

ZWS150PAF SPECIFICATIONS

CA723-01-01C

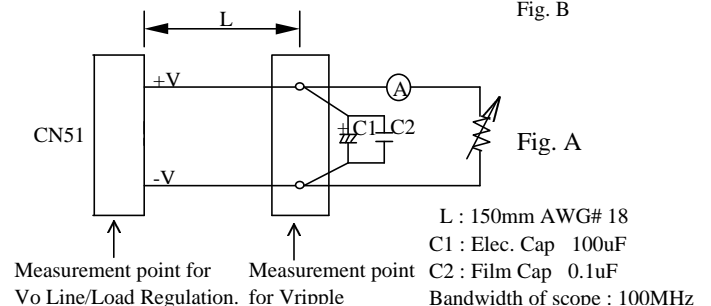
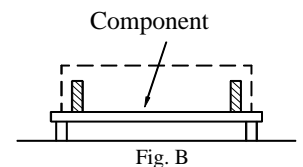
(This specifications sheet also apply to option model /J, /T, /S.)

| ITEMS | | MODEL | ZWS150PAF-24 | ZWS150PAF-36 | ZWS150PAF-48 |
|-------|---------------------------------------|----------------|--|--------------|--------------|
| 1 | Nominal Output Voltage | V | 24 | 36 | 48 |
| 2 | Maximum Output Current | A | 6.3 | 4.2 | 3.1 |
| 3 | Peak Output Current (* 1) | A | 12 | 8 | 6 |
| 4 | Maximum Output Power | W | 151.2 | 151.2 | 148.8 |
| 5 | Peak Output Power (* 1) | W | 288 | | |
| 6 | Efficiency (Typ) (* 2) | % | 82 | | |
| 7 | Input Voltage Range (* 3) | - | 85 ~ 265VAC (47-63Hz) or 120 ~ 370VDC | | |
| 8 | Input Current (100/200VA) (Typ) (* 2) | A | 2.0 / 1.0 | | |
| 9 | Inrush Current (Typ) (* 4) | - | 14A at 100VAC, 28A at 200VAC, Ta=25°C, Cold Start | | |
| 10 | PFHC | - | Built to meet EN61000-3-2 | | |
| 11 | Power Factor (100/200VA) (Typ) (* 2) | - | 0.99/0.95 | | |
| 12 | Output Voltage Range | V | 21.6 ~ 28.8 | 32.4 ~ 41.4 | 43.2 ~ 52.8 |
| 13 | Maximum Ripple & Noise (* 5) | 0 ≤ Ta ≤ 60°C | 240 | 360 | 480 |
| | | -10 ≤ Ta < 0°C | 360 | 540 | 720 |
| 14 | Maximum Line Regulation (* 5, 6) | mV | 96 | 144 | 192 |
| 15 | Maximum Load Regulation (* 5, 7) | mV | 192 | 288 | 384 |
| 16 | Temperature Coefficient | - | Less than 0.02%/°C | | |
| 17 | Over Current Protection (* 8) | A | 12.3 ~ | 8.2 ~ | 6.1 ~ |
| 18 | Over Voltage Protection (* 9) | V | 30.0 ~ 35.0 | 43.2 ~ 50.4 | 55.2 ~ 64.8 |
| 19 | Hold-Up Time (Typ) (* 2) | - | 20ms | | |
| 20 | Leakage current (* 10) | - | 0.5mA Max, 0.1mA(Typ) at 100VAC/0.16mA(Typ) at 230VAC | | |
| 21 | Remote ON/OFF Control | - | Possible | | |
| 22 | Parallel Operation | - | - | | |
| 23 | Series Operation | - | Possible | | |
| 24 | Operating Temperature (* 11) | - | - 10 ~ + 60 °C Convection: -10 ~ +50°C (100%); 60°C (70%) | | |
| 25 | Operating Humidity | - | 30 ~ 90 %RH (No dewdrop) | | |
| 26 | Storage Temperature | - | - 30 ~ +85°C | | |
| 27 | Storage Humidity | - | 10 ~ 95%RH (No dewdrop) | | |
| 28 | Cooling | - | Convection cooling | | |
| 29 | Withstand Voltage | - | Input - Output : 3.0kVAC (20mA), Input - FG : 2.0kVAC (20mA) Output - FG : 500VAC (100mA) for 1min. | | |
| 30 | Isolation Resistance | - | More than 100MΩ at Ta=25°C and 70%RH, Output - FG : 500VDC | | |
| 31 | Vibration | - | At no operating, 10 - 55Hz (sweep for 1min) 19.6m/s ² Constant, X, Y, Z 1hour each | | |
| 32 | Shock (In package) | - | Less than 196.1m/s ² | | |
| 33 | Safety (* 12) | - | Approved by UL60950, CSA60950, EN60950, EN50178, Built to meet DENTORI | | |
| 34 | EMI (* 13) | - | Built to meet VCCI-B, FCC-Class B, EN55011/EN55022-B | | |
| 35 | Immunity | - | Built to meet EN61000-4-2,-3,-4,-5,-6,-8,-11 | | |
| 36 | Weight (Typ) | g | 500 | | |
| 37 | Size (W.H.D.) | mm | 80 x 40 x 208 (Refer to Outline Drawing) | | |

