

HWS150A/ME

SPECIFICATIONS

A259-01-01/ME

ITEMS		MODEL	HWS150A -5/ME	HWS150A -12/ME	HWS150A -15/ME	HWS150A -24/ME	HWS150A -48/ME	
1	Nominal Output Voltage	V	5	12	15	24	48	
2	Maximum Output Current	A	30	13	10	6.5	3.3	
3	Maximum Output Power	W	150.0	156.0	150.0	156.0	158.4	
4	Efficiency (Typ.) (*1)	100VAC	%	85	85	86	88	89
		200VAC	%	87	88	89	90	91
5	Input Voltage Range (*2)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC					
6	Input Current (Typ.) (*1)	A	1.9/0.95					
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	Voltage Fluctuations / Flicker Emissions	-	Designed to meet IEC61000-3-3					
10	Power Factor (Typ.) (*1)	-	0.98/0.93					
11	Output Voltage Range	V	4.0 - 6.0	9.6 - 14.4	12.0 - 18.0	19.2 - 28.8	38.4 - 52.8	
12	Maximum Ripple & Noise (*4)	0≤Ta≤70°C	mV	120	150	150	150	200
		-10≤Ta<0°C	mV	160	180	180	180	240
13	Maximum Line Regulation (*5)	mV	20	48	60	96	192	
14	Maximum Load Regulation (*6)	mV	40	96	120	150	240	
15	Temperature Coefficient	-	Less than 0.02% / °C					
16	Over Current Protection (*7)	A	31.5 ≤	13.6 ≤	10.5 ≤	6.82 ≤	3.46 ≤	
17	Over Voltage Protection (*8)	V	6.25 - 7.25	15.0 - 17.4	18.8 - 21.8	30.0 - 34.8	55.2 - 64.8	
18	Hold-up Time (Typ.) (*1)	-	20ms					
19	Leakage Current (*9)	-	Less than 0.5mA. 0.2mA (Typ) at 100VAC / 0.4mA (Typ) at 230VAC					
20	Remote Sensing	-	Possible					
21	Parallel Operation	-	-					
22	Series Operation	-	Possible					
23	Operating Temperature (*10)	-	-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 (*11)	-	Approved by ES60601-1, EN60601-1, CSA-C22.2 No.60601-1					
33	Line DIP	-	Designed to meet SEMI-F47 (200VAC Line only)					
34	Conducted Emission (*12)	-	Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B					
35	Radiated Emission (*12)	-	Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B					
36	Immunity (*12)	-	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	37 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 (ES, 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 ES, CSA and EN (at 60Hz).
- *10. Output Derating
 - Derating at standard mounting. Refer to OUTPUT DERATING CURVE (A259-01-02_).
 - Load (%) is percent of maximum output power or maximum output current, do not exceed its derating of maximum load.
- *11. As for ES60601-1, EN60601-1 and CSA-C22.2 No.60601-1, 3rd Edition and MOOP level.
- *12. 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.