

## SWS1000L SPECIFICATIONS

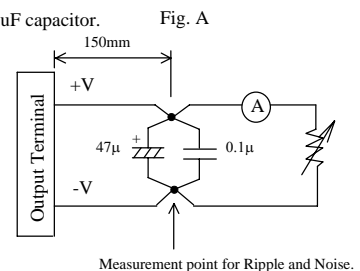
## PA578-01-01A

ITEMS		MODEL	SWS1000L-5	SWS1000L-12	SWS1000L-24
1	Nominal Output Voltage	V	5	12	24
2	Maximum Output Current ( Peak Output Current ) (* 1)	A	200	88	44 ( 51 )
3	Maximum Output Power ( Peak Output Power ) (* 1)	W	1000	1056	1056 ( 1224 )
4	Efficiency (Typ) (115/230VAC) (* 2)	%	79 / 81	82 / 84	84 / 86
5	Input Voltage Range (* 3)	-	85 - 265VAC (47-63Hz) or 120 - 350VDC		
6	Input Current (Typ) (115/230VAC) (* 2)	A	12 / 6		
7	Inrush Current (Typ) (* 4)	-	20A/40A at 115VAC, 40A/40A at 230VAC, Ta=25°C (first inrush/second inrush)		
8	PFHC	-	Designed to meet IEC61000-3-2		
9	Power Factor (Typ) (115/230VAC) (* 2)	-	0.98 / 0.95		
10	Output Voltage Range	V	4.0-6.0	9.6-14.4	19.2-28.8
11	Ripple and Noise (115/230VAC) (* 5)	0≤Ta≤74°C	mV	120	150
		-20≤Ta<0°C	mV	160	180
12	Line Regulation (* 6, 7)	mV	20	48	96
13	Load Regulation (* 6, 8)	mV	30	72	144
14	Temperature Coefficient	-	Less than 0.02%/°C		
15	Over Current Protection (* 9)	A	210 ≤	92.4 ≤	51.6 ≤
16	Over Voltage Protection (* 10)	V	6.25-7.25	15.0-17.4	30.0-34.8
17	Hold-Up Time (Typ) (115/230VAC) (* 2)	-	20ms		
18	Leakage current (Typ) (* 11)	-	0.1mA at 115VAC, 60Hz / 0.2mA at 230VAC, 60Hz		
19	Remote Sensing	-	Possible		
20	Remote ON/OFF control	-	Possible		
21	Monitoring Signal	-	ALM ( Open Collector Output )		
22	Parallel Operation	-	Possible		
23	Series Operation	-	Possible		
24	Operating Temperature (* 12)	-	- 20 to + 74 °C (-20°C to +50°C: 100%, +74°C: 50%) 100% load start up at -40°C		
25	Operating Humidity	-	20 to 90 %RH (No dewdrop)		
26	Storage Temperature	-	- 40 to +85°C		
27	Storage Humidity	-	10 to 95%RH (No dewdrop)		
28	Cooling	-	Forced air by build-in fan		
29	Withstand Voltage	-	Input - Output : 4.0kVAC (20mA), Input - FG : 2.0kVAC (20mA) Output - FG : 500VAC (100mA), Output - CNT/ALM/AUX : 100VAC (100mA) for 1min.		
30	Isolation Resistance	-	Input - FG, Input - Output and Output - FG: More than 50MΩ (500VDC) Output - CNT/ALM/AUX: More than 50MΩ (100VDC) at Ta=25°C and 70%RH		
31	Vibration (* 13)	-	Designed to meet MIL-STD-810F 514.5 Category 4, 10		
32	Shock (In package)	-	Designed to meet MIL-STD-810F 516.5 Procedure I,VI		
33	Safety (* 14)	-	Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178, UL60601-1, EN60601-1, CSA-C22.2 No.601.1-M90 Designed to meet DENAN, EN61010-1.		
34	Line Dip	-	Designed to meet SEMI-F47 (200VAC line only)		
35	EMI	-	Designed to meet VCCI-B, FCC-B, EN55011/EN55022-B		
36	Immunity	-	Designed to meet EN61000-4-2 (Level 2,3), -3 (Level 3), -4 (Level 3), -5 (Level 3,4), -6 (Level 3), -8 (Level 4), -11		
37	Weight (Typ)	-	2.3kg		
38	Dimension (W x H x D)	mm	150 x 61 x 240 (Refer to Outline Drawing)		

