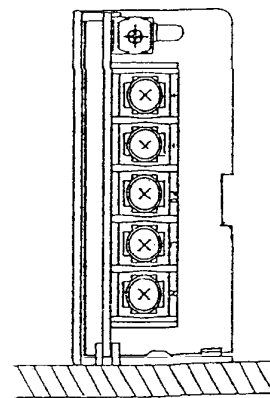


Item	Model	HK50A-5	HK50A-12	HK50A-15	HK50A-24	
1	Nominal Output Voltage	V	5	12	15	24
2	Maximum Output Current	A	10.0	4.2	3.4	2.2
3	Maximum Output Power	W	50.0	50.4	51.0	52.8
4	Efficiency (Typ)	(*1) %	79	81	82	84
5	Input Voltage Range	(*2) -	85-132VAC (47-440Hz) or 110-175VDC			
6	Input Current (Typ)	(*1) -	1.2A at 100VAC			
7	Inrush Current (Typ)	(*3) -	30A at 100VAC			
8	Output Voltage Range	-	±10%			
9	Maximum Ripple & Noise	mv	120	150	150	150
10	Maximum Line Regulation	(*4) mv	20	48	60	96
11	Maximum Load Regulation	(*5) mv	40	96	120	150
12	Over Current Protection	(*6) -	105% ~			
13	Over Voltage Protection	(*7) -	115% to 135%			
14	Hold-Up Time (Typ)	(*1) -	20ms			
15	Series Operation	-	Possible			
16	Operating Temperature	(*8) -	0°C to +50°C (100%), 60°C (50%)			
17	Operating Humidity	-	30% to 90% RH			
18	Storage Temperature	-	-30°C to +85°C			
19	Storage Humidity	-	10% to 95% RH			
20	Cooling	-	Convection Cooled			
21	Temperature Coefficient	(*9) -	1% (Typ) at 0°C to +50°C			
22	Withstand Voltage	(*10) -	Input - Chassis , Input - Output : 2kVAC (20mA) Output - Chassis : 500VAC (100mA) for 1min			
23	Isolation Resistance	Ohm	More than 100M Ohm at 25°C and 70%RH Output-FG 500VDC			
24	Vibration	-	10-55Hz (sweep 1 min) less than 19.6m/s ² X,Y,Z 1 h each			
25	Shock	-	Less than 196.1m/s ²			
26	Safety	-	Approved by UL1950 & CSA234, Built to meet DENAN			
27	Conducted Radio Noise	-	Built to meet FCC class B, VCCI - B			
28	Weight	-	280 g			
29	Size (W.H.D.)	mm	31 . 68 . 119 (Refer to Outline Drawing)			

* NOTES :

- 1 : At 100VAC and Maximum Output Power, Ta = 25°C
- 2 : For cases where conformance to various safety specs (UL, CSA) are required to be described as 100 - 120VAC, 50/60Hz on name plate.
- 3 : Typical value on cold start, Ta = 25°C.
- 4 : From 85 to 132VAC or 110 to 175VDC, constant load.
- 5 : From No Load to Full Load, constant input voltage.
- 6 : Current limiting with automatic recovery.
Avoid to operate over load or dead short for more than 30 seconds.
- 7 : OVP circuit will shut down output, manual reset.
- 8 : At standard mounting (vertical).
- 9 : Constant input voltage & load.
- 10 : Refer to instruction manual for testing procedure.

