

ARCH AQF80C LED Power Datasheet

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KEY FEATURES

- Fully Isolated Plastic Case with IP67 Level
- Universal Input: 90-305 VAC or 120-430 VDC
- Three in one dimming function
- Built-in Active PFC Function
- Free Air Convection
- High Reliability
- Isolation Class II
- LED Power Application
- 3-Years Product Warranty

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KEY FEATURES

- Open Frame LED Power Supply
- Universal Input: 90-305 VAC
- <0.5W No Load Input Power
- Built-in Active PFC Function
- Free Air Convection
- High Reliability
- With Constant Current & Constant Voltage
- LED Power Application
- 3-Years Product Warranty

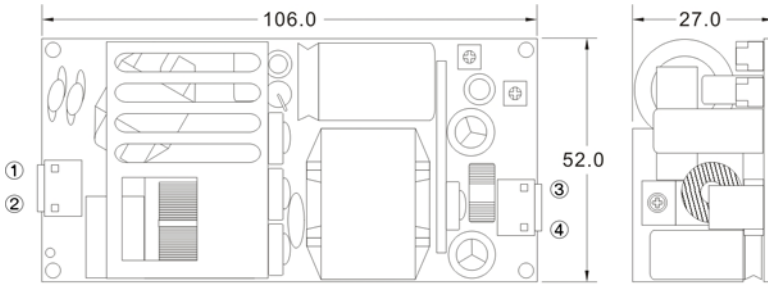

ELECTRICAL SPECIFICATIONS

Model No.	AQF80C-24S	AQF80C-36S	AQF80C-48S	AQF80C-54S
Max Output Wattage (W)	80W			
Input	Voltage			
	90-305 VAC or 127-430 VDC			
	Frequency (Hz)			
	47-63 Hz			
	Current (Full load)			
	0.85 A max. (115 VAC) / 0.425 A max. (230 VAC) / 0.4 A max. (277 VAC)			
Inrush Current (<2ms) (Cold Start)				
40 A max. (115 VAC) / 70 A max. (230 VAC)				
Leakage Current				
<0.75 mA max.				
Power Factor				
PF>0.97 (115 VAC) / PF>0.9 (230 VAC) at Full Load				
Output	Voltage (V.DC.)			
	24V	36V	48V	54V
	Constant Current Range (V.DC.)			
	15.5 ~ 24V	21.6 ~ 36V	28.8 ~ 48V	32.4 ~ 54V
	Voltage Accuracy			
	±2%			
	Current Accuracy			
	±10%			
	Current (Convection) (mA) max			
	3333	2222	1666	1500
	Current ADJ Range (mA)			
	1999 ~ 3333	1333 ~ 2222	999 ~ 1666	900 ~ 1500
	Voltage ADJ Range (V.DC.) (10-100% Load)			
	23.5 ~ 26V	34.5 ~ 37.5V	46 ~ 48.5V	53 ~ 55.5V
Line Regulation (10-100%)				
±1%				
Load Regulation (10-100%)				
±1%				
Minimum Load				
3%				
Ripple & Noise (max.)				
200mVp-p		250mVp-p		
Efficiency (typ.)				
89%	90%	90%	90%	
Hold-up Time				
25 ms min.				
Protection	Over Power Protection			
	Auto recovery, 105 ~ 160% rated output power			
	Over Voltage Protection(for C.C Mode)			
Auto recovery				
Short Circuit Protection				
Auto recovery				
Isolation	Input-Output (V.AC)			
	3750V			
	Input-FG (V.AC)			
1880V				
Output-FG (V.AC)				
500V				
Environment	Operating Temperature			
	-40°C...+70°C (with derating)			
	Storage Temperature			
	-40°C...+85°C			
	Temperature Coefficient			
	±0.02%/°C (0~50°C)			
Humidity				
95% RH				
MTBF				
>100,000 h @ 25°C (MIL-HDBK-217F)				
Vibration				
10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes.				
Physical	Dimension (L x W x H)			
	4.17 x 2.04 x 1.06 Inches (106.0 x 52.0 x 27.0 mm) Tolerance ±0.5 mm			
	Weight			
200 g ±15%				
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、Class B (Pending)			
	EMS (Noise Immunity)			
EN 61547 (Pending)				
Surge				
2KV L-L, 4KV L-E				

