

ZWS10B

SPECIFICATIONS

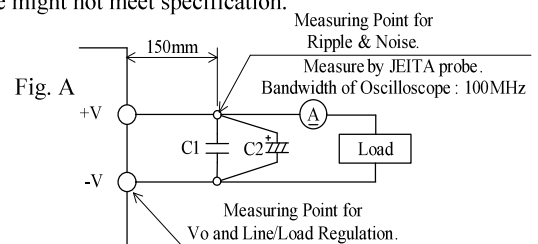
CA790-01-01A

ITEMS		MODEL	ZWS10B -3	ZWS10B -5	ZWS10B -12	ZWS10B -15	ZWS10B -24		
1	Nominal Output Voltage	V	3.3	5	12	15	24		
2	Maximum Output Current	A	2.0	2.0	0.9	0.7	0.5		
3	Maximum Output Power	W	6.6	10.0	10.8	10.5	12.0		
4	Efficiency (Typ)	(*1) 100VAC	%	70	77	82	83	84	
		200VAC	%	70	78	83	84	85	
5	Input Voltage Range	(*2)(*12)	-					85- 265VAC(47-63Hz) or 120- 370VDC	
6	Input Current (Typ)	(*1)	A	0.18 / 0.11		0.25 / 0.13			
7	Inrush Current (Typ)	(*1)(*3)	-					15A at 100VAC,30A at 200VAC,Ta=25°C,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	
9	Maximum Ripple & Noise (*4)(*5)	0≤Ta≤70°C, 35-100% Load	mV	120	120	150	150	150	
		-10<Ta<0°C, 35-100% Load	mV	160	160	180	180	180	
		-10<Ta<70°C, 0~35% Load	mV	200	200	240	240	240	
10	Maximum Line Regulation	(*4)(*6)	mV	20	20	48	60	96	
11	Maximum Load Regulation	(*4)(*7)	mV	40	40	96	120	150	
12	No Load Power Consumption		-					Typical 0.2W at 100VAC/200VAC, 0.5W Max	
13	Temperature Coefficient	(*4)	-					Less than 0.02% / °C	
14	Over Current Protection	(*8)	A	2.1 -	2.1 -	0.95 -	0.74 -	0.53 -	
15	Over Voltage Protection	(*9)	V	4.00 - 5.25	5.75 - 7.00	13.8 - 16.2	17.3 - 20.3	27.6 - 32.4	
16	Hold-up Time (Typ)	(*1)	-					20ms	
17	Leakage Current	(*10)	-					0.15/0.30mA Max. (100VAC / 230VAC 60Hz)	
18	Remote Control		-					-	
19	Parallel Operation		-					-	
20	Series Operation		-					Possible	
21	Operating Temperature	(*11)	-					Convection : -10 - +70°C (-10 - +50°C:100%, +60°C:70%, +70°C:20%)	
22	Operating Humidity		-					30 - 90%RH (No Condensing)	
23	Storage Temperature		-					-30 - +75°C	
24	Storage Humidity		-					10 - 95%RH (No Condensing)	
25	Cooling		-					Convection Cooling	
26	Withstand Voltage		-					Input - FG : 2kVAC (10mA), Input - Output : 3kVAC (10mA) Output - FG : 500VAC (20mA) for 1min	
27	Isolation Resistance		-					More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC	
28	Vibration		-					At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each.	
29	Shock		-					Less than 196.1m/s ²	
30	Safety		-					Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178(OV II), Designed to meet DENAN at 100VAC only.	
31	Conducted Emission		-					Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B	
32	Radiated Emission		-					Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B	
33	Immunity		-					Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11	
34	Weight (Typ)		g					45	
35	Size (W x H x D)		mm					50 x 22 x 73.5 (Refer to Outline Drawing)	

