

ZWS50BAF

SPECIFICATIONS

A247-01-01B

MODEL			ZWS50BAF	ZWS50BAF	ZWS50BAF	ZWS50BAF	ZWS50BAF	ZWS50BAF		
ITEMS			-3	-5	-12	-15	-24	-48		
1	Nominal Output Voltage		V	3.3	5	12	15	24	48	
2	Maximum Output Current		A	10	10	4.3	3.5	2.1	1.1	
3	Maximum Output Power		W	33.0	50.0	51.6	52.5	50.4	52.8	
4	Efficiency (Typ.)	(*1)	100VAC	%	76	82	83	83	84	
			200VAC	%	78	84	85	86	87	86
5	Input Voltage Range		(*2)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC					
6	Input Current (Typ.)		(*1)	A	0.45/0.25	0.65/0.35				
7	Inrush Current (Typ.)		(*1)(*3)	-	14A at 100VAC, 28A at 200VAC, Ta=25°C, Cold Start					
8	PFHC		-	Designed to meet IEC61000-3-2						
9	Power Factor (Typ.)		(*1)	-	0.96/0.85	0.97/0.91				
10	Output Voltage Range		V	2.97 - 3.63	4.5 - 5.5	10.8 - 13.2	13.5 - 16.5	21.6 - 26.4	39.5 - 52.8	
11	Maximum Ripple & Noise	0≤Ta≤70°C	mV	120	120	150	150	150	200	
		-10≤Ta<0°C	mV	160	160	180	180	180	240	
12	Maximum Line Regulation		(*4)(*5)	mV	20	20	48	60	96	192
13	Maximum Load Regulation		(*4)(*6)	mV	40	40	96	120	150	240
14	Temperature Coefficient		(*4)	-	Less than 0.02% / °C					
15	Over Current Protection		(*7)	A	10.5-	10.5-	4.51-	3.67-	2.20-	1.15-
16	Over Voltage Protection		(*8)	V	3.79 - 4.95	5.75 - 7.0	13.8 - 16.2	17.3 - 20.3	27.6 - 32.4	55.2 - 64.8
17	Hold-up Time (Typ.)		(*1)	-	20ms					
18	Leakage Current		(*9)	-	Less than 0.5mA. 0.2mA(Typ) at 100VAC / 0.4mA(Typ) at 230VAC					
19	Remote Control		-	-						
20	Parallel Operation		-	-						
21	Series Operation		-	Possible						
22	Operating Temperature		(*10)	-	Convection : -10 - +70°C (-10 - +50°C:100%, +60°C:75%, +70°C:50%)					
23	Operating Humidity		-	30 - 90%RH (No Condensing)						
24	Storage Temperature		-	-30 - +75°C						
25	Storage Humidity		-	10 - 90%RH (No Condensing)						
26	Cooling		-	Convection Cooling						
27	Withstand Voltage		-	Input - FG : 2kVAC (10mA), Input - Output : 3kVAC (10mA) Output - FG : 500VAC (20mA) for 1min						
28	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC						
29	Vibration		-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each.						
30	Shock		-	Less than 196.1m/s ²						
31	Safety		-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020), EN50178(OV II) Designed to meet DENAN at 100VAC Only.						
32	Conducted Emission		-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
33	Radiated Emission		-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
34	Immunity		-	Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11						
35	Weight (Typ.)		g	165						
36	Size (W x H x D)		mm	50 x 26 x 132 (Refer to Outline Drawing)						

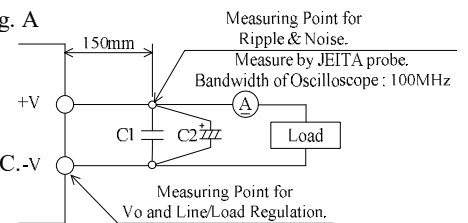
*Read instruction manual carefully, before using the power supply unit.

=NOTES=

- *1. At 100VAC/200VAC, Ta=25°C, nominal output voltage and maximum output power.
- *2. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC(50/60Hz).
- *3. Not applicable for inrush current to a noise filter for less than 0.2ms.
- *4. Please refer to Fig. A for measurement of Vo, line & load regulation and ripple voltage.
- *5. 85 - 265VAC, constant load.
- *6. No load-Full load, constant input voltage.
- *7. Hiccup with automatic recovery.
Avoid to operate at over load or short circuit condition for more than 30seconds.
- *8. OVP circuit shut down the output, manual reset (Re power on) to get output voltage.
- *9. Measured by the each measuring method of UL, CSA, EN and DENAN(at 60Hz), Ta=25°C.
- *10. Output Derating

- Derating at standard mounting. Refer to output derating curve(A247-01-02_).
- About a force air cooling, refer to output derating curve (A247-01-03_).
- Load (%) is percent of maximum output power or maximum output current, whichever is greater.