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

2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

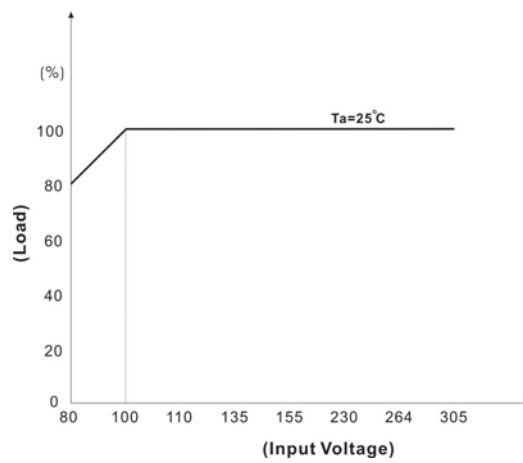
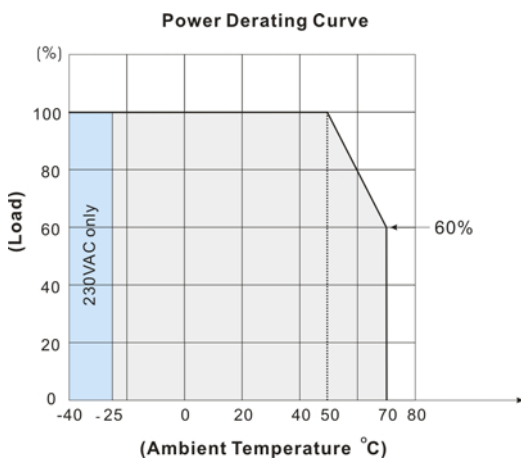
MECHANICAL DIMENSION (Top View)



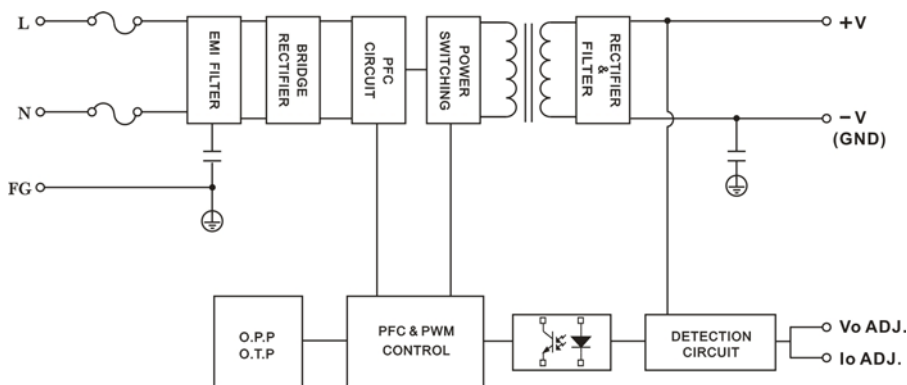
PIN#	SINGLE
1	AC IN (L)
2	AC IN (N)
3	-DC OUT
4	+DC OUT

Tolerance $\pm 0.5\text{mm}$

DERATING



BLOCK DIAGRAM

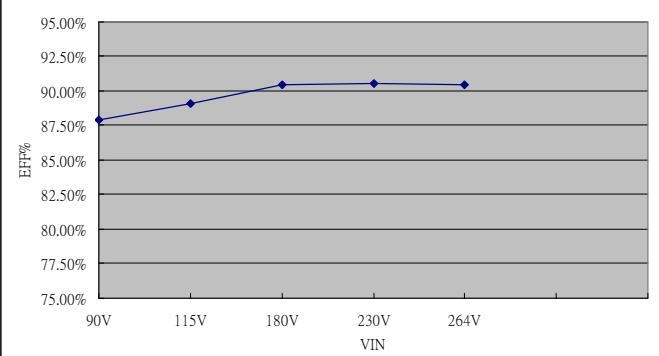
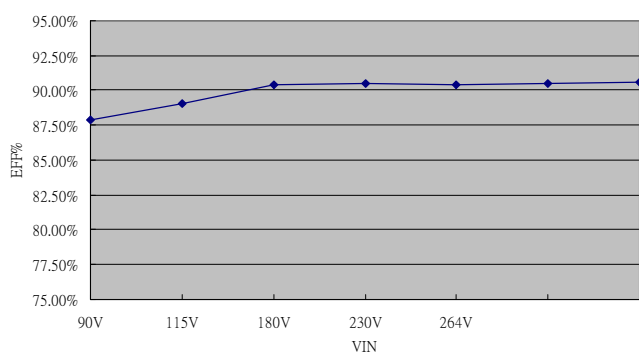


EFFICIENCY VERSUS LOAD
AQF80C-24S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.91	89.09	90.41	90.50	90.41
Input Voltage (V)	277	305			
Efficiency (%)	90.51	90.61			

LOAD VS Efficiency

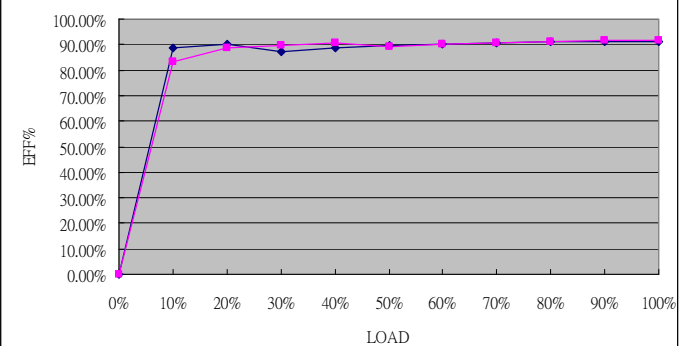
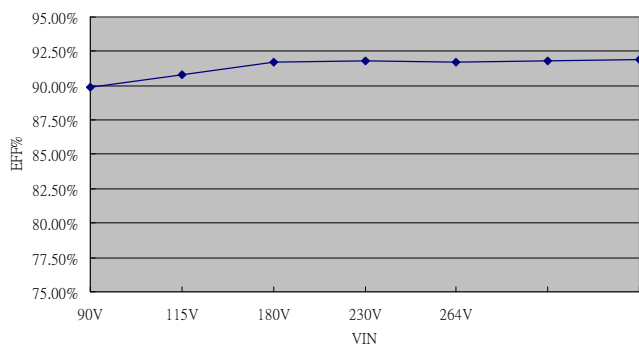
Load (%)	0	10	20	30	40	50
115V (%)	0.00	87.63	89.17	85.27	86.69	87.70
230V (%)	0.00	82.78	86.36	87.76	88.84	87.74
Load (%)	60	70	80	90	100	
115V (%)	88.48	88.97	89.07	89.24	89.19	
230V (%)	88.81	89.54	89.93	90.24	90.48	


