

VS150P

SPECIFICATIONS

A222-01-01-C

ITEMS		MODEL	VS150P-24
1	Nominal Output Voltage	-	24V
2	Minimum Output Current	-	0A
3	Average Output Current	-	6.3A
4	Peak Output Current (*1)	-	12A
5	Average Output Power	-	151.2W
6	Peak Output Power (*1)	-	288W
7	Efficiency (Typ) (*2)	-	86.0%
8	Input Voltage Range (*3)	-	85-132VAC (47-440Hz) or 110-175VDC
9	Input Current (Typ) (*2)	-	3.6A
10	Inrush Current (Typ) (*4)	-	20A at 100VAC
11	Output Voltage Range	-	21.6V ~ 26.4V
12	Maximum Ripple & Noise (*5)	0≤Ta≤60°C	180mV
		-10≤Ta<0°C	240mV
13	Maximum Line Regulation (*5,6)	-	96mV
14	Maximum Load Regulation (*5,7)	-	150mV
15	Maximum Temperature Drift (*5,8)	-	240mV
16	Over Current Protection (*9)	-	12.3A~ at Ta:25°C
17	Over Voltage Protection (*10)	-	115% ~ 135%
18	Hold-Up Time (Typ) (*2,13)	-	17ms
19	Leakage Current (*11)	-	Less than 0.75mA
20	Parallel Operation		-
21	Series Operation		Possible
22	Operating Temperature (*12)	-	Convection: -10~50°C:100%, 60°C:50% Forced Air: -10~50°C:100%, 60°C:70%
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 & Forced Air Cooling (Depends on o/p loading)
27	Withstand Voltage	-	Input-Output : 2kVAC(20mA), Input-FG : 2kVAC(20mA) Output-FG : 500VAC(100mA) 1min.
28	Isolation Resistance	-	More than 100MΩ at Ta:25°C and 70%RH Output-FG 500VDC
29	Vibration	-	At no operating, 10-55Hz (sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each
30	Shock	-	Less than 196.1m/s ²
31	Safety	-	Approved by UL60950, CSA60950, EN60950 & Built to meet DENAN
32	EMI (*13)	-	Built to meet VCCI-B & FCC class B
33	Weight (Typ)	-	480g
34	Size (WxHxD)	mm	75 x 33 x 222

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

==NOTES==

- *1. Operating time at peak output current is less than 10sec. with average output power and current (Duty=0.35). Please refer to Fig.A.& A222-01-04_.
- *2. At 100VAC and average output power, Ta=25°C.
- *3. For cases where conformance to various safety specs are required to be described as 100-120VAC, 50/60Hz on name plate.
- *4. Not applicable for the inrush current to Noise Filter for less than 0.2ms.
- *5. Please refer to Fig B for measurement determination of line & load regulation and output ripple voltage.
- *6. 85-132VAC, constant load.
- *7. Min load - full load (Average output power), constant input voltage.
- *8. -10 ~ +50°C constant input voltage and load.
- *9. Current limiting with automatic recovery. Avoid to operate at over load or dead short for more than 30 seconds.
- *10. OVP circuit will shutdown output, manual reset (Re power on).
- *11. Measured by each measuring method of UL, CSA, EN and DENAN (at 60Hz).
- *12. At standard mounting method Fig C.
Refer to derating curve (A222-01-02_,A222-01-03_).
- Load(%) is percent of average output load.
Do not exceed derating in both average output power and current.
- *13. At 6.3A continuous output current condition.

