

SPECIFICATIONS

A177-01-01D

ITEMS		MODEL	ZWS300 -3	ZWS300 -5	ZWS300 -12	ZWS300 -15	ZWS300 -24	ZWS300 -48	
1	Nominal Output Voltage	V	3.3	5	12	15	24	48	
2	Maximum Output Current(Convection)	A	40	40	17	14	9	4.2	
3	Maximum Output Current(Forced air)	A	60	60	27	22	14	6.3	
4	Maximum Peak Output Current (*1)	A	60	60	27	22	14	6.3	
5	Maximum Output Power(Convection)	W	132	200	204	210	216	201.6	
6	Maximum Output Power(Forced air)	W	198	300	324	330	336	302.4	
7	Maximum Peak Output Power (*1)	W	198	300	324	330	336	302.4	
8	Efficiency (100/200VAC) (Typ.)	(*2) %	72/74	78/81	80/83	81/84	83/86	83/86	
9	Input Voltage Range	(*3) -	85 - 132VAC / 170 - 265VAC (47 - 440Hz)						
10	Input Current (100/200VAC) (Typ.)	(*2) A	5/3	7.5/4.5					
11	Inrush Current (Typ.)	(*4) -	15A at 100VAC, 30A at 200VAC, Ta=25°C, Cold Start						
12	Output Voltage Range	V	2.85-3.6	4.5-5.5	10.8-13.2	13.5-16.5	21.6-26.4	43.2-52.8	
13	Maximum Ripple & Noise	0 - +50°C	mV	120	120	150	150	150	400
		(*5) -10 - 0°C	mV	160	160	180	180	180	600
14	Maximum Line Regulation	(*6) mV	20	20	48	60	96	192	
15	Maximum Load Regulation	(*7) mV	40	40	100	120	150	240	
16	Temperature Coefficient	(*8) -	Less than 0.02%/°C						
17	Over Current Protection	(*9) A	63-	63-	28.3-	23.1-	14.7-	6.62-	
18	Over Voltage Protection	(*10) V	4.00-5.25	5.8-7.0	13.8-16.8	17.3-21.0	27.6-33.6	55.2-67.2	
19	Hold-up Time (Typ.)	(*11) -	20ms						
20	Leakage Current	(*12) -	0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC						
21	Remote Sensing	-	Possible						
22	Remote Control	-	-						
23	Parallel Operation	-	-						
24	Series Operation	-	Possible						
25	Operating Temperature	(*13) -	-10 - +70°C (-10 - +40°C:100%, +60°C:60%, +70°C:50%)						
26	Operating Humidity	-	20 - 90%Rh (No dewdrop)						
27	Storage Temperature	-	-30 - +85°C						
28	Storage Humidity	-	10 - 95%Rh (No dewdrop)						
29	Cooling	(*13) -	Convection & Forced air cooling						
30	Withstand Voltage	-	Input - FG : 2kVAC (10mA), Input - Output : 3kVAC (10mA) Output - FG : 500VAC (100mA) for 1min						
31	Isolation Resistance	-	More than 100Mohm at 25°C and 70%Rh Input - FG, Input - Output, Output - FG...500VDC						
32	Vibration	-	At no operating, 10-55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1h each.						
33	Shock	-	Less than 196.1m/s ²						
34	Safety	-	Approved by UL60950-1, CSA C22.2 No.60950-1 & EN60950-1.						
35	Conducted Emission	-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B.						
36	Radiated Emission	-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B.						
37	Weight (Typ.)	-	1000g						
38	Size (WxHxD)	mm	108 x 50 x 255 (Refer to Outline Drawing)						