Fig. A



C1 : Film Cap. 0.1 μF
C2 : Elec. Cap. 100 μF

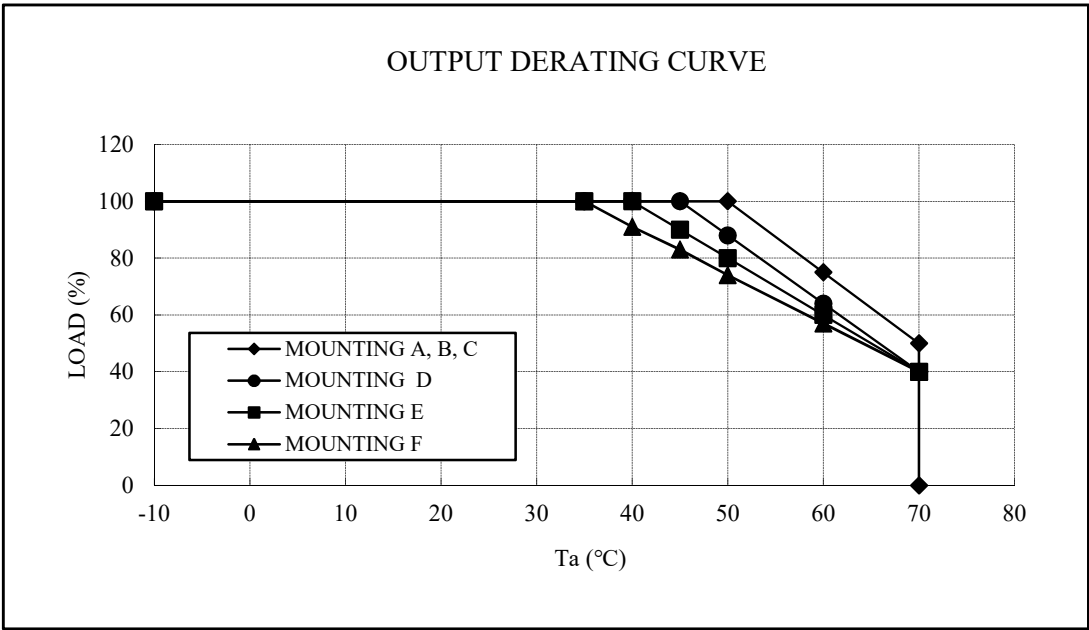
ZWS50BAF

OUTPUT DERATING

A247-01-02

*COOLING : CONVECTION COOLING

Ta (°C)	LOAD (%)	LOAD (%)	LOAD (%)	LOAD (%)
	MOUNTING A, B, C	MOUNTING D	MOUNTING E	MOUNTING F
-10 - +35	100	100	100	100
40	100	100	100	91
45	100	100	90	83
50	100	88	80	74
60	75	64	60	57
70	50	40	40	40



MOUNTING A

MOUNTING B

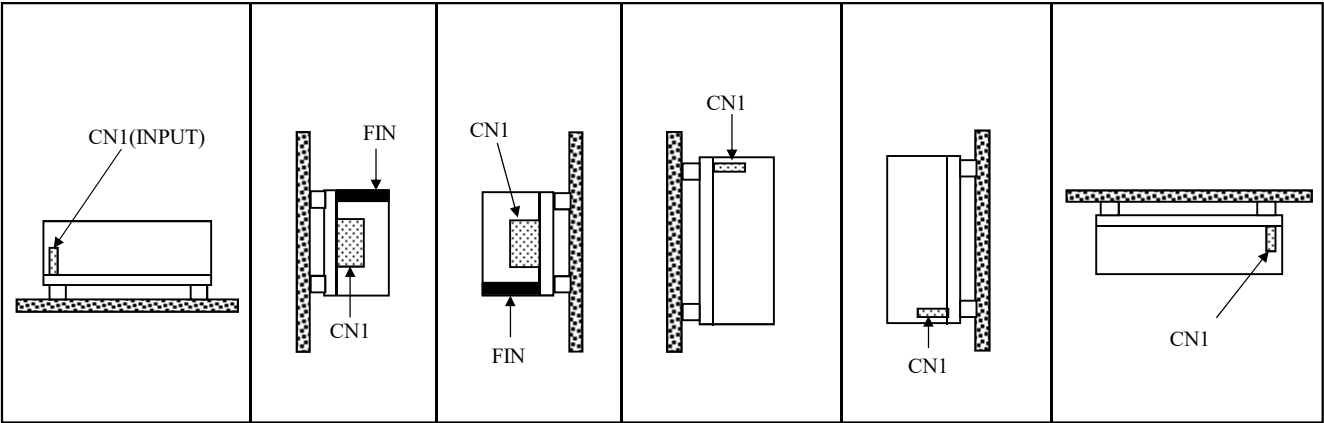
MOUNTING C

MOUNTING D

MOUNTING E

MOUNTING F

(STANDARD MOUNTING)



ZWS50BAF

OUTPUT DERATING

A247-01-03

*COOLING : FORCED AIR COOLING

Ta (°C)	LOAD (%)
	MOUNTING A-F
-10 - +60	100
70	70

Air velocity $\geq 0.7\text{m/s}$: Air must flow through component side.