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

= NOTES=

- * 1 : Operating period at peak output current is less than 10sec. (Duty ≤ 0.35)
(Average output power and current is less than Maximum output power and current)
For peak load derating method, please refer to instruction manual for details.
- * 2 : At 100/200VAC and maximum output power, Ta = 25°C.
- * 3 : For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC, 50 / 60Hz on name plate.
- * 4 : Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- * 5 : Please refer to Fig A for measurement of line & load regulation and output ripple voltage.
(Measure with JEITA RC-9131 probe)
- * 6 : 85 - 265VAC, constant load.
- * 7 : No load - Full load(Maximum power), constant input voltage.
- * 8 : Constant current limit with automatic recovery.Avoid to operate at overload or dead short for more than 30seconds.
- * 9 : OVP circuit will shutdown output, manual reset. (Line recycle)
- * 10: Measured by each measuring method of UL, CSA, EN and DENTORI (at 60Hz).
- * 11: At standard mounting method, Fig B.
 - Load(%) is percent of maximum output load (Item2 and 4), do not exceed derating in both Maximum Output Current and Power.
 - For other mountings, refer to derating curve (CA723-01-02_)
 - When forced air cooling, refer to derating curve(CA723-01-03_)
- * 12: As for DENTORI, built to meet at 100VAC.
- * 13: 85 - 265VAC, No load - Full load, constant load.