AQF80C-36S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.89	90.78	91.68	91.79	91.69
Input Voltage (V)	277	305			
Efficiency (%)	91.79	91.89			

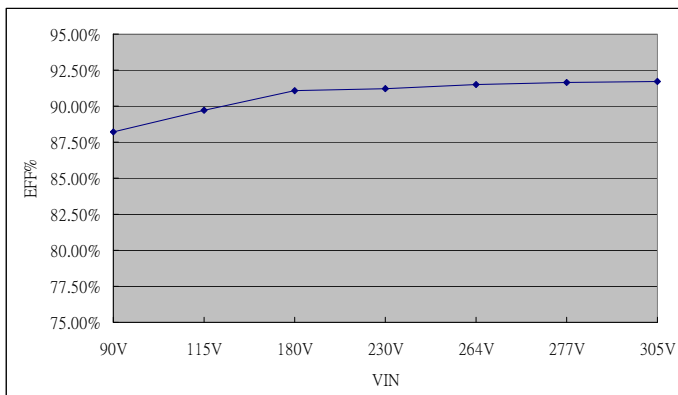
LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	88.77	90.14	87.01	88.43	89.42
230V (%)	0.00	83.30	88.66	89.61	90.43	89.16
Load (%)	60	70	80	90	100	
115V (%)	90.08	90.71	90.92	91.11	91.01	
230V (%)	90.27	90.88	91.32	91.68	91.85	

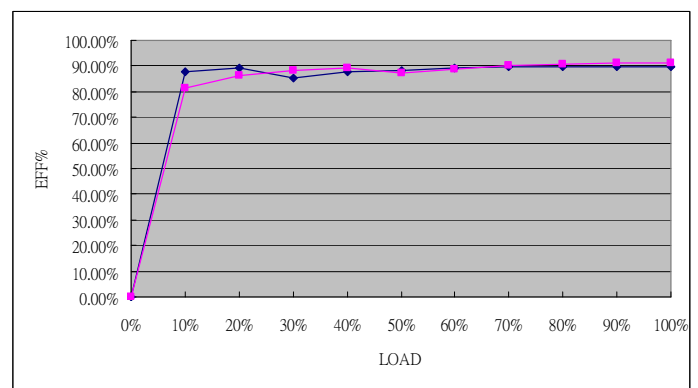


EFFICIENCY VERSUS LOAD
AQF80C-48S
VIN VS Efficiency

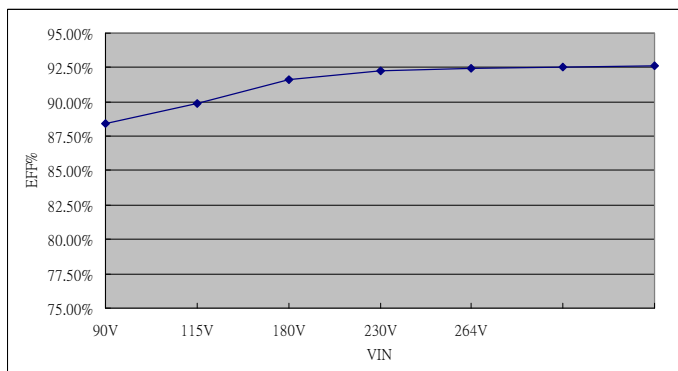
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.18	89.72	91.05	91.21	91.52
Input Voltage (V)	277	305			
Efficiency (%)	91.62	91.72			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	87.66	89.31	85.24	87.80	88.13
230V (%)	0.00	81.61	86.41	88.35	89.13	87.36
Load (%)	60	70	80	90	100	
115V (%)	89.01	89.48	89.65	89.83	89.90	
230V (%)	88.91	90.27	90.92	91.26	91.31	


AQF80C-54S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.40	89.92	91.59	92.24	92.45
Input Voltage (V)	277	305			
Efficiency (%)	92.55	92.65			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	88.23	89.72	86.11	87.79	88.74
230V (%)	0.00	88.25	90.18	90.81	91.40	89.05
Load (%)	60	70	80	90	100	
115V (%)	89.58	90.14	90.49	90.50	89.52	
230V (%)	90.34	91.15	91.49	91.88	92.21	