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

= NOTES=

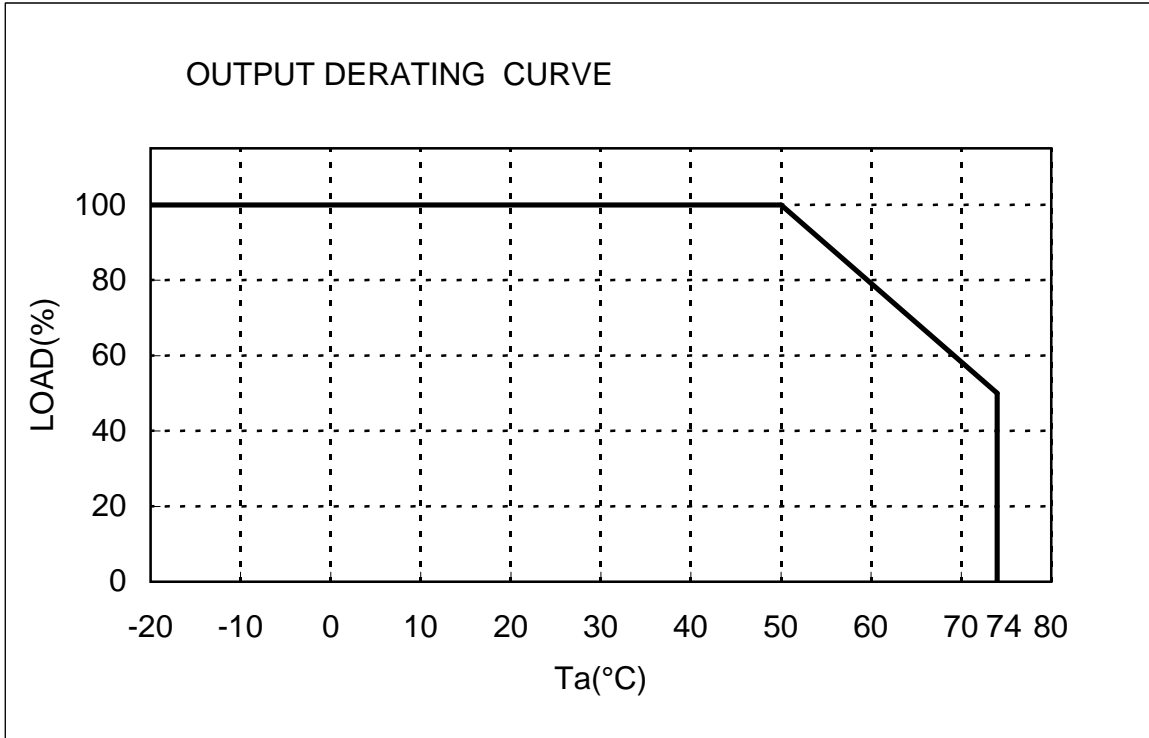
- \* 1 : ( ) : Peak Output Current is possible at 170-265VAC input range , operating period at Peak Output Current is less than 10sec, duty less than 35% .  
Average output power and current is less than Maximum Output Power and Maximum Output Current.
- \* 2 : At Maximum Output Power, nominal input voltage, Ta = 25°C.
- \* 3 : For cases where conformance to various safety specs ( UL, CSA, EN ) are required, to be described as 100 - 240VAC, 50 / 60Hz on name plate.
- \* 4 : First/second inrush current, not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- \* 5 : Please refer to Fig. A for measurement point of ripple and noise.  
Ripple & noise are measured at 20MHz by using a twisted pair of load wires terminated with a 0.1uF and 47uF capacitor.
- \* 6 : Measure line & load regulation at output terminal M4 tapped point.
- \* 7 : 85 - 265VAC, constant load.
- \* 8 : No load - Full load (Maximum power ), constant input voltage.
- \* 9 : Constant current limit with automatic recovery.  
Avoid to operate at overload or dead short for more than 30 seconds.
- \* 10 : OVP circuit will shutdown output, manual reset (Remote ON/OFF control reset or Re-power on).
- \* 11 : Measured by each measuring method of UL, CSA, EN and DENAN (at 60Hz, Ta=25°C.  
Worst case: < 0.3mA at 264VAC, 63Hz (Normal Condition); < 0.5mA (Single Fault Condition)
- \* 12 : Refer to Output Derating Curve (PA578-01-02\_ ) for details of output derating versus ambient temperature.  
- Load (%) is percent of Maximum Output Power and Maximum Output Current (Item 2 and 3).  
Do not exceed derating of Maximum Output Power and Maximum Output Current.  
- 100% load start up at -40°C is possible. However, it may not fulfil all the specifications.
- \* 13 : Category 4 exposure levels: Trunk transportation over U.S. highways, Composite two-wheeled trailer.
- \* 14 : As for DENAN, designed to meet at 100VAC.



**SWS1000L OUTPUT DERATING**

PA578-01-02

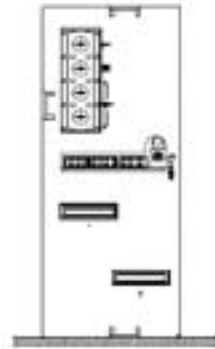
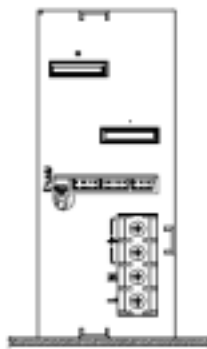
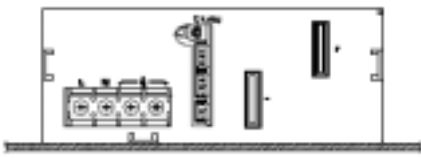
Ta(°C)	LOAD(%)
	Mounting A,B,C
-20~50	100%
74	50%



**Mounting A**

**Mounting B**

**Mounting C**



**Don't Use**

**Don't Use**

**Don't Use**