Fig.A

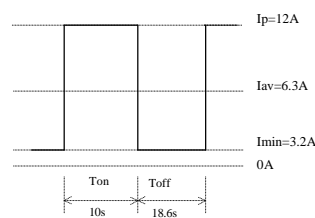


Fig.B

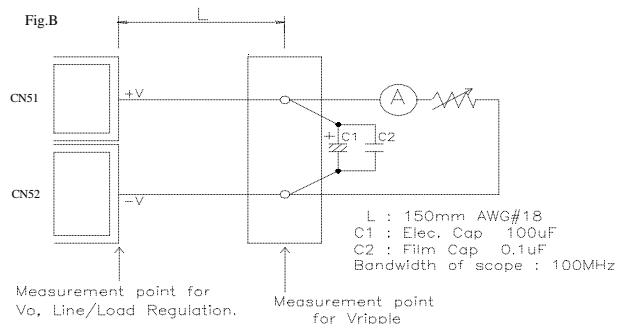
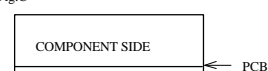


Fig.C



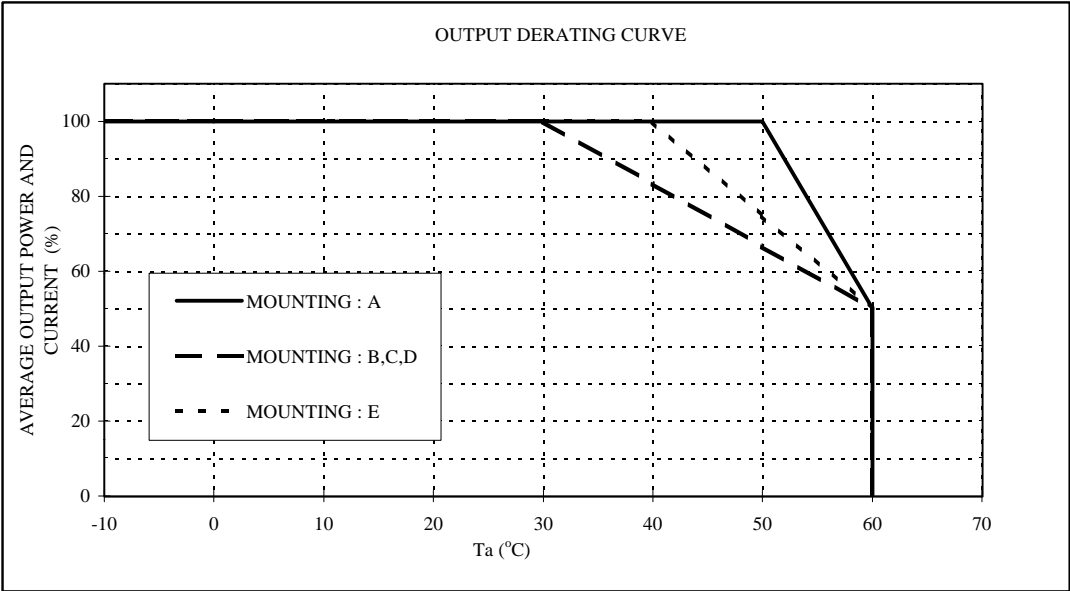
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OUTPUT DERATING

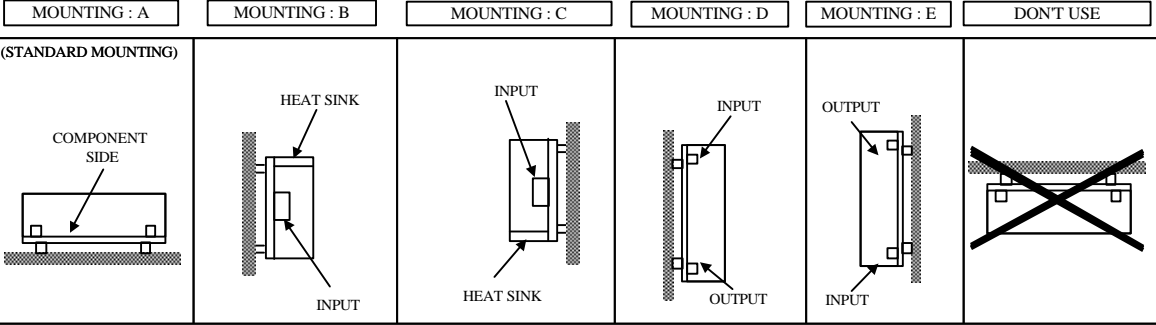
A222-01-02-A

COOLING: CONVECTION COOLING

Ta (°C)	AVERAGE OUTPUT POWER AND CURRENT (%)		
	MOUNTING : A	MOUNTING : B,C,D	MOUNTING : E
-10	100	100	100
0	100	100	100
30	100	100	100
40	100	83.4	100
50	100	66.7	75
60	50	50	50



