 1.01 Inches ( 101.6 x 50.8 x 26.0 mm ) Tolerance ±0.5 mm			
	Case Material	Plastic resin + Fiberglass (flammability to UL 94V-0)			
	Weight	150 g			
	Cooling method	Free air convection			
Safety	Agency Approvals	UL , cUL , CE (Pending)			
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B (Pending)			
	EMS (Noise Immunity)	EN 55024 (Pending)			

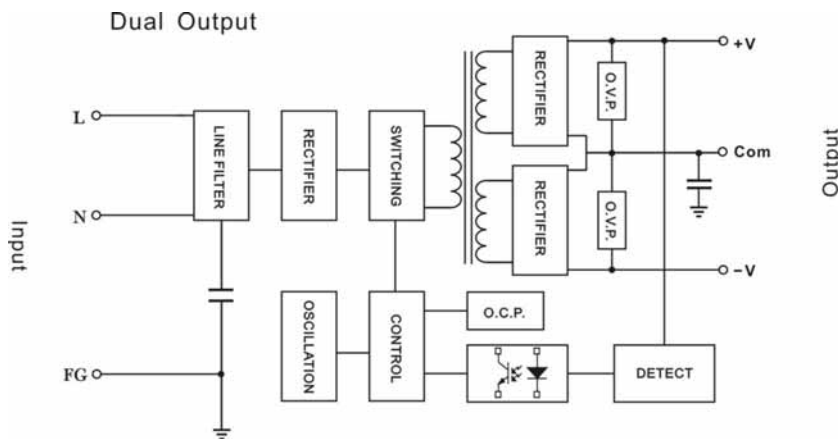
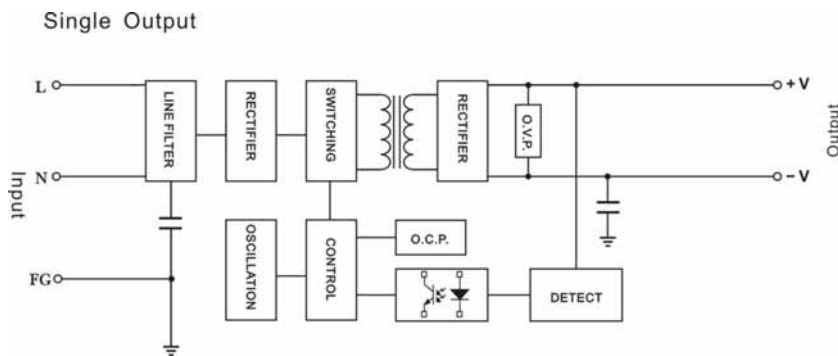
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**MECHANICAL DIMENSION ( Top View )**



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

**BLOCK DIAGRAM**



**DERATING**

