

VS50E

SPECIFICATIONS

A239-01-01E

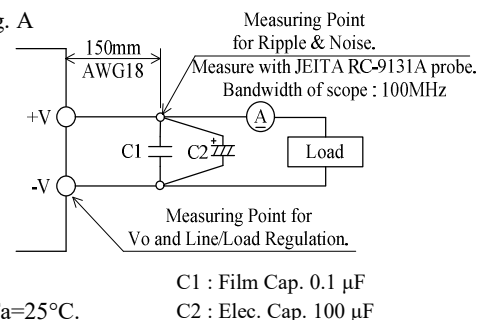
ITEMS		MODEL	VS50E-3	VS50E-5	VS50E-12	VS50E-15	VS50E-24	VS50E-48	
1	Nominal Output Voltage	V	3.3	5	12	15	24	48	
2	Maximum Output Current	A	10	10	4.3	3.5	2.5	1.3	
3	Maximum Output Power	W	33.0	50.0	51.6	52.5	60.0	62.4	
4	Efficiency (Typ) (*1)	%	80	85	85	85	85	87	
5	Input Voltage Range (*2)	-	85 - 132VAC (47 - 63Hz)						
6	Input Current (Typ) (*1)	A	0.9	1.1			1.3		
7	Inrush Current (Typ) (*1)	-	30A at Cold Start						
8	Output Voltage Range	V	2.97 - 3.63	4.5 - 5.5	10.8 - 13.2	13.5 - 16.5	21.6 - 26.4	43.2 - 52.8	
9	Maximum Ripple & Noise (*3)	0≤Ta≤70°C	mV	120	120	150	150	150	200
		-10≤Ta<0°C	mV	160	160	180	180	180	240
10	Maximum Line Regulation (*3)(*4)	mV	20	20	48	60	96	192	
11	Maximum Load Regulation (*3)(*5)	mV	40	40	96	120	150	240	
12	Temperature Coefficient (*3)	-	Less than 0.02% / °C						
13	Over Current Protection (*6)	A	10.5 <	10.5 <	4.51 <	3.67 <	2.62 <	1.36 <	
14	Over Voltage Protection (*7)	V	3.80 - 4.46	5.75 - 6.75	13.8 - 16.2	17.3 - 20.3	27.6 - 32.4	55.2 - 64.8	
15	Hold-up Time (Typ) (*1)	-	20ms						
16	Leakage Current (*8)	-	Less than 0.5mA						
17	Parallel Operation	-	-						
18	Series Operation	-	Possible						
19	Operating Temperature (*9)	-	Convection : -10 to +70°C (-10 to +50°C:100%, +60°C:70%, +70°C:20%)						
20	Operating Humidity	-	30 to 90%RH (No Condensing)						
21	Storage Temperature	-	-30 to +85°C						
22	Storage Humidity	-	10 to 95%RH (No Condensing)						
23	Cooling	-	Convection Cooling						
24	Withstand Voltage	-	Input - FG : 2kVAC (10mA), Input - Output : 2kVAC (10mA) Output - FG : 500VAC (20mA) for 1min						
25	Isolation Resistance	-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC						
26	Vibration	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each.						
27	Shock	-	Less than 196.1m/s ²						
28	Safety	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020), EN50178(OV II), Designed to meet Den-an Appendix12 (J60950-1)						
29	Conducted Emission	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
30	Radiated Emission	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
31	Immunity	-	Designed to meet IEC61000-4-2(Level 2,3), -3(Level 3), -4(Level 3), -5(Level 2,3), -6(Level 3), -8(Level 4), -11						
32	Weight (Typ)	g	150						
33	Size (W x H x D) (*10)	mm	50 x 23 x 132 (Refer to Outline Drawing)						

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

=NOTES=

- *1. At 100VAC, 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 - 120VAC(50/60Hz).
- *3. Please refer to Fig. A for measurement of line & load regulation and ripple voltage.
- *4. 85 - 132VAC, constant load.
- *5. No load-Full load, constant input voltage.
- *6. Fold back current limit with automatic recovery.
Avoid to operate at over load or short circuit condition for more than 30seconds.
- *7. OVP circuit will shut the output down, manual reset (Re power on).
- *8. Measured by the each measuring method of UL, CSA, EN and DENAN(at 60Hz), Ta=25°C.
- *9. Ratings - Derating at standard mounting. Refer to output derating curve(A239-01-02_).
- When forced air cooling, refer to derating curve(A239-01-03_).
- Load (%) is percent of maximum output power or maximum output current, whichever is greater.
- *10. Not include lead length on solder side.

