ZWS10C

SPECIFICATIONS (1/2)

FA011-01-01

ITEMS \ MODEL				ZWS10C-5	ZWS10C-12	ZWS10C-15	ZWS10C-24
INPUT							
	Input Voltage Range	(*2)	-	85 - 265VAC (47 ~ 63Hz)			
	Efficiency (Typ.)	(*1)	%	77 / 78	82 / 83	83 / 84	84 / 85
	Input Current (Typ.)	(*1)	A	0.25 / 0.13			
	Inrush Current (Typ.)	(*1)(*3)	-	30A / 60A at Cold Start			
	PFHC		-	-			
	Power Factor (Typ.)		-	-			
OUTPUT							
	Nominal Output Voltage		V	5	12	15	24
	Output Voltage Range		-	Fixed (Shipment condition : 5V : ±2% ; 12V,15V : ±2.5% ; 24V : ±3%)			
	Maximum Output Current		A	2	0.9	0.7	0.5
	Maximum Output Power		W	10	10.8	10.5	12
	Maximum Line Regulation	(*4)(*5)	%	0.40	0.40	0.40	0.40
	Maximum Load Regulation	(*4)(*6)	%	0.80	0.80	0.80	0.63
	Temperature Coefficient	(*4)	-	Less than 0.02% / °C			
	Maximum Ripple & Noise (*4)	0≤Ta≤70°C, 35 ~ 100% Load	mV	120	150	150	150
		-10≤Ta<0°C, 35 ~ 100% Load	mV	160	180	180	180
		-10≤Ta≤70°C, 0 ~ 35% Load	mV	200	240	240	240
	Hold-up Time (Typ.)	(*10)	-	20ms			
	Leakage Current	(*9)	-	Less than 0.15/0.30mA. (100VAC/230VAC, 60Hz)			
	Over Current Protection	(*7)	-	> 105%			
	Over Voltage Protection	(*8)	-	> 115%			> 112%
FUNCTION							
	Remote ON/OFF Control		-	None			
	Remote Sensing		-	None			
	Parallel Operation		-	Not Possible			
	Series Operation		-	Possible			
ENVIRONMENT							
	Operating Temperature	(*11)	-	-10 to +70°C (-10 to +55°C : 100% ; +70°C : 50%)			
	Storage Temperature		-	-30 to +75°C			
	Operating Humidity		-	30 to 90%RH (No Condensing)			
	Storage Humidity		-	10 to 95%RH (No Condensing)			
	Vibration	(*12)	-	At no operating, 10 to 55Hz (Sweep for 1min) 19.6m/s^2 Constant, X,Y,Z 1hour each.			
	Shock	(*12)	-	At no operating, Less than 196.1m/s^2			
	Cooling		-	Convection Cooling / Forced Air Cooling			
ISOLATION							
	Isolation Class / Class of Protection		-	Class I (L,N,FG) or Class II (L,N)			
	Withstand Voltage		-	Input - Output : 3kVAC (10mA), Input - FG : 2kVAC (10mA), Output - FG : 750VAC (20mA) for 1min			
	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC			
STANDARD AND COMPLIANCE							
	Safety		-	Approved by EN60335-1, IEC/UL/CSA/EN62368-1 (Altitude ≤ 4,000m) Approved by IEC/EN61558-1, IEC/EN61558-2-16 (Altitude ≤ 3,000m) Design to meet IEC60335-1, Den-an appendix 12 (J62368-1, J61558-1, J61558-2-16, J60335-1)			
	Conducted Emission	(*12)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B			
	Radiated Emission	(*12)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B			
	Immunity	(*12)	-	Designed to meet IEC61000-6-2, IEC61000-4-2, -3, -4, -5, -6, -8, -11			
MECHANICAL							
	Weight (Typ.)		g	40			
	Size (W x H x D)		mm	45.7 x 22.1 x 63.5 (Refer to Outline Drawing)			