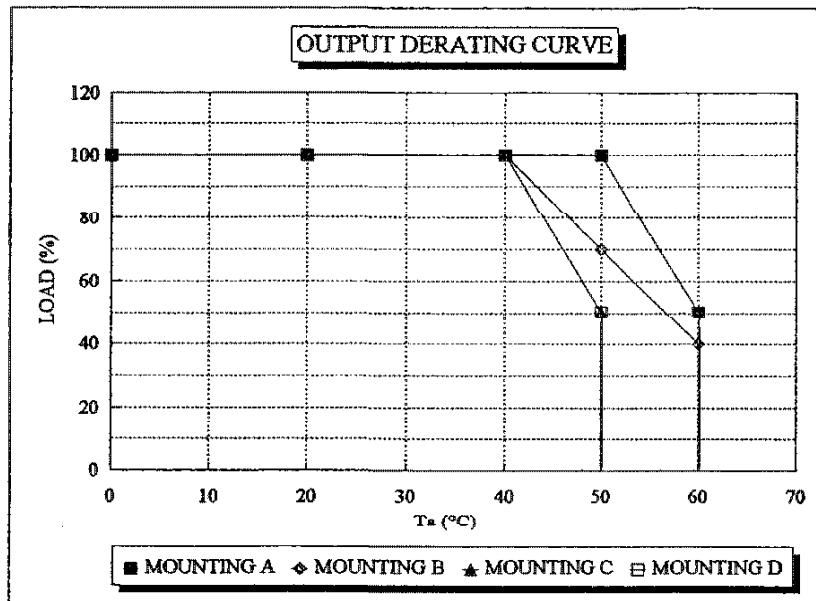


Standard Mounting

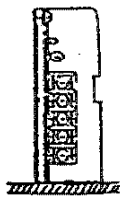
HK50A

* COOLING : CONVENTION COOLING

Ta (°C)	LOAD (%)			
	MOUNTING : A	MOUNTING : B	MOUNTING : C	MOUNTING : D
0	100	100	100	100
20	100	100	100	100
40	100	100	100	100
50	100	70	50	50
60	50	40	-	-



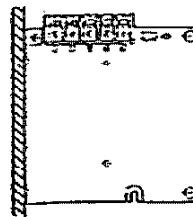
MOUNTING : A



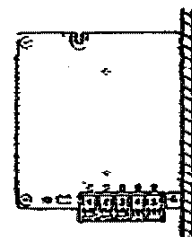
MOUNTING : B



MOUNTING : C



MOUNTING : D



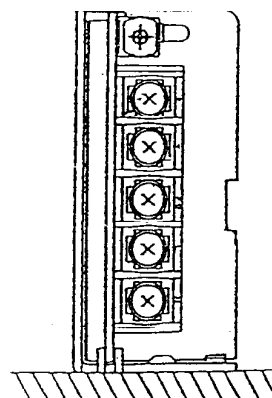
SPECIFICATIONS

PA779-01-03B

Item	Model	HK50A-3
1	Nominal Output Voltage	3.3 V
2	Maximum Output Current	10.0 A
3	Maximum Output Power	33.0 W
4	Efficiency (Typ) (*1)	74%
5	Input Voltage Range (*2)	85-132VAC (47-440Hz) or 110-175VDC
6	Input Current (Typ) (*1)	0.8A at 100VAC
7	Inrush Current (Typ) (*3)	30A at 100VAC
8	Output Voltage Range	±10%
9	Maximum Ripple & Noise	120 mV
10	Maximum Line Regulation (*4)	20 mV
11	Maximum Load Regulation (*5)	40 mV
12	Over Current Protection (*6)	105% ~
13	Over Voltage Protection (*7)	115% to 135%
14	Hold-Up Time (Typ) (*1)	20 ms
15	Series Operation	Possible
16	Operating Temperature (*8)	0°C to +50°C (100%), 60°C (50%)
17	Operating Humidity	30% to 90% RH
18	Storage Temperature	-30°C to +85°C
19	Storage Humidity	10% to 95% RH
20	Cooling	Convection Cooled
21	Temperature Coefficient (*9)	1% (Typ) at 0°C to 150°C
22	Withstand Voltage (*10)	Input - Chassis , Input - Output : 2kVAC (20mA) Output - Chassis : 500VAC (100mA) for 1min
23	Isolation Resistance	Ohm More than 100M Ohm at 25°C and 70%RH Output-FG 500VDC
24	Vibration	10-55Hz (sweep 1 min) less than 19.6m/s ² X,Y,Z 1 h each
25	Shock	Less than 196.1m/s ²
26	Safety	Built to meet UL1950, CSA234 & DENAN
27	Conducted Radio Noise	Built to meet FCC class B, VCCI - B
28	Weight	280 g
29	Size (W.H.D.)	mm 31 . 68 . 119 (Refer to Outline Drawing)

