ZWS 50

SPECIFICATIONS

A156-01-01D

	ITEMS / MODEL			ZWS 50-3	ZWS 50-5	ZWS 50-12	ZWS 50-15	ZWS 50-24	ZWS 50-36	ZWS 50-48
1	Nominal Output Voltage		V	3.3	5.0	12	15	24	36	48
2	Minimum Output Current		A	0	0	0	0	0	0	0
3	Maximum Output Current		A	10	10	4.3	3.5	2.1	1.4	1.1
4	Maximum Peak Output Current	(*1)	A	12.0	12.0	5.16	4.20	2.52	1.68	1.32
5	Maximum Output Power		W	33.0	50.0	51.6	52.5	50.4	50.4	52.8
6	Maximum Peak Output Power	(*1)	W	39.60	60.00	61.92	63.00	60.48	60.48	63.36
7	Efficiency (Typ)	(*2)	%	73	77	80	81	82	82	82
8	Input Voltage Range	(*3)	-	85 - 265VAC (47 - 440Hz) or 110 - 330VDC						
9	Input Current(Typ)		-	1.4A at 100VAC, 0.7A at 200VAC						
10	Inrush Current(Typ)		-	15A at 100VAC, 30A at 200VAC, Ta=25°C, Cold Start						
11	Output Voltage Range		-	+/-10%						
12	Maximum Ripple & Noise	0 - +60°C	mV	120	120	150	150	200	300	400
	(*10)	-10 - 0°C	mV	160	160	180	180	200	300	400
13	Maximum Line Regulation	(*4,10)	mV	20	20	48	60	96	144	192
14	Maximum Load Regulation	(*5,10)	mV	40	40	96	120	150	240	300
15	Maximum Temperature Drift	(*6)	mV	60	60	140	180	280	420	560
16	Over Current Protection	(*7)	-	125% -						
17	Over Voltage Protection	(*8)	-	115% - 135%						
18	Hold-up Time (Typ)	(*2)	-	17ms at 100VAC, 50W, Ta=25°C						
19	Parallel Operation		-	-						
20	Series Operation	(*9)	-	Possible						
21	Operating Temperature	(*11)	-	-10°C - +50°C : 100%, +60°C : 70%						
22	Operating Humidity		-	30 - 90%RH						
23	Storage Temperature		-	-30°C - +85°C						
24	Storage Humidity		-	10 - 95%RH						
25	Cooling		-	Convection Cooling						
26	Withstand Voltage		-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG : 500VAC (100mA) for 1min						
27	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG 500VDC						
28	Vibration		-	10-55Hz(Sweep 1min) Less than 19.6m/s^2 X,Y,Z 1h each						
29	Shock		-	Less than 196.1m/s^2						
30	Safety		-	Approved by UL60950-1, CSA60950-1, EN60950-1 Built to meet DENAN						
31	Conducted Noise		-	Built to meet EN55022-B, FCC-ClassB, VCCI-B						
32	Weight (Typ)		g	360						
33	Size (W.H.D)		mm	55 x 26 x 195						

=NOTES=

*1. Operating time at peak output is less than 10 seconds. (Duty=0.35)
*2. At 100VAC and maximum output current , Ta=25°C.
*3. For cases where conformance to various safety specs (UL,CSA) are required, to be described as 100 - 240VAC, 50/60Hz on name plate.
*4. From 85 - 265VAC and constant load.
*5. From Min load - Full load (Maximum Power) and constant input voltage.
*6. From -10 - +50°C constant input voltage and load.
*7. Current limiting with automatic recovery. Avoid to operate over load or dead short for 30 seconds.
*8. OVP circuit will shutdown ouput, manual reset.
*9. Refer to Instruction Manual.
*10. Please refer to Fig A for measurement of line & load regulation and ripple voltage.
*11. At standard mounting method, Fig B.

