

## SPECIFICATIONS

DA033-01-01D

ITEMS		MODEL	HWS1800T -3	HWS1800T -5	HWS1800T -6	HWS1800T -7	HWS1800T -12	HWS1800T -15	HWS1800T -24	HWS1800T -36	HWS1800T -48	HWS1800T -60			
1	Nominal Output Voltage	V	3.3	5	6	7.5	12	15	24	36	48	60			
2	Maximum Output Current	A	300	300	250	200	125	100	75	50	37.5	30			
3	Peak output Current (*12)	A	-	-	300	240	150	120	105	70	52.5	42			
4	Maximum Output Power	W	990	1500	1500	1500	1500	1500	1800	1800	1800	1800			
5	Peak Output Power (*12)	W	-	-	1800	1800	1800	1800	2520	2520	2520	2520			
6	Efficiency (200VAC)(Typ) (*1)	%	75	81	82	84	84	84	88	88	90	90			
7	Input Voltage Range (*2)	-	3 phase 170 - 265VAC (47-63Hz)												
8	Input Current (200VAC)(Typ) (*1)	A	4.5	6.0					7.0						
9	Inrush Current (Typ) (*3)	A	40A at 200VAC												
10	Power Factor (200VAC)(Typ) (*1)	-	0.94												
11	Output Voltage Range	V	2.64-3.96	4.0-6.0	4.8-7.2	6.0-9.0	9.6-14.4	12.0-18.0	19.2-28.8	28.8-43.2	38.4-52.8	48.0-66.0			
12	Maximum Ripple & Noise (*4)	+25-+71°C	mV	150	150	150	150	200	200	250	250	300	400		
		0°C	mV	200	200	200	200	200	200	250	250	300	400		
		-10°C	mV	220	220	220	220	250	250	300	300	400	600		
13	Maximum Line Regulation (*5)	mV	36	36	36	40	48	60	96	144	192	240			
14	Maximum Load Regulation (*6)	mV	60	60	60	60	72	90	144	216	288	360			
15	Temperature Coefficient	-	Less than 0.02%/°C												
16	Over Current Protection (*7)	A	315.0-	315.0-	303.0-	242.4-	151.5-	121.2-	106.0-	70.7-	53.0-	42.4-			
17	Over Voltage Protection (*8)	V	4.12-4.62	6.25-7.0	7.5-8.4	9.37-10.5	15.0-17.4	18.7-21.8	30.0-34.8	45.0-49.7	55.2-60.0	69.0-75.0			
18	Hold-up Time (Typ) (*9)	-	20ms						18ms						
19	Leakage Current (*10)	-	2.6mA MAX at 240VAC												
20	Remote Sensing	-	Possible												
21	Remote ON/OFF control	-	Possible												
22	Monitoring Signal	-	PF (Open Collector Output)												
23	Output Voltage External Control	-	Possible												
24	Parallel Operation	-	Possible												
25	Series Operation	-	Possible												
26	Operating Temperature (*11)	-	-10 - +71°C, Start up -20 - +71°C												
		-10 - +40°C	W	990	1500					1800					
		+50°C	W	825	1250	1500					1680				
		+60°C	W	660	1000	1125					1300				
		+71°C	W	495	750					900					
27	Operating Humidity	-	10 - 90%RH (No Condensing)												
28	Storage Temperature	-	-30 - +85°C												
29	Storage Humidity	-	10 - 95%RH (No Condensing)												
30	Cooling	-	Forced Air By Blower Fan												
31	Withstand Voltage	-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output-FG : 500VAC (300mA), (60V model 651VAC (390mA)), Output-CNT:100VAC (100mA) for 1min.												
32	Isolation Resistance	-	More than 100Mohm Output - FG ... 500VDC More than 10Mohm Output - CNT ... 100VDC at 25°C and 70%RH												
33	Vibration	-	At no operating, 10 - 55Hz (Sweep for 1min.) 19.6m/s <sup>2</sup> Constant, X,Y,Z 1h each.												
34	Shock (In package)	-	Less than 196.1m/s <sup>2</sup>												
35	Safety	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020)												
36	Line DIP	-	Designed to meet SEMI-F47												
37	Conducted Emission	-	Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A												
38	Radiated Emission	-	Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A												
39	Immunity	-	Designed 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												
40	Weight (Typ)	-	4000					3800g							
41	Size (W x H x D)	mm	126.5 x 82 x 280 ( Refer to Outline Drawing )												