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

=NOTES=

- *1 Duration under peak application is limited less than 30seconds.(Average output current under those condition should not exceed maximum output current.)
- *2 At 100/200VAC, Ta=25°C and maximum output power.
- *3 100 - 120/200 - 240VAC indicated on the name plate in accordance with safety application(UL, CSA, EN, etc.)
- *4 First inrush current. Not applicable for the in-rush current to Noise Filter less than 0.2ms.
- *5 Measure with JEITA RC-9131 probe, Bandwidth of scope :100MHz. At maximum output power(Convection).
(With an external Elec., Cap of 22uF connected 150mm(maximum) far from the output terminal.)
- *6 85 - 132/170 - 265VAC , constant load.
- *7 No load-Full load, constant input voltage.
- *8 At 100/200VAC, maximum output power and Ta=-10 - +70°C.
- *9 Constant current limit with automatic recovery.
- *10 OVP circuit will shut down output, manual reset (Line recycle).
- *11 At 100/200VAC nominal output voltage and maximum output current.
- *12 Measured by the each measuring method of UL,CSA,EN and DENAN (at 60Hz),Ta=25°C
- *13 Ratings - Derating at standard mounting.
 - Load (%) is percent of maximum output power or maximum output current, whichever is greater.
 - As for other mountings, refer to derating curve (A177-01-02_).
 - When forced air cooling, refer to derating curve (A177-01-03_).

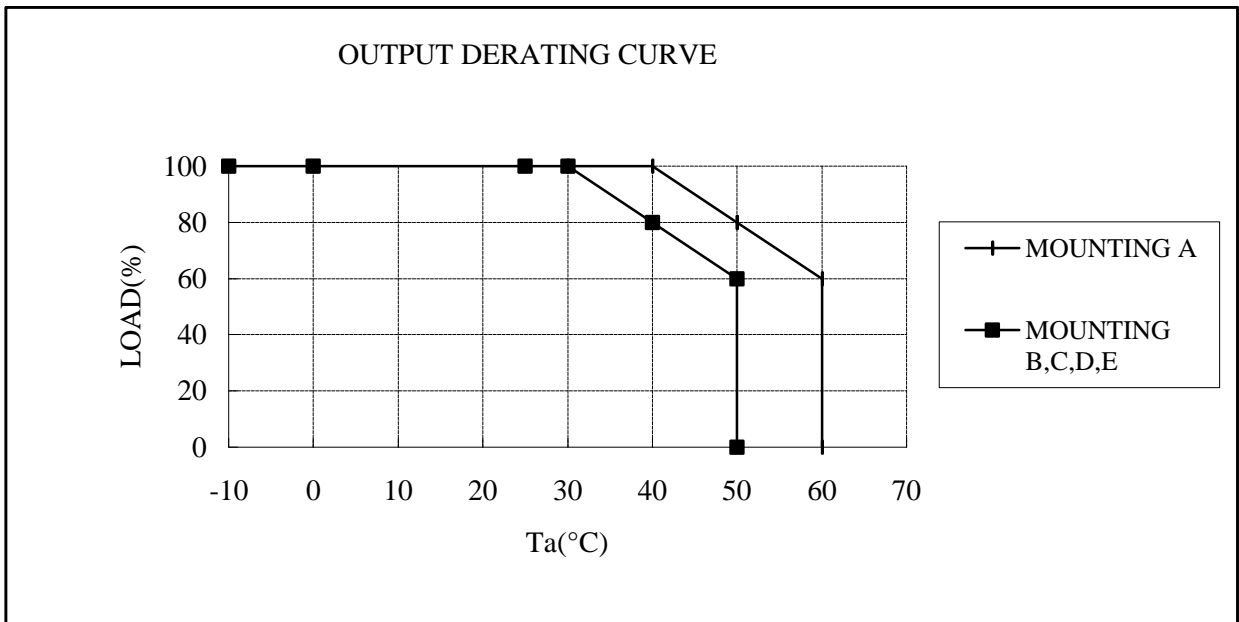
OUTPUT DERATING

A177-01-02

* COOLING : CONVECTION COOLING

Ta(°C)	LOAD (%)	
	MOUNTING A	MOUNTING B, C, D, E
-10 ~ +30	100	100
40	100	80
50	80	60
60	60	-
70	-	-

Output Voltage (V)	Maximum Output Power (W)
3.3	132
5	200
12	204
15	210
24	216
48	201.6