Fig. A



C1 : Film Cap. 0.1 μF
C2 : Elec. Cap. 100 μF

VS50E

OUTPUT DERATING

A239-01-02

*COOLING : CONVECTION COOLING

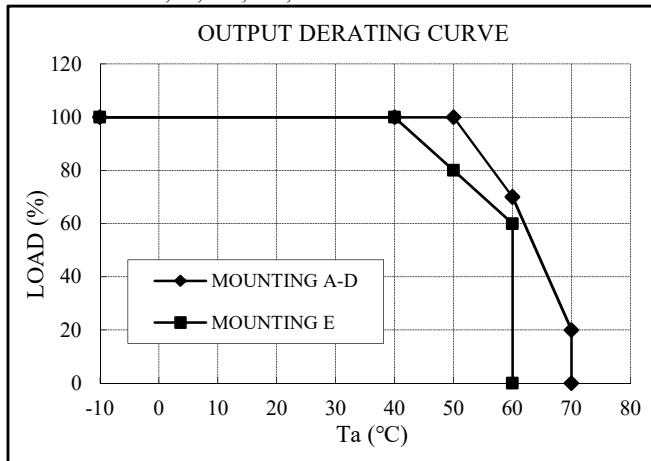
VS50E-3, -5, -12, -15, -24

Ta (°C)	LOAD (%)	LOAD (%)
	MOUNTING A-D	MOUNTING E
-10 to +40	100	100
50	100	80
60	70	60
70	20	-

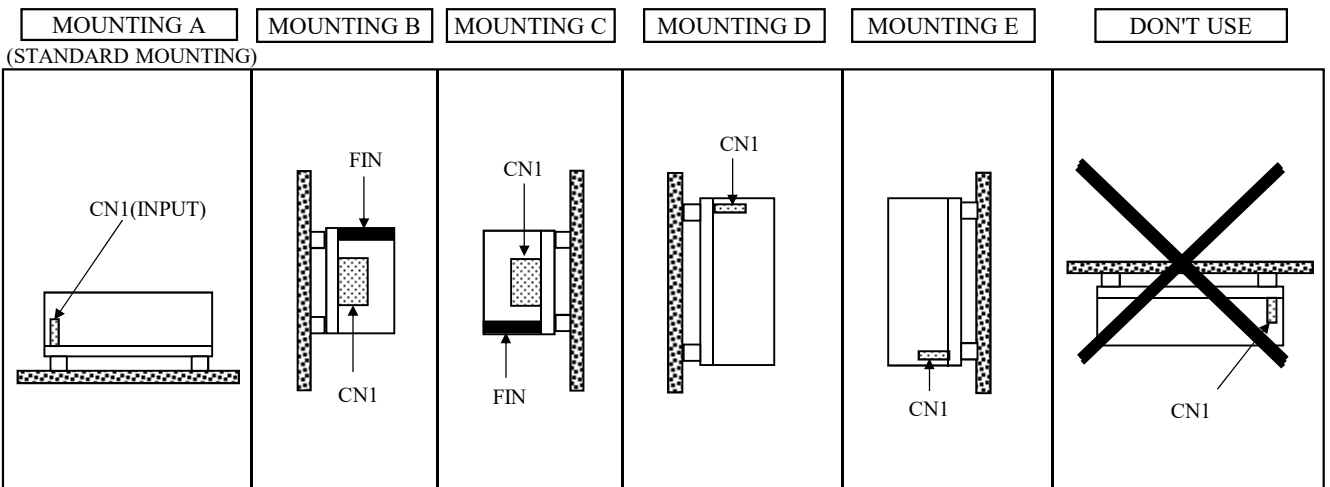
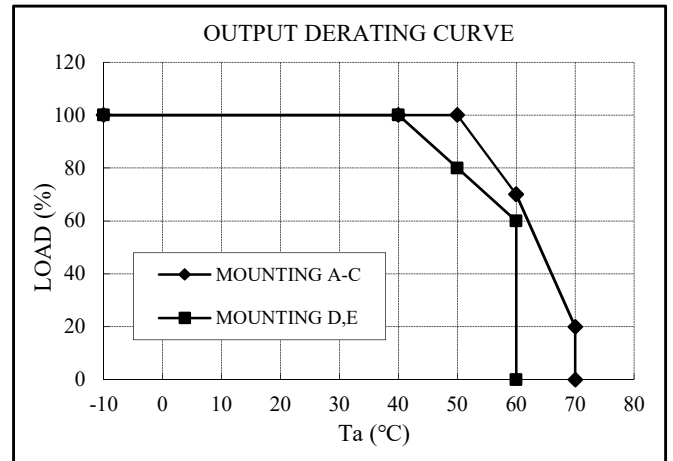
VS50E-48