ZWS10C

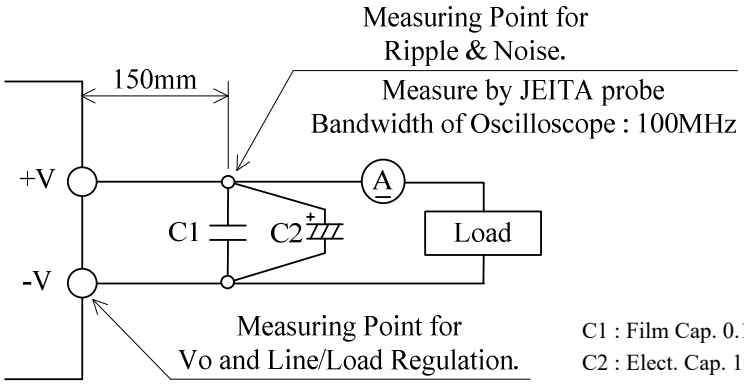
SPECIFICATIONS (2/2)

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

=NOTES=

*1. At 100VAC/200VAC, Ta=25℃, 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 inrush 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. 85 - 265VAC, constant load.
*6. No load to full load, constant input voltage.
*7. Current limiting (Hiccup) with automatic recovery.
Avoid to operate at over load or short circuit condition.
*8. Over voltage clamping by zener diode.
*9. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz), Ta=25°C.
*10. At 100VAC, Ta=25°C, nominal output voltage and 80% output power.
*11. Output Deratings,
- Convection cooling output derating. Refer to OUTPUT DERATING vs. AMBIENT TEMPERATURE (FA011-01-02_).
- Forced air cooling output derating. Refer to OUTPUT DERATING vs. AMBIENT TEMPERATURE (FA011-01-03_).
Load (%) is persent of maximum output power or maximum output current, whichever is greater.
It must not exceed its specification and derating.
*12. The result is evaluated by TDK-Lambda standard measurement condition.
The power supply is considered a component which will be installed into a final equipment.
The final equipment should be re-evaluated that it meets EMC, Vibration and Shock directives.

Fig. A



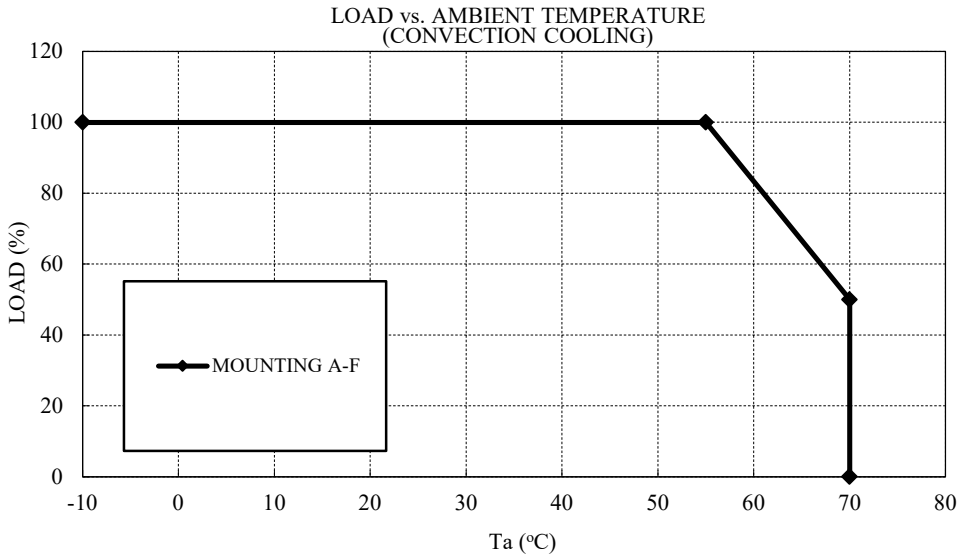
C1 : Film Cap. 0.1 μF
C2 : Elect. Cap. 100 μF