MOUNTING A

MOUNTING B

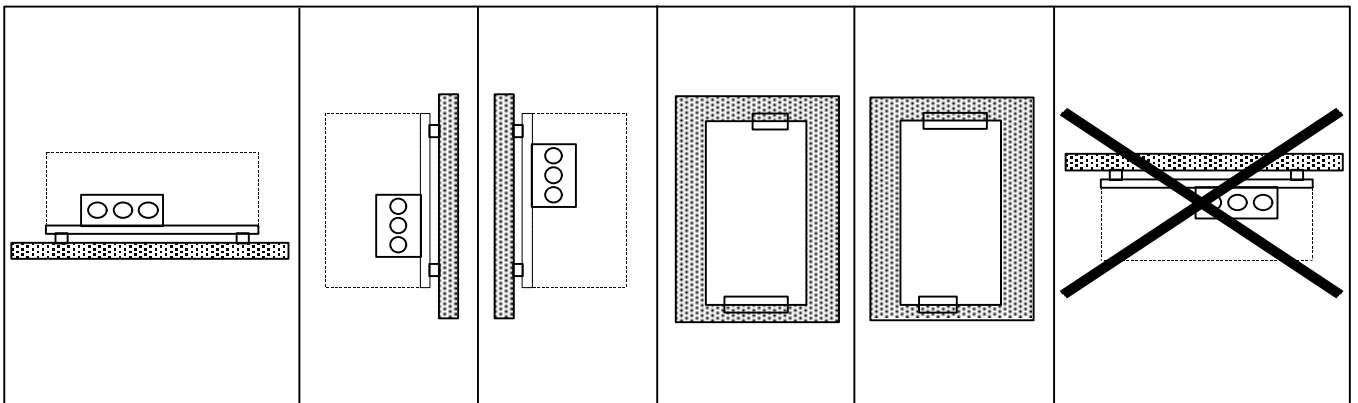
MOUNTING C

MOUNTING D

MOUNTING E

UNUSABLE

(STANDARD MOUNTING)



OUTPUT DERATING

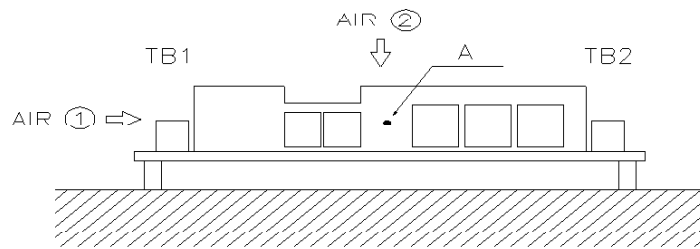
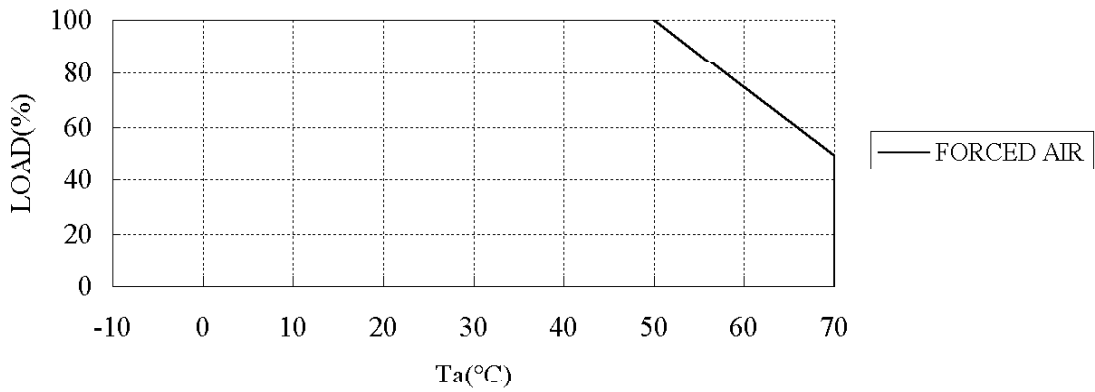
A177-01-03

* COOLING : FORCED AIR COOLING

Ta(°C)	LOAD (%)
	FORCED AIR
-10 ~ +30	100
40	100
50	100
60	75
70	50

Output Voltage (V)	Maximum Output Power (W)
3.3	198
5	300
12	324
15	330
24	336
48	302.4

OUTPUT DERATING CURVE



* Please make air flow to maintain the heat sink (part A) temperature 85°C or less (Operating ambient temperature is 50°C).
The air flow direction is Air ① or Air ② indicated in the above figure.