*PEAK OUTPUT CURRENT DOES NOT NEED



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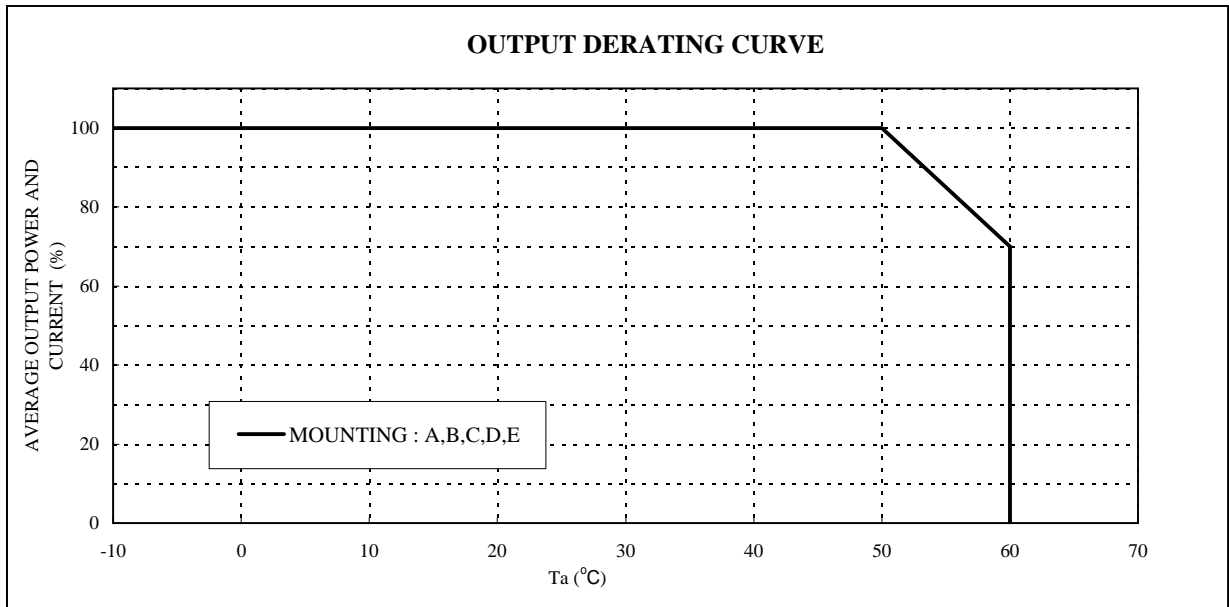
OUTPUT DERATING