OUTPUT DERATING vs. AMBIENT TEMPERATURE

*COOLING : CONVECTION COOLING

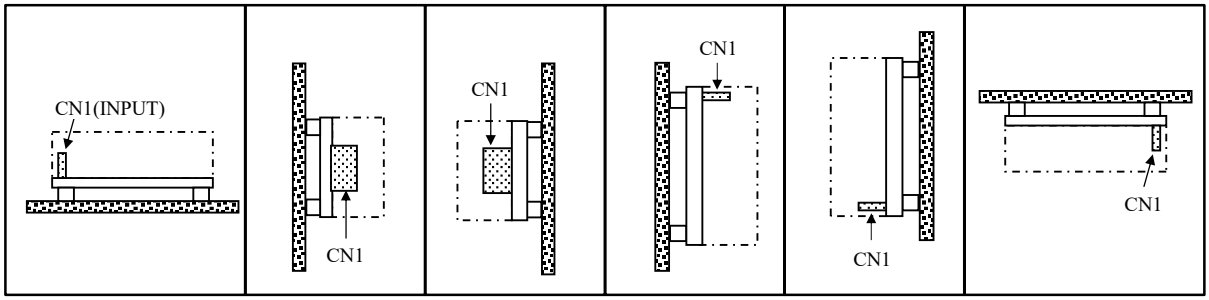
Load (%) is percent of maximum output power or maximum output current, whichever is greater.
It must not exceed its specification and derating.

	LOAD (%)
Ta (°C)	MOUNTING A-F
-10 - +55	100
70	50



MOUNTING A | MOUNTING B | MOUNTING C | MOUNTING D | MOUNTING E | MOUNTING F

(STANDARD MOUNTING)



OUTPUT DERATING (2/2)

FA011-01-03

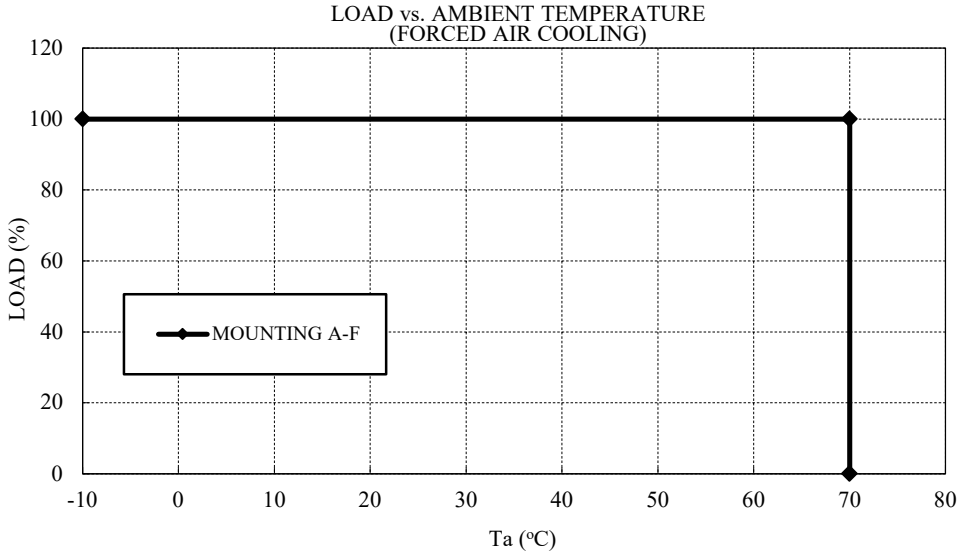
OUTPUT DERATING vs. AMBIENT TEMPERATURE

*COOLING : FORCED AIR COOLING

Load (%) is percent of maximum output power or maximum output current, whichever is greater.
It must not exceed its specification and derating.

	LOAD (%)
Ta (°C)	MOUNTING A-F
-10 - +70	100

Air velocity > 0.8m/s : Air must flow through components side.



MOUNTING A | MOUNTING B | MOUNTING C | MOUNTING D | MOUNTING E | MOUNTING F

(STANDARD MOUNTING)