

SPECIFICATIONS

A233-01-01A

MODEL			HWS80	HWS80	HWS80	HWS80	HWS80	HWS80	
ITEMS			-3	-5	-12	-15	-24	-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	80.4	81	81.6	81.6
4	Efficiency (Typ) (*1)	100VAC	%	77	82	82	82	83	84
		200VAC	%	79	85	85	85	85	86
5	Input Voltage Range (*2)		-	85 ~ 265VAC (47 ~ 63Hz) or 120 ~ 370VDC					
6	Input Current (100/200VAC)(Typ) (*1)		A	0.72/0.36	1.04/0.52				
7	Inrush Current(Typ) (*3)		-	14A at 100VAC, 28A at 200VAC, Ta=25°C, Cold Start					
8	PFHC		-	Built to meet IEC61000-3-2					
9	Power Factor (100/200VAC)(Typ) (*1)		-	0.98/0.90	0.99/0.95				
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	192	384
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) (*9)		-	20ms					
18	Leakage Current (*10)		-	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 (*11)		-	-10 ~+70°C (-10 ~+50°C:100%,+60°C:60%,+70°C:20%)					
23	Operating Humidity		-	30 ~ 90%RH (No dewdrop)					
24	Storage Temperature		-	-30 ~ +85°C					
25	Storage Humidity		-	10 ~ 95%RH (No dewdrop)					
26	Cooling		-	Convection Cooling					
27	Withstand Voltage		-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG : 500VAC (100mA) 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 1hour each.					
30	Shock (In package)		-	Less than 196.1m/s²					
31	Safety (*12)		-	Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178 Built to meet UL508, DENAN					
32	Line DIP		-	Built to meet SEMI-F47 (200VAC Line only)					
33	Conducted Emission		-	Built to meet EN55011/EN55022-B, FCC-B, VCCI-B					
34	Radiated Emission		-	Built to meet EN55011/EN55022-B, FCC-B, VCCI-B					
35	Immunity		-	Built to meet IEC61000-4-2(Level 2,3), -3(Level 3), -4(Level 3), -5(Level 3,4), -6(Level 3), -8(Level 4), -11					
36	Weight(Typ.)		-	450g					
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=

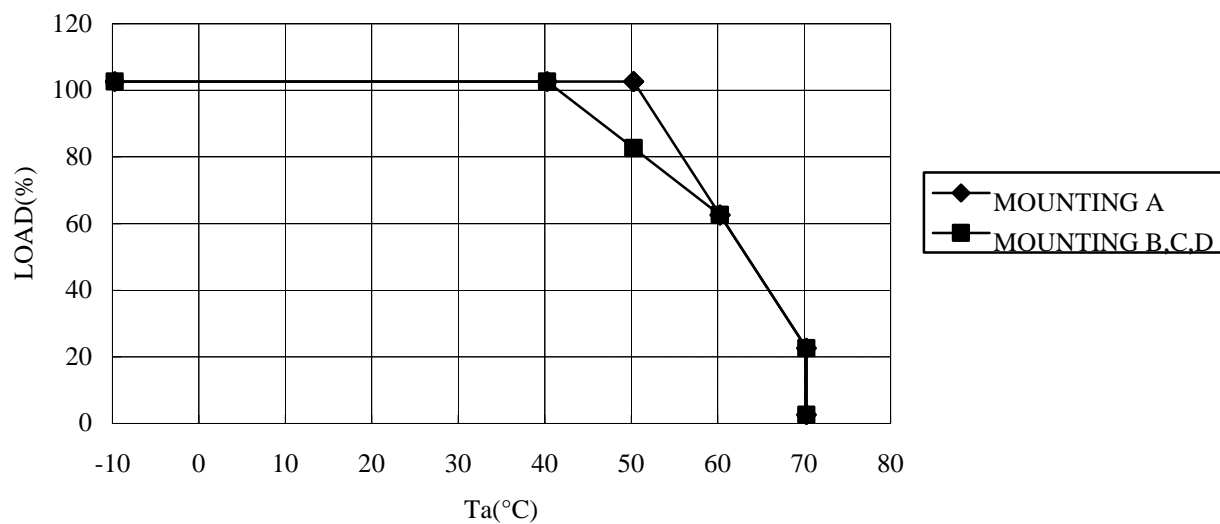
- *1. At 100/200VAC, Ta=25°C and maximum output power.
- *2. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 ~ 240VAC(50/60Hz).
- *3. Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- *4. Measure with JEITA RC-9131A probe, Bandwise 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.
Not operate at over load or dead short condition for more than 30seconds.
- *8. OVP circuit will shutdown output, manual reset (Re power on).
- *9. At 100/200VAC , nominal output voltage and maximum output current.
- *10. Measured by the each measuring method of UL,CSA,EN and DENAN(at 60Hz).
- *11. 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 (A233-01-02_).
- *12. As for DENAN, built to meet at 100VAC.

OUTPUT DERATING

A233-01-02

Ta(°C)	LOAD(%)	
	MOUNTING A	MOUNTING B,C,D
-10 ~+40	100	100
50	100	80
60	60	60
70	20	20

OUTPUT DERATING CURVE



MOUNTING A

MOUNTING B

MOUNTING C

MOUNTING D

DON'T USE

(STANDARD MOUNTING)