OUTPUT DERATING

CA723-01-02A

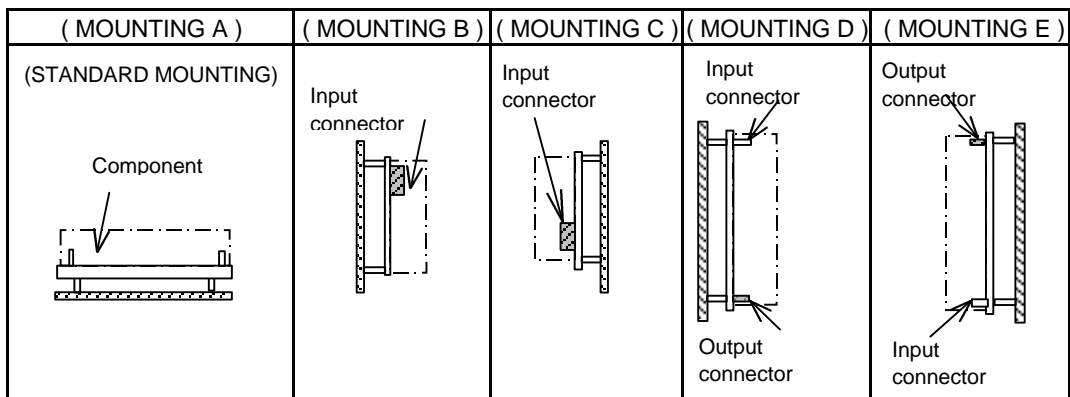
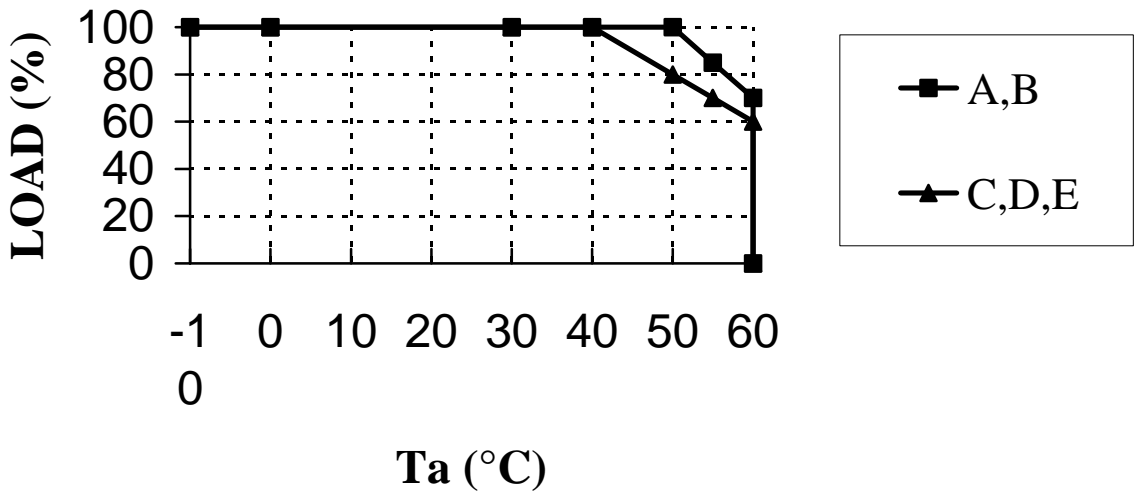
(This specifications sheet also apply to option model /J, /T, /S.)

ZWS150PAF

*COOLING: CONVECTION COOLING

| Ta (°C) | LOADING CONDITION(%) | |
|---------|----------------------|----------------|
| | Mounting A,B | Mounting C,D,E |
| -10~40 | 100 | 100 |
| 50 | 100 | 80 |
| 55 | 85 | 70 |
| 60 | 70 | 60 |

OUTPUT DERATING CURVE



OUTPUT DERATING

CA723-01-03A
 (This specifications sheet also apply to option model /J, /T, /S.)

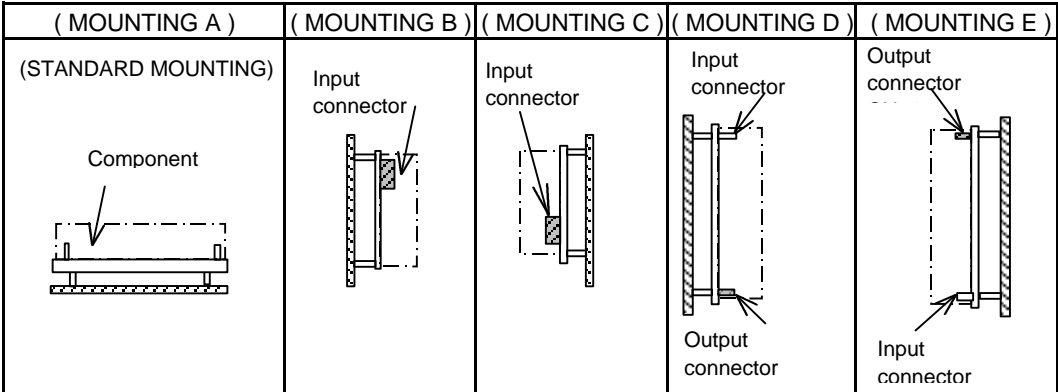
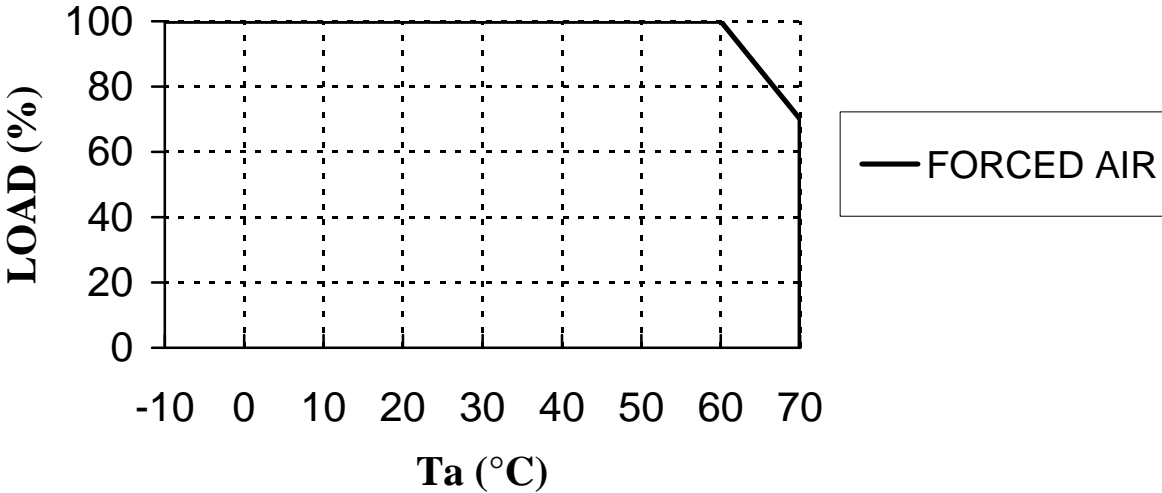
ZWS150PAF

