

ZWS50BAF**SPECIFICATIONS**

A247-01-01B

ITEMS		MODEL		ZWS50BAF -3	ZWS50BAF -5	ZWS50BAF -12	ZWS50BAF -15	ZWS50BAF -24	ZWS50BAF -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 200VAC	%	76 78	82 84	83 85	83 86	84 87	84 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 (*4) (*4) (*4)(*)5	mV	120 160	120 160	150 180	150 180	150 180	200 240	
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/s² Constant, X,Y,Z 1 hour each.					
30	Shock	-		Less than 196.1m/s²					
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.

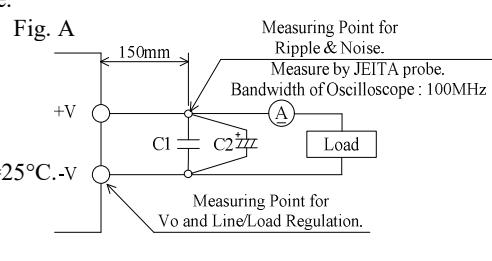
*9. Measured by the each measuring method of UL, CSA, EN and DENAN(at 60Hz), Ta=25°C.-V

*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.



C1 : Film Cap. 0.1 μF

C2 : Elec. Cap. 100 μF

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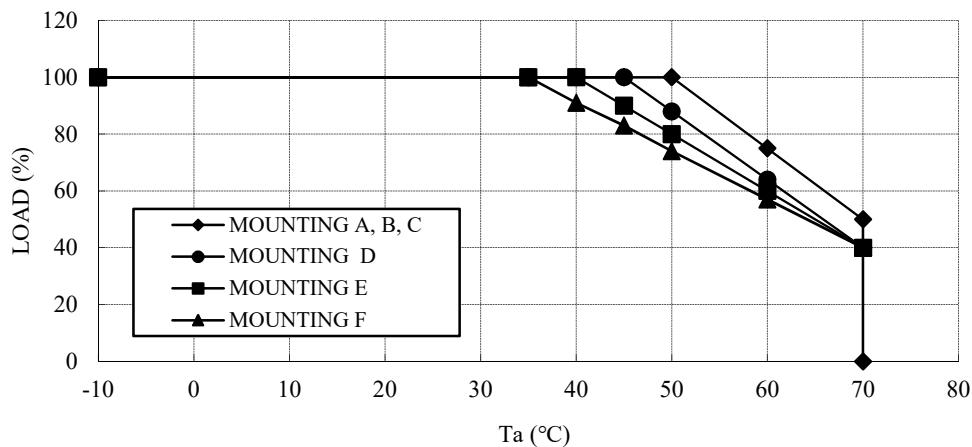
OUTPUT DERATING

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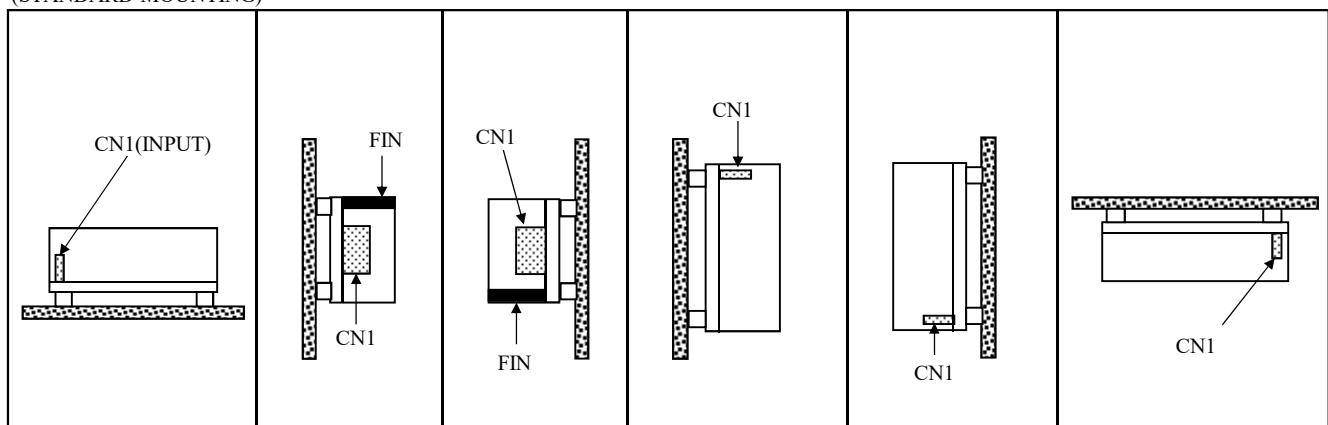
*COOLING : CONVECTION COOLING

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

OUTPUT DERATING CURVE



MOUNTING A MOUNTING B MOUNTING C MOUNTING D MOUNTING E MOUNTING F
 (STANDARD MOUNTING)



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OUTPUT DERATING

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*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.

OUTPUT DERATING CURVE