Ta (°C)	LOAD (%)	LOAD (%)
	MOUNTING A-C	MOUNTING D, E
-10 to +40	100	100
50	100	80
60	70	60
70	20	-

VS50E-3, -5, -12, -15, -24



VS50E-48



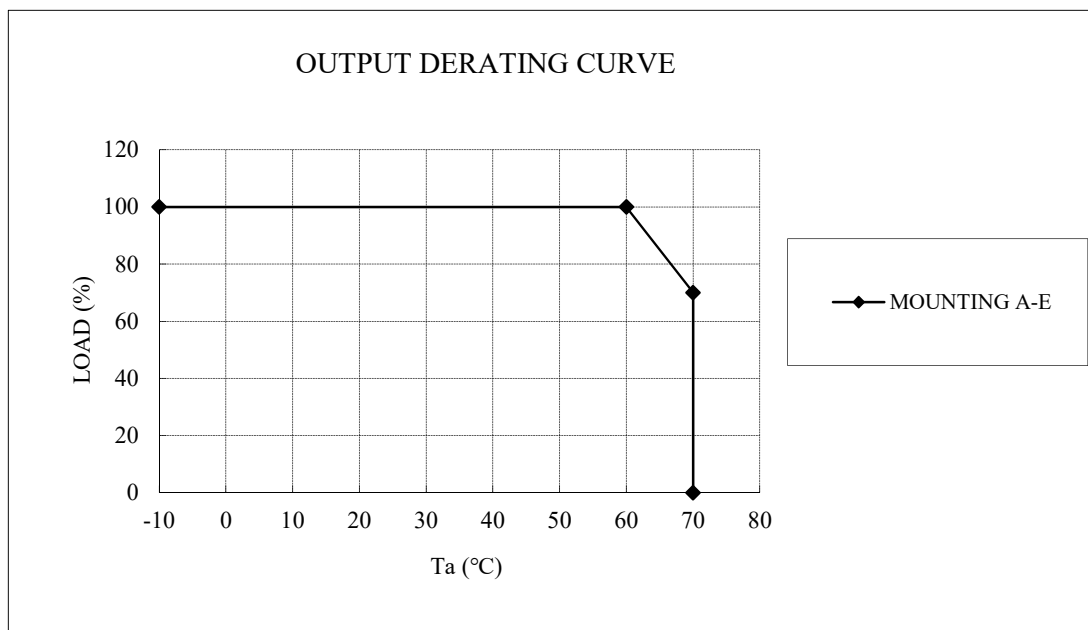
OUTPUT DERATING

A239-01-03

*COOLING : FORCED AIR COOLING

Ta (°C)	LOAD (%)
	MOUNTING A-E
-10 to +60	100
70	70

Air flow $\geq 0.5\text{m}^3/\text{min}$: Air must flow through component side.



MOUNTING A (STANDARD MOUNTING) MOUNTING B MOUNTING C MOUNTING D MOUNTING E DONT USE

