

ZWS10B/L

SPECIFICATIONS

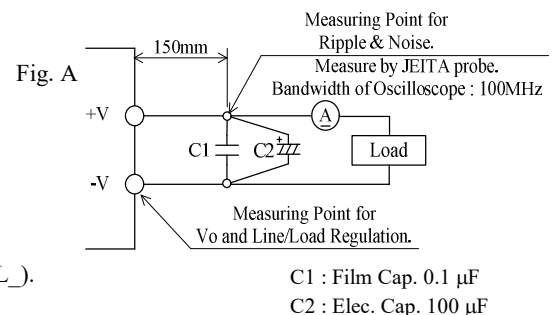
CA790-01-01/L-A

| ITEMS | | MODEL | ZWS10B -3/L | ZWS10B -5/L | ZWS10B -12/L | ZWS10B -15/L | ZWS10B -24/L | |
|-------|----------------------------------|--------------------------|--|----------------|-----------------|-----------------|-----------------|-----|
| 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≤60°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<60°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 +60°C (-10 +40°C:100%, +50°C:70%, +60°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 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 DENAN at 100VAC Only. | | | | | |
| 31 | Conducted Emission | - | Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B | | | | | |
| 32 | Radiated Emission | - | Designed to meet EN55011/EN55032-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 | 90 | | | | | |
| 35 | Size (W x H x D) | mm | 60 x 32 x 93.5 (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/L_).
 - When forced air cooling, refer to derating curve(CA790-01-02/L_).
 - 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/L_).



ZWS10B/L

OUTPUT DERATING

CA790-01-02/L

*COOLING: CONVECTION COOLING

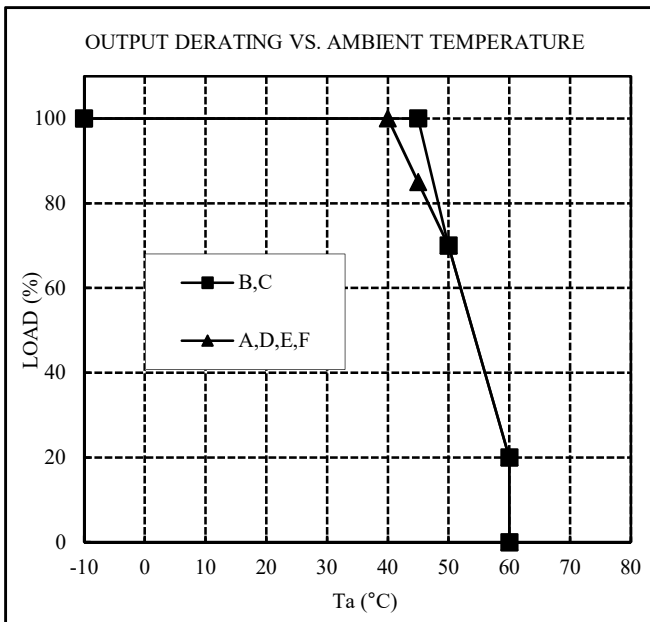
| Ta (°C) | LOADING CONDITION(%) | |
|---------|----------------------|------------------|
| | Mounting B,C | Mounting A,D,E,F |
| -10~40 | 100 | 100 |
| 45 | 100 | 85 |
| 50 | 70 | 70 |
| 60 | 20 | 20 |

*COOLING: FORCED AIR COOLING

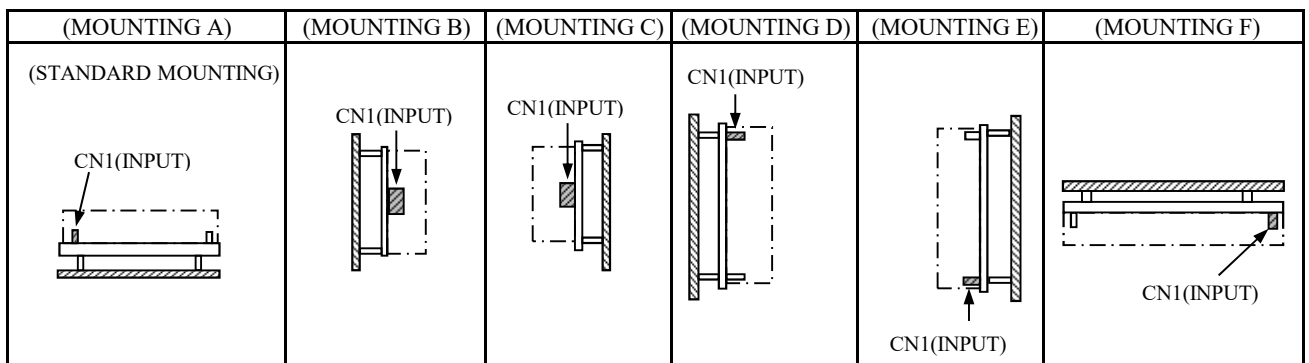
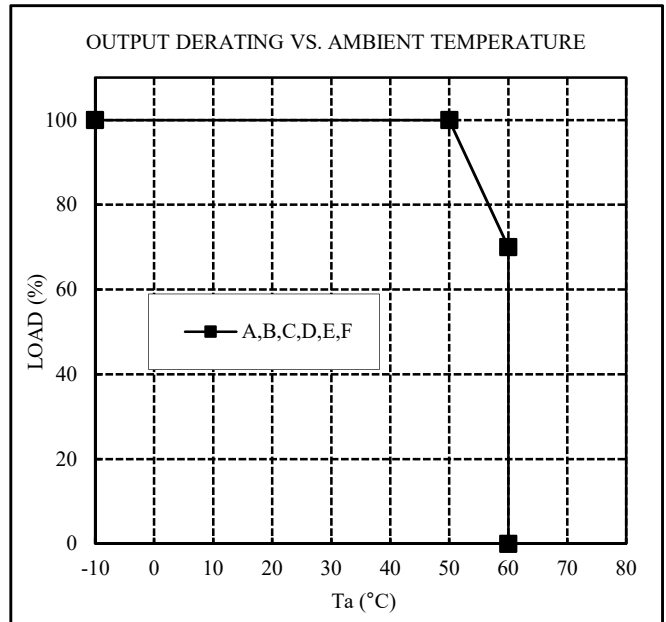
| Ta (°C) | LOADING CONDITION(%) |
|---------|----------------------------|
| | All Mounting (A,B,C,D,E,F) |
| -10~50 | 100 |
| 60 | 70 |

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

*COOLING: CONVECTION COOLING



*COOLING: FORCED AIR COOLING



ZWS10B/L

OUTPUT DERATING

CA790-01-03/L

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