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

=NOTES=

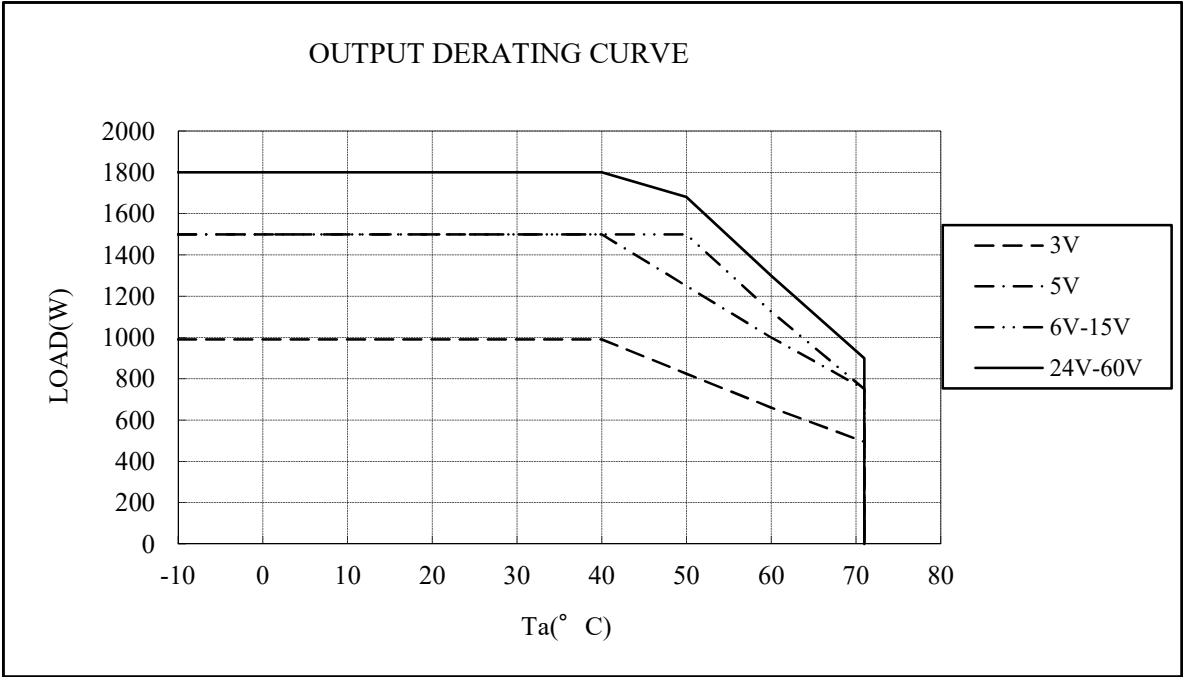
- \*1. At Ta=25°C and maximum output power.
- \*2. For cases where conformance to various safety specs (UL, CSA, EN) are required, input voltage range will be 200 - 240VAC (50/60Hz).
- \*3. First in-rush current. Not applicable to the first 0.2ms in-rush current flowing into the power supply noise filter.
- \*4. Measure with JEITA RC-9131A probe, Bandwidth of scope :100MHZ.  
(at 100uF electric capacitor and 0.47uF film capacitor on the test fixture board.)  
Ripple noise spec for ambient temperature between -10 to 25 is a linearity value with respect to the -10 degrees C and 25 degrees C specs.
- \*5. 170 - 265VAC , constant load.
- \*6. No load-Full load, constant input voltage.
- \*7. Constant current limit with automatic recovery. Over current condition for more than 5 seconds will cause the output to shutdown.  
Output current exceeding maximum rated output current for more than 10 seconds continuously will result to output shutdown.
- \*8. OVP circuit will shut down output, manual reset (Power cycle) or ON/OFF CNT signal reset.
- \*9. At 200VAC (50/60Hz), nominal output voltage and maximum output current.
- \*10. Measured by the each measuring method of UL, CSA and EN (at 60Hz), Ta=25°C.
- \*11. Ratings - Derating at standard mounting.  
- As for other mountings, refer to derating curve ( DA033-01-02\_ ).
- \*12. Peak output current is less than 10 seconds, and duty 35% max.

**HWS1800T**

**OUTPUT DERATING**

DA033-01-02

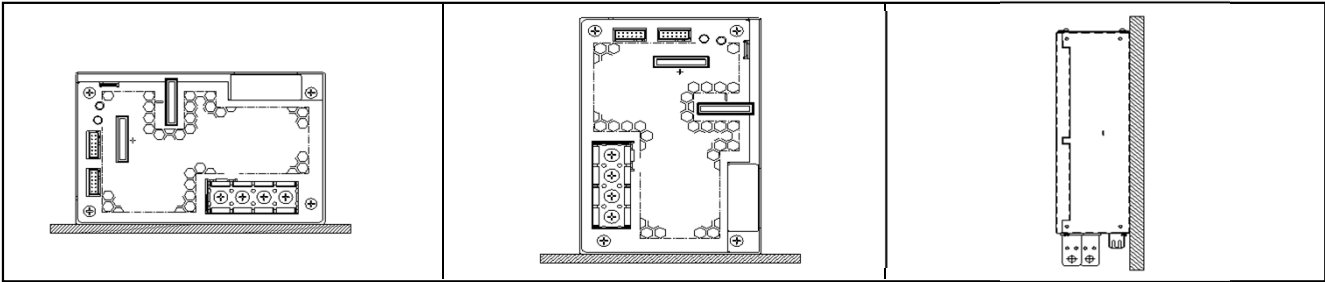
Ta(°C)	Mounting Output	LOAD(w)			
		A,B,C,D			
		3V	5V	6V-15V	24V-60V
-10 - +40		990	1500	1500	1800
50		825	1250	1500	1680
60		660	1000	1125	1300
71		495	750	750	900



**MOUNTING A**  
(STANDARD MOUNTING)

**MOUNTING B**

**MOUNTING C**



**MOUNTING D**

**Inhibit**