* NOTES :

- 1 : At 100VAC and Maximum Output Power, Ta = 25°C
- 2 : For cases where conformance to various safety specs (UL, CSA) are required to be described as 100 - 120VAC, 50/60Hz on name plate.
- 3 : Typical value on cold start, Ta = 25°C.
- 4 : From 85 to 132VAC or 110 to 175VDC, constant load.
- 5 : From No Load to Full Load, constant input voltage.
- 6 : Current limiting with automatic recovery.
Avoid to operate over load or dead short for more than 30 seconds.
- 7 : OVP circuit will shut down output, manual reset.
- 8 : At standard mounting (vertical).
- 9 : Constant input voltage & load.
- 10 : Refer to instruction manual for testing procedure.



Standard Mounting

HK50A

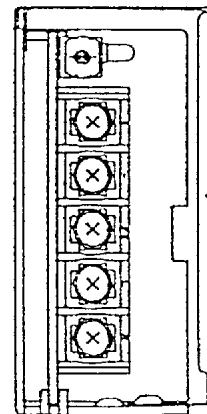
SPECIFICATIONS

PA779-01-04B

ITEMS		MODEL	HK50A-9
1	Nominal Output Voltage	-	9V
2	Maximum Output Current	-	5.6A
3	Maximum Output Power	-	50.4W
4	Efficiency (Typ)	(*1)	80%
5	Input Voltage Range	(*2)	85~132VAC(47~440Hz) or 110~175VDC
6	Input Current (Typ)	(*1)	1.2A at 100VAC
7	In-rush Current (Typ)	(*3)	30A at 100VAC
8	Output Voltage Range	-	±10%
9	Maximum Ripple & Noise	-	150mV
10	Maximum Line Regulation	(*4)	36mV
11	Maximum Load Regulation	(*5)	72mV
12	Over Current Protection	(*6)	105% ~
13	Over Voltage Protection	(*7)	115% to 135%
14	Hold-Up Time (Typ)	(*1)	20ms
15	Series Operation	-	Possible
16	Operating Temperature	(*8)	0°C to +50°C(100%), 60°C(50%)
17	Operating Humidity	-	30% to 90% RH
18	Storage Temperature	-	-30°C to +85°C
19	Storage Humidity	-	10% to 95% RH
20	Cooling	-	Convection Cooled
21	Temperature Coefficient	(*9)	1%(Typ) at 0°C to +50°C
22	Withstand Voltage	(*10)	Input-Chassis , Input-Output : 2kVAC (20mA) Output-Chassis : 500VAC (100mA) for 1min.
23	Isolation Resistance	-	More than 100MΩ at 25°C and 70% RH Output-FG 500VDC
24	Vibration	-	10-55Hz (sweep 1 min) less than 19.6m/s ² X,Y,Z 1 h each
25	Shock	-	Less than 196.1m/s ²
26	Safety	-	Built to meet UL1950,CSA234 & DENAN
27	Conducted Radio Noise	-	-
28	Weight	-	280g
29	Size (W.H.D)	mm	31×68×119 (Refer to Outline Drawing)

==NOTES==

- *1: At 100VAC & Maximum Output Power, Ta = 25 °C .
- *2: For cases where conformance to various safety specs (UL,CSA) are required to be described as 100-120VAC, 50/60Hz on name plate.
- *3: Typical value on cold start, Ta=25°C .
- *4: From 85 to 132VAC or 110 to 175VDC, constant load.
- *5: From No load to Full load, constant input voltage.
- *6: Current limiting with automatic recovery.
Avoid to operate over load or dead short for more than 30 seconds.
- *7: OVP circuit will shut down output, manual reset.
- *8: At standard mounting. (vertical)
- *9: Constant input voltage & load.
- *10: Refer to instruction manual for testing procedure.



Standard Mounting