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

=NOTES=

- *1. At 100VAC/200VAC, 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 - 240VAC(50/60Hz).
- *3. Not applicable for the in-rush current to noise filter for less than 0.2ms.
- *4. Please refer to Fig. A for measurement of Vo, line & load regulation and ripple voltage.
- *5. For start up at low ambient temperature and low input voltage, output ripple noise might not meet specification. However, specification can be met after one second.
- *6. 85 - 265VAC, constant load.
- *7. No load-Full load, constant input voltage.
- *8. Current limiting (hiccup) with automatic recovery. Avoid to operate at over load or short circuit condition for more than 30seconds.
- *9. OVP circuit will shut down output, manual reset (Re power on).
- *10. Measured by the each measuring method of UL, CSA, EN and DENAN(at 60Hz), Ta=25°C.
- *11. Output Deratings
 - Derating at standard mounting. Refer to output derating curve (CA790-01-02_).
 - When forced air cooling, refer to derating curve(CA790-01-02_).
 - Load (%) is percent of maximum output power or maximum output current, do not exceed its derating of maximum load.
- *12. Output Derating needed when input voltage less than 90VAC. Refer to output derating vs. input voltage (CA790-01-03_).



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

ZWS10B

OUTPUT DERATING

CA790-01-02

*COOLING: CONVECTION COOLING

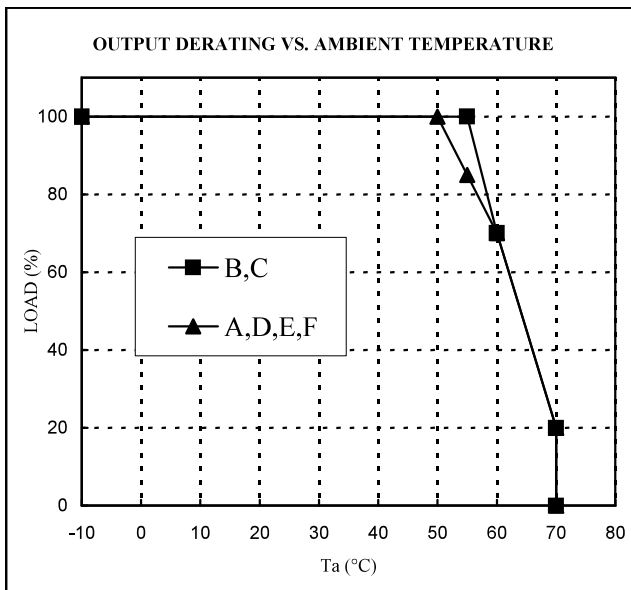
Ta (°C)	LOADING CONDITION(%)	
	Mounting B,C	Mounting A,D,E,F
-10~50	100	100
55	100	85
60	70	70
70	20	20

*COOLING: FORCED AIR COOLING

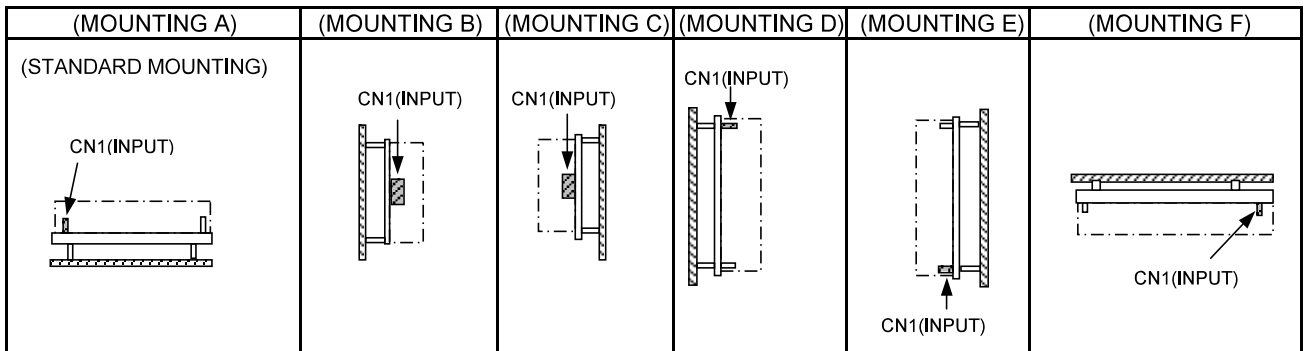
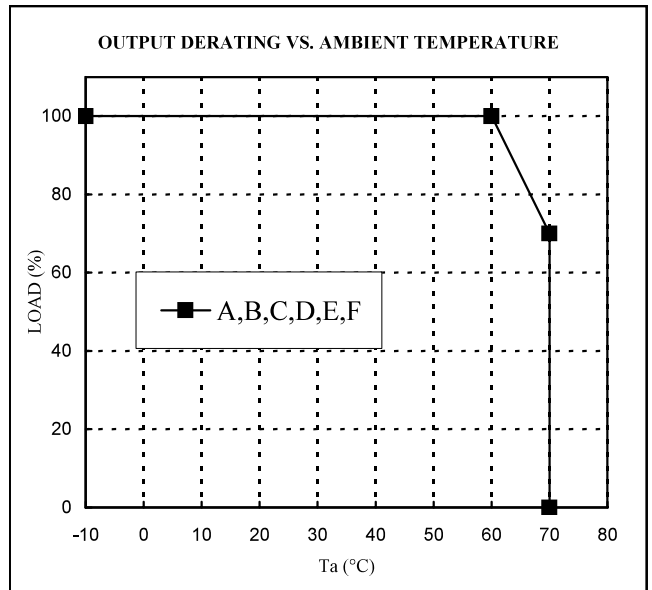
Ta (°C)	LOADING CONDITION(%)
	All Mounting (A,B,C,D,E,F)
-10~60	100
70	70