A221-01-03-A

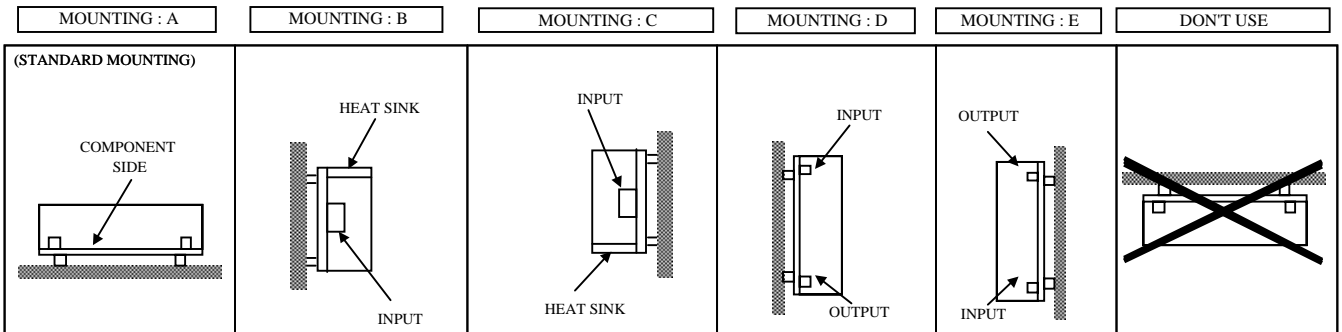
COOLING: FORCE AIR COOLING

Ta (° C)	AVERAGE OUTPUT POWER AND CURRENT (%)
	MOUNTING : A,B,C,D,E
-10	100
0	100
50	100
60	70

RECOMMENDED AIR VELOCITY: 0.7m/s



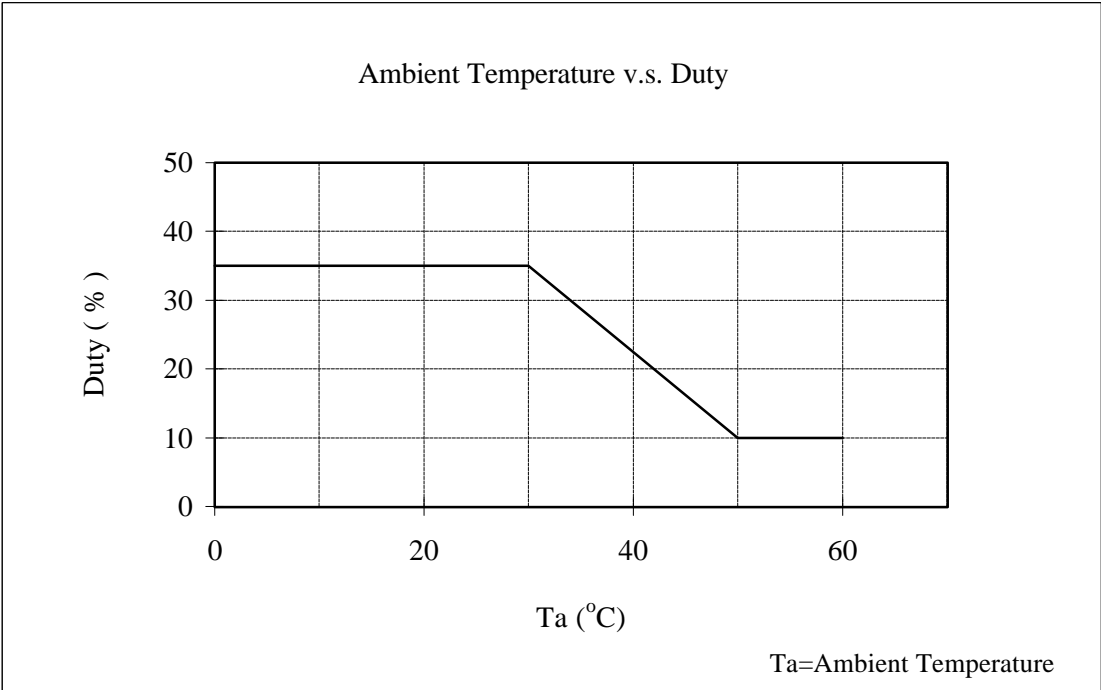
*PEAK OUTPUT CURRENT DOES NOT NEED DERATING
 *AIR MUST FLOW THROUGH COMPONENT SIDE.
 (THE AIR VELOCITY IS MEASURED AT COMPONENT SIDE OF P.C.B)



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Peak Output Current Condition

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Peak Output Current

Relation between average output current and peak output current must satisfy formulas below. Also operating time at peak output current should be less than 10 sec.

Ip : Peak output current (A)
 Iav : Average output current of Specification (A)
 Im : Average output current (A)
 t : Pulse width of peak output current (sec)
 (Operating time at peak output)
 T : Period (sec)

$$I_{av} \geq I_m = \frac{I_p \times t}{T}$$

$$I_{av} \geq I_m = \frac{(I_p - a) \times t}{T} + a$$