HWS100A/RA

SPECIFICATIONS

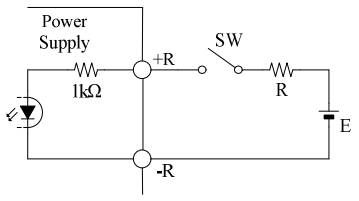
A258-01-01/RA-A

	ITEMS / MODEL			HWS100A -3/RA	HWS100A -5/RA	HWS100A -12/RA	HWS100A -15/RA	HWS100A -24/RA	HWS100A -48/RA
1	Nominal Output Voltage		V	3.3	5	12	15	24	48
2	Maximum Output Current		A	20	20	8.5	7	4.5	2.1
3	Maximum Output Power		W	66.0	100.0	102.0	105.0	108.0	100.8
4	Efficiency (Typ.) (*1)	100VAC	%	82	84	86	86	87	88
		200VAC	%	84	86	88	88	89	90
5	Input Voltage Range (*2)(*3)		-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC					
6	Input Current (Typ.) (*1)		A	0.9/0.45	1.3/0.65				
7	Inrush Current (Typ.) (*1)(*4)		-	14A at 100VAC, 28A at 200VAC, Ta=25°C, Cold Start					
8	PFHC		-	Designed to meet IEC61000-3-2					
9	Power Factor (Typ.) (*1)		-	0.96/0.89	0.98/0.93				
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	0≤Ta≤70°C	mV	120	120	150	150	150	200
	(*5)	-10≤Ta<0°C	mV	160	160	180	180	180	240
12	Maximum Line Regulation (*6)		mV	20	20	48	60	96	192
13	Maximum Load Regulation (*7)		mV	40	40	96	120	150	240
14	Temperature Coefficient		-	Less than 0.02% / °C					
15	Over Current Protection (*8)		A	21.0 ≤	21.0 ≤	8.92 ≤	7.35 ≤	4.72 ≤	2.20 ≤
16	Over Voltage Protection (*9)		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 (*10)		-	Less than 0.5mA. 0.2mA (Typ) at 100VAC / 0.4mA (Typ) at 230VAC					
19	Remote Sensing		-	Possible					
20	Remote ON/OFF Control (*11)		-	Possible					
21	Parallel Operation		-	-					
22	Series Operation		-	Possible					
23	Operating Temperature (*12)		-	-10 to +70°C (-10 to +50°C:100%, +60°C:60%, +70°C:20%)					
24	Operating Humidity		-	30 to 90%RH (No Condensing)					
25	Storage Temperature		-	-30 to +85°C					
26	Storage Humidity		-	10 to 95%RH (No Condensing)					
27	Cooling		-	Convection Cooling					
28	Withstand Voltage		-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG : 500VAC (20mA) for 1min					
29	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC					
30	Vibration		-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s^2 Constant, X,Y,Z 1hour each.					
31	Shock		-	Less than 196.1m/s^2					
32	Safety		-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020) UL508, CSA C22.2 No.107.1-01. Designed to meet Den-an Appendix 8 at 100VAC only.					
33	Line DIP		-	Designed to meet SEMI-F47 (200VAC Line only)					
34	Conducted Emission (*13)		-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B					
35	Radiated Emission (*13)		-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B					
36	Immunity (*13)		-	Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11					
37	Weight (Typ)		-	470g					
38	Size (W x H x D)		mm	33 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. Output derating needed when input voltage less than 90VAC. Refer to OUTPUT DERATING CURVE (A258-01-02/A-_).
*4. Not applicable for the inrush current to Noise Filter for less than 0.2ms.
*5. Measure with JEITA RC-9131B probe, Bandwidth of scope :100MHz.
*6. 85 - 265VAC, constant load.
*7. No load-Full load, constant input voltage.
*8. Constant current limit and Hiccup with automatic recovery. Avoid to operate at over load or short circuit condition.
*9. OVP circuit will shut down output, manual reset (Re power on).
*10. Measured by the each measuring method of UL, CSA, EN and Den-an (at 60Hz), Ta=25°C.
*11. As for ON/OFF control mode, see the right figure.
*12. Output Derating
- Derating at standard mounting. Refer to OUTPUT DERATING CURVE (A258-01-02/A-_).
- Load (%) is percent of maximum output power or maximum output current, do not exceed its derating of maximum load.
*13. 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.



The control mode is shown below.

+R & -R terminal condition	Output condition
SW ON (Higher than 4.5V)	ON
SW OFF (Lower than 0.8V)	OFF

External voltage level : E	External resistance : R
4.5 ~ 12.5VDC	No required
12.5 ~ 24.5VDC	1.5kΩ