

**HWS80A**

SPECIFICATIONS

A264-01-01A

ITEMS		MODEL	HWS80A -3	HWS80A -5	HWS80A -12	HWS80A -15	HWS80A -24	HWS80A -48
1	Nominal Output Voltage	V	3.3	5	12	15	24	48
2	Maximum Output Current	A	16	16	6.7	5.4	3.4	1.7
3	Maximum Output Power	W	52.8	80.0	80.4	81.0	81.6	81.6
4	Efficiency (Typ.) (*1)	100VAC	% 81	% 83	% 85	% 85	% 86	% 87
		200VAC	% 83	% 85	% 87	% 87	% 88	% 89
5	Input Voltage Range (*2)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC					
6	Input Current (Typ.) (*1)	A	0.72/0.36	1.04/0.52				
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)	-	0.96/0.87	0.98/0.91				
10	Output Voltage Range	V	2.97 - 3.96	4.0 - 6.0	9.6 - 14.4	12.0 - 18.0	19.2 - 28.8	38.4 - 52.8
11	Maximum Ripple & Noise (*4)	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 (*5)	mV	20	20	48	60	96	192
13	Maximum Load Regulation (*6)	mV	40	40	96	120	150	240
14	Temperature Coefficient	-	Less than 0.02%/°C					
15	Over Current Protection (*7)	A	16.8 ≤	16.8 ≤	7.04 ≤	5.67 ≤	3.57 ≤	1.79 ≤
16	Over Voltage Protection (*8)	V	4.13 - 4.95	6.25 - 7.25	15.0 - 17.4	18.8 - 21.8	30.0 - 34.8	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 Sensing	-	Possible					
20	Parallel Operation	-	-					
21	Series Operation	-	Possible					
22	Operating Temperature (*10)	-	-10 to +70°C (-10 to +50°C:100%, +60°C:80%, +70°C:60%)					
23	Operating Humidity	-	30 to 90%RH (No Condensing)					
24	Storage Temperature	-	-30 to +85°C					
25	Storage Humidity	-	10 to 95%RH (No Condensing)					
26	Cooling	-	Convection Cooling					
27	Withstand Voltage	-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) 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 <sup>2</sup> Constant, X,Y,Z 1hour each.					
30	Shock	-	Less than 196.1m/s <sup>2</sup>					
31	Safety	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020) Designed to meet Den-an Appendix 8 at 100VAC only.					
32	Line DIP	-	Designed to meet SEMI-F47 (200VAC Line only)					
33	Conducted Emission (*11)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B					
34	Radiated Emission (*11)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B					
35	Immunity (*11)	-	Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11					
36	Weight (Typ)	-	420g					
37	Size (W x H x D)	mm	28 x 82 x 160 ( Refer to Outline Drawing )					

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

=NOTES=

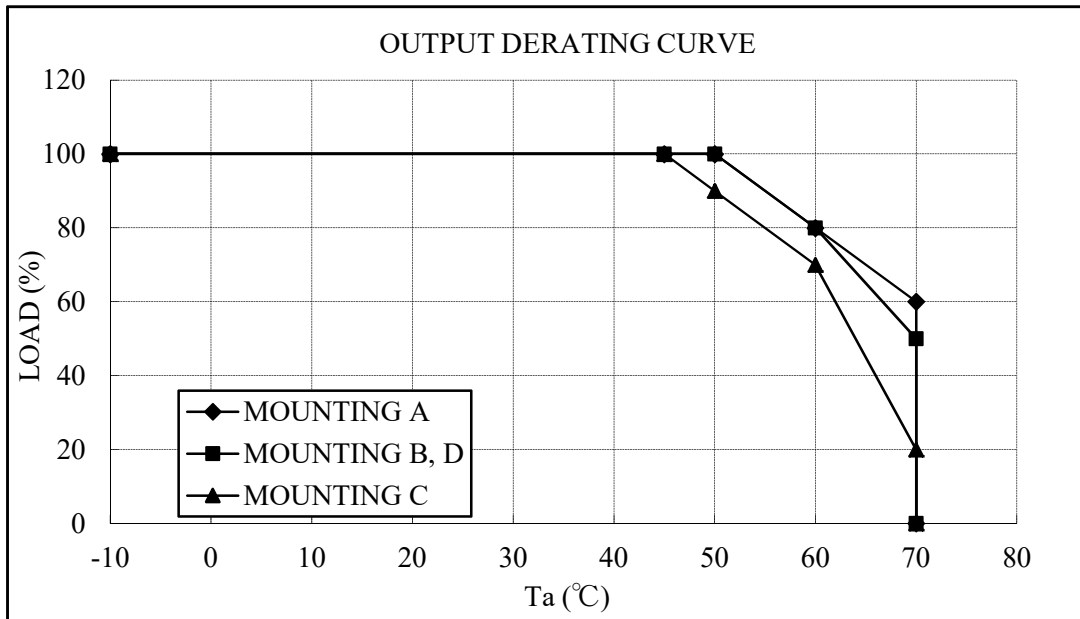
- \*1. At 100VAC/200VAC, Ta=25°C, nominal output voltage and maximum output power.
- \*2. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC(50 - 60Hz).
- \*3. Not applicable for the inrush current to Noise Filter for less than 0.2ms.
- \*4. Measure with JEITA RC-9131B probe, Bandwidth of scope :100MHz.
- \*5. 85 - 265VAC, constant load.
- \*6. No load-Full load, constant input voltage.
- \*7. Constant current limit and Hiccup with automatic recovery.  
Avoid to operate at over load or short circuit condition.
- \*8. OVP circuit will shut down output, manual reset (Re power on).
- \*9. Measured by the each measuring method of UL, CSA, EN and Den-an (at 60Hz), Ta=25°C.
- \*10. Output Derating  
- Derating at standard mounting. Refer to OUTPUT DERATING CURVE (A264-01-02 ).  
- Load (%) is percent of maximum output power or maximum output current, do not exceed its derating of maximum load.
- \*11. The power supply is considered a component which will be installed into a final equipment.  
The final equipment should be re-evaluated that it meets EMC directives.

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OUTPUT DERATING

A264-01-02

Ta (°C)	LOAD (%)	LOAD (%)	LOAD (%)
	MOUNTING A	MOUNTING B, D	MOUNTING C
-10 - +45	100	100	100
50	100	100	90
60	80	80	70
70	60	50	20



MOUNTING A  
(STANDARD MOUNTING)

MOUNTING B

MOUNTING C

MOUNTING D

DON'T USE