Air Velocity ≥ 0.7m/s: Air must flow through component side.

*COOLING: CONVECTION COOLING



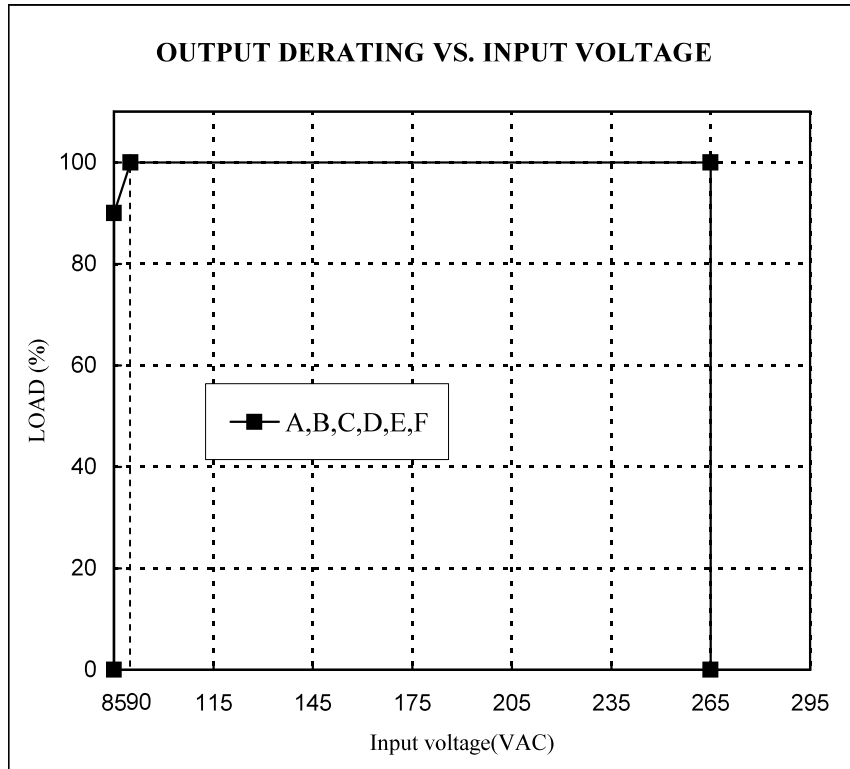
*COOLING: FORCED AIR COOLING



OUTPUT DERATING

CA790-01-03A

Input voltage	LOADING CONDITION(%)
	All Mounting (A,B,C,D,E,F)
85VAC	90
90VAC-265VAC	100



(MOUNTING A)	(MOUNTING B)	(MOUNTING C)	(MOUNTING D)	(MOUNTING E)	(MOUNTING F)
(STANDARD MOUNTING) 