***COOLING: FORCED AIR COOLING**

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

Recommended Minimum Air Velocity:0.7m/s (Measured at component side of PCB,
 Air must flow through component side.)

OUTPUT DERATING CURVE



ZWS150PAF OUTPUT POWER UP ADDITIONAL SPECIFICATIONS

CA723-01-04

This specifications sheet also apply to option model /J. /T. /S.

| ITEMS | | MODEL | ZWS150PAF-24 | ZWS150PAF-36 | ZWS150PAF-48 |
|-------|----------------------------|---------------|--|--------------|--------------|
| 1 | Nominal Output Voltage | V | 24 | 36 | 48 |
| 2 | Maximum Output Current | (* 1) A | 8.4 | 5.6 | 4.3 |
| 3 | Peak Output Current | (* 2) A | 12 | 8 | 6 |
| 4 | Maximum Output Power | (* 1) W | 201.6 | 201.6 | 206.4 |
| 5 | Peak Output Power | (* 2) W | 288 | 288 | 288 |
| 6 | Input Voltage Range | (* 3) - | 85 ~ 265VAC (47-63Hz) or 120 ~ 370VDC | | |
| 7 | Input Current (100/200VAC) | (Typ) (* 4) A | 2.8 / 1.4 | | |
| 8 | Hold-Up Time (Typ) | (* 4) - | 16ms | | |
| 9 | Operating Temperature | (* 5) - | - 10 ~ + 70 °C | | |
| | | (* 6) | -10 ~ +50°C (100%); 60°C (91%); 70°C (70%) | | |
| 10 | Cooling | (* 1) - | Forced Air Cooling | | |
| 11 | EMI | (* 7) - | Built to meet VCCI-A, FCC-Class A, EN55011/EN55022-A | | |

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

* For other specification items, refer to standard specifications CA723-01-01 .

= NOTES =

- * 1 : Forced air cooling with air velocity more than 1.5m/s (measured at component side of PCB, air must flow through component side)
- * 2 : Operating period at peak output current is less than 10sec. (Duty \leq 0.35)
(Average output power and current is less than Maximum output power and current)
For peak load derating method , please refer to instruction manual for details.
- * 3 : For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC, 50 / 60Hz on name plate.
- * 4 : At 100/200VAC and maximum output power, Ta = 25°C.
- * 5 : At standard mounting method A, and other mountings B, C, D, E.
- Load(%) is percent of maximum output load (Item2 and 4), do not exceed derating in both Maximum Output Current and Power.
- * 6 : Output derating for cold start up at Ta = - 10 °C for input voltage : 85VAC 80%, 90VAC 86.7%, 100-265VAC 100%.
No output derating for input voltage is required after start up for one second.
- * 7 : 85 - 265 VAC, Full load.