

**HK10A**

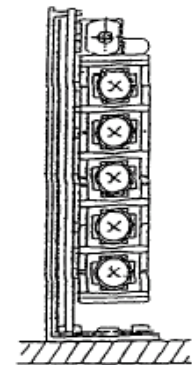
**SPECIFICATIONS**

**PA776-01-01C**

Item	Model	HK10A-5	HK10A-12	HK10A-15	HK10A-24	
1	Nominal Output Voltage	V	5	12	15	24
2	Maximum Output Current	A	2.0	0.9	0.7	0.5
3	Maximum Output Power	W	10.0	10.8	10.5	12.0
4	Efficiency (Typ)	(*1) %	71	73	74	78
5	Input Voltage Range	(*2) -	85-132VAC (47-440Hz) or 110-175VDC			
6	Input Current (Typ)	(*1) -	0.3A at 100VAC			
7	Inrush Current (Typ)	-	20A at 100VAC			
8	Output Voltage Range	-	±10%			
9	Maximum Ripple & Noise	mV	120	150	150	150
10	Maximum Line Regulation	(*3) mV	20	48	60	96
11	Maximum Load Regulation	(*4) mV	40	96	120	150
12	Over Current Protection	(*5) -	105% -			
13	Over Voltage Protection	(*6) -	115% -			
14	Hold-Up Time (Typ)	(*1) -	20ms			
15	Series Operation	-	Possible			
16	Operating Temperature	(*7) -	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	(*8) -	1% (Typ) at 0°C to +50°C			
22	Withstand Voltage	(*9) -	Input - Chassis , Input - Output : 2kVAC (20mA) Output - Chassis : 500VAC (100mA) for 1min			
23	Isolation Resistance	-	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 <sup>2</sup> X, Y, Z 1 h each			
25	Shock	-	Less than 196.1m/s <sup>2</sup>			
26	Safety	-	Approved by UL60950-1 & CSA C22.2 No.60950. Designed to meet DENAN			
27	Conducted Radio Noise	-	Designed to meet FCC class B, VCCI -B			
28	Weight	-	150g			
29	Size (W.H.D.)	mm	22 . 68 . 68 (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 : From 85 to 132VAC or 110 to 175VDC, constant load.
- 4 : From No Load to Full Load, constant input voltage.
- 5 : Current limiting with automatic recovery.  
Avoid to operate over load or dead short for more than 30 seconds.
- 6 : Over voltage clamping by zener diode.
- 7 : At standard mounting (vertical).
- 8 : Constant input voltage & load.
- 9 : Refer to instruction manual for testing procedure.

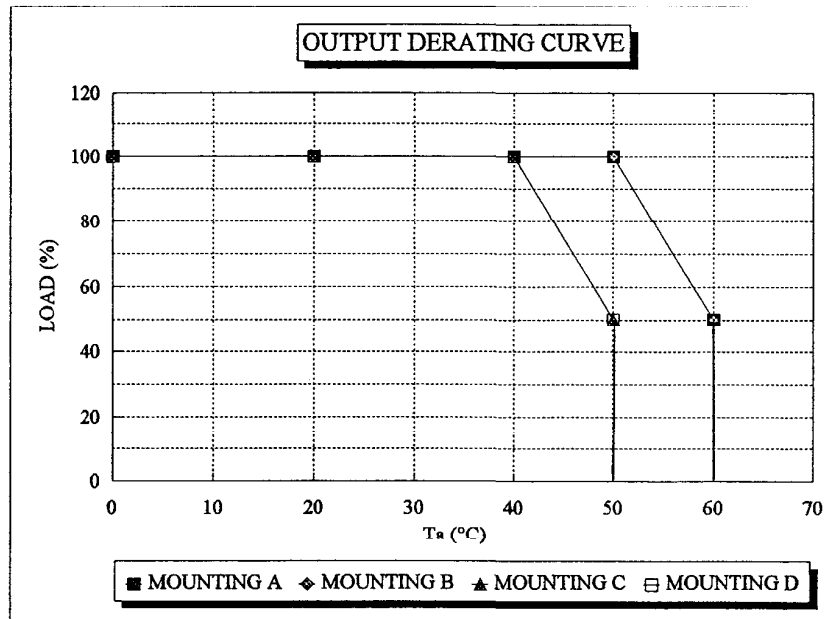


Standard Mounting

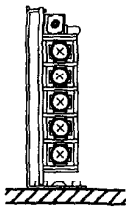
HK10A-3, 5, 12, 15 & 24

\* COOLING : CONVENTION COOLING

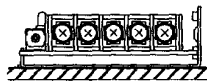
Ta (°C)	LOAD (%)			
	MOUNTING : A	MOUNTING : B	MOUNTING : C	MOUNTING : D
0	100	100	100	100
20	100	100	100	100
40	100	100	100	100
50	100	100	50	50
60	50	50	-	-



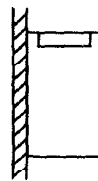
MOUNTING : A



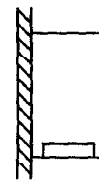
MOUNTING : B



MOUNTING : C



MOUNTING : D



**HK10A**

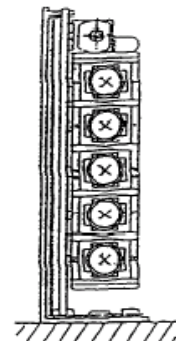
**SPECIFICATIONS**

**PA776-01-03C**

Item	Model	HK10A-3
1	Nominal Output Voltage	- 3.3V
2	Maximum Output Current	- 2.0A
3	Maximum Output Power	- 6.6W
4	Efficiency (Typ) (*1)	- 67%
5	Input Voltage Range (*2)	- 85-132VAC (47-440Hz) or 110-175VDC
6	Input Current (Typ) (*1)	- 0.2A at 100VAC
7	Inrush Current (Typ)	- 20A at 100VAC
8	Output Voltage Range	- ±10%
9	Maximum Ripple & Noise	- 120mV
10	Maximum Line Regulation (*3)	- 20mV
11	Maximum Load Regulation (*4)	- 40mV
12	Over Current Protection (*5)	- 105% -
13	Over Voltage Protection (*6)	- 115% -
14	Hold-Up Time (Typ) (*1)	- 20ms
15	Series Operation	- Possible
16	Operating Temperature (*7)	- 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 (*8)	- 1% (Typ) at 0°C to +50°C
22	Withstand Voltage (*9)	- Input - Chassis , Input - Output : 2kVAC (20mA) Output - Chassis : 500VAC (100mA) for 1min
23	Isolation Resistance	- 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 <sup>2</sup> X, Y, Z 1 h each
25	Shock	- Less than 196.1m/s <sup>2</sup>
26	Safety	- Designed to meet UL60950-1, CSA C22.2 No.60950 & DENAN.
27	Conducted Radio Noise	- Designed to meet FCC class B, VCCI - B
28	Weight	- 150g
29	Size (W.H.D.)	- mm 22 . 68 . 68 (Refer to Outline Drawing)

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- 1 : At 100VAC and Maximum Output Power, Ta = 25°C
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Standard Mounting