

SPECIFICATIONS

A123-01-01B

Items	Mode	HR-9F -2	HR-9F -5	HR-9F -6	HR-9F -9	HR-9F -12	HR-9F -15	HR-9F -18	HR-9F -20	HR-9F -24	HR-9F -28				
1	Nominal Output Voltage	V	2	5	6	9	12	15	18	20	24	28			
2	Maximum Output Current	A	6	6	5	3.8	3	2.6	2.3	2.1	1.8	1.6			
3	Maximum Output Power	W	12	30	30	34.2	36	39	41.4	42	43.2	44.8			
4	Efficiency (typ) (*1)	%	60	70	70	72	72	74	76	76	76	77			
5	Input Voltage Range (*2)	—	90~132VAC(47~440Hz) or 115~180VDC												
6	Input Current (typ) (*1)	A	0.4	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.1			
7	In-rush Current (typ) (*3)	—	15A at 100VAC												
8	Output Voltage range	—	±10%												
9	Maximum Ripple & Noise	mV	50	50	50	60	60	60	80	80	80	80			
10	Maximum Line Regulation (*4)	mV	20	20	24	36	48	60	72	80	96	112			
11	Maximum Load Regulation (*5)	mV	20	20	24	36	48	60	72	80	96	112			
12	Over Current Protection (*6)	A	6.3 ~7.5	6.3 ~7.5	5.3 ~6.3	4.0 ~4.8	3.2 ~3.8	2.7 ~3.3	2.4 ~2.9	2.2 ~2.7	1.9 ~2.3	1.7 ~2.0			
13	Over Voltage Protection (*7)	V	2.7 ~2.9	5.75 ~6.25	6.9 ~7.5	10.5 ~11.2	14.0 ~15.0	17.5 ~18.7	21.0 ~22.5	23.4 ~25.0	28.0 ~30.0	32.7 ~35.0			
14	Hold-up time (*8)	—	More than 16ms												
15	Remote Sensing	—	Possible												
16	Remote ON/OFF Control (*9)	—	Possible												
17	Series Operation	—	Possible												
18	Parallel Operation	—	Possible												
19	Operating Temperature (*10)	—	-10°C ~ +71°C												
20	Operating Humidity	—	30% ~ 90%RH (No dewdrop)												
21	Storage Temperature	—	-30°C ~ +85°C												
22	Storage Humidity	—	10% ~ 95%RH (No dewdrop)												
23	Cooling	—	Convection cooled												
24	Temperature Coefficient	—	Less than 1% at -10°C ~ +71°C												
25	Withstand Voltage	—	Input-Output, Input-Chassis ... 2.0kVAC 1min (20mA)												
26	Isolation Resistance	—	More than 100MΩ at 25°C and 70%RH, Output-Chassis ... 500VDC												
27	Vibration	—	At no operating, 10~55Hz (sweep for 1min) Less than $19.6 \text{ m/s}^2 \times Y, Z, 1/h$ each												
28	Shock	—	Less than $196.1 \text{ m/s}^2$												
29	Safety Standard	—	Conform to UL1950-D3												
30	Conducted Emission Noise	—	Conform to FCC-class A												
31	Weight	—	450g												
32	Size (W×H×D)	mm	38×115×139mm (Refer to Outline Drawing)												

NOTES

- \*1 : At 100VAC & Maximum output power.
- \*2 : For cases where conformance to various safety specs are required to be described as 100-120VAC, 50/60Hz on front panel.
- \*3 : When resuming operation in less than 8 sec after power failure at no load, softstart circuit will not limit the in-rush current at turn-on.
- \*4 : From 90~132VAC or 115~180VDC, constant load.
- \*5 : From No load ~ Full load, constant input voltage.
- \*6 : Constant current limiting with automatic recovery.
- \*7 : Inverter shut-down method, manual reset.  
OVP circuit will shut-down output.
- \*8 : At 100VAC input, nominal output voltage & output power of 30W.
- \*9 : TTL compatible input ; 2V~open for shutdown  
0V~0.8V for power-on.  
Supply voltage to CNT terminal must not exceed 7V.
- \*10 : Ratings — Refer to Derating Curve on the right.  
— Load(%) is percent of maximum output power or maximum output current, whichever is greater.  
— +61~+71°C ; Forced air cooled by outer cooling method.  
— Refer to instruction manual for further mounting details.

Derating curve (vertical mounting)