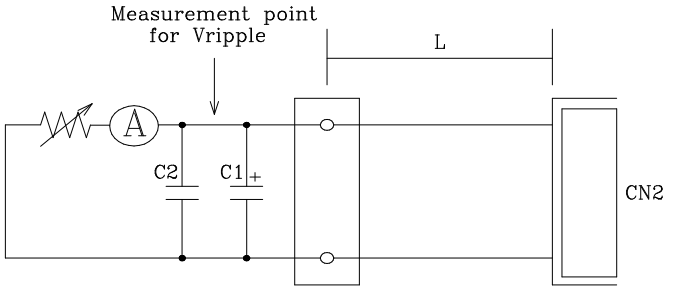


Fig.A L:150mm AWG#18x2
C1:Elec.Cap 100uF
C2:Film Cap 1uF
Bandwidth of scope:100MHz

Fig.B

ZWS50

A156-01-02A

SPECIFICATIONS

	ITEMS / MODEL			ZWS50-9
1	Nominal Output Voltage		-	9V
2	Minimum Output Current		-	0A
3	Maximum Output Current		-	5.6A
4	Maximum Peak Output Current	(*1)	-	6.7A
5	Maximum Output Power		-	50.4W
6	Maximum Peak Output Power	(*1)	-	60.30W
7	Efficiency (Typ)	(*2)	-	78%
8	Input Voltage Range	(*3)	-	85 - 265VAC (47 - 440Hz) or 110 - 330VDC
9	Input Current(Typ)		-	1.4A at 100VAC, 0.7A at 200VAC
10	Inrush Current(Typ)		-	15A at 100VAC, 30A at 200VAC, Ta=25°C, Cold Start
11	Output Voltage Range		-	+/-10%
12	Maximum Ripple & Noise (*10)	0 - +60°C	-	150mV
		-10 - 0°C	-	180mV
13	Maximum Line Regulation	(*4,10)	-	36mV
14	Maximum Load Regulation	(*5,10)	-	72mV
15	Maximum Temperature Drift	(*6)	-	120mV
16	Over Current Protection	(*7)	-	125% -
17	Over Voltage Protection	(*8)	-	115% - 135%
18	Hold-up Time (Typ)	(*2)	-	17ms at 100VAC, 50W, Ta=25°C
19	Parallel Operation		-	-
20	Series Operation	(*9)	-	Possible
21	Operating Temperature	(*11)	-	-10°C - +50°C : 100%, +60°C : 70%
22	Operating Humidity		-	30 - 90%RH
23	Storage Temperature		-	-30°C - +85°C
24	Storage Humidity		-	10 - 95%RH
25	Cooling		-	Convection Cooling
26	Withstand Voltage		-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG : 500VAC (100mA) for 1min
27	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG 500VDC
28	Vibration		-	10-55Hz(Sweep 1min) Less than 19.6m/s^2 X,Y,Z 1h each
29	Shock		-	Less than 196.1m/s^2
30	Safety		-	Designed to meet UL60950-1,CSA C22.2 No.60950-1,EN60950-1,DENAN
31	Conducted Noise		-	Designed to meet EN55022-B, FCC-ClassB, VCCI-B
32	Weight (Typ)		-	360g
33	Size (W.H.D)		mm	55 x 26 x 195

=NOTES=

*1. Operating time at peak output is less than 10 seconds. (Duty=0.35)
*2. At 100VAC and maximum output current , Ta=25°C.
*3. For cases where conformance to various safety specs (UL,CSA) are required, to be described as 100 - 240VAC, 50/60Hz on name plate.
*4. From 85 - 265VAC and constant load.
*5. From Min load - Full load (Maximum Power) and constant input voltage.
*6. From -10 - +50°C constant input voltage and load.
*7. Current limiting with automatic recovery. Avoid to operate over load or dead short for 30 seconds.
*8. OVP circuit will shutdown ouput, manual reset.
*9. Refer to Instruction Manual.
*10. Please refer to Fig A for measurement of line & load regulation and ripple voltage.
*11. At standard mounting method, Fig B.

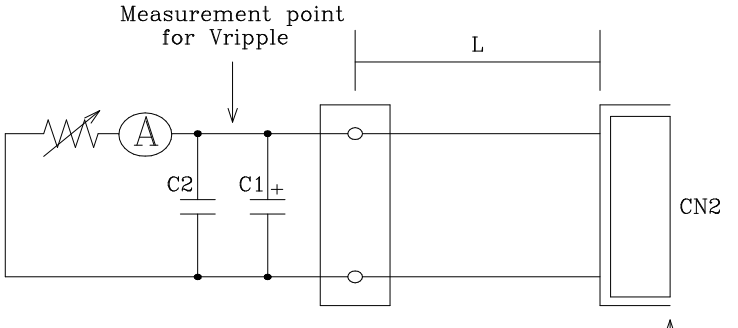


Fig.A L:150mmAWG#18x2
C1:Elec.Cap 100uF
C2:Film Cap 1uF
Bandwidth of scope:100MHz

Fig.B

ZWS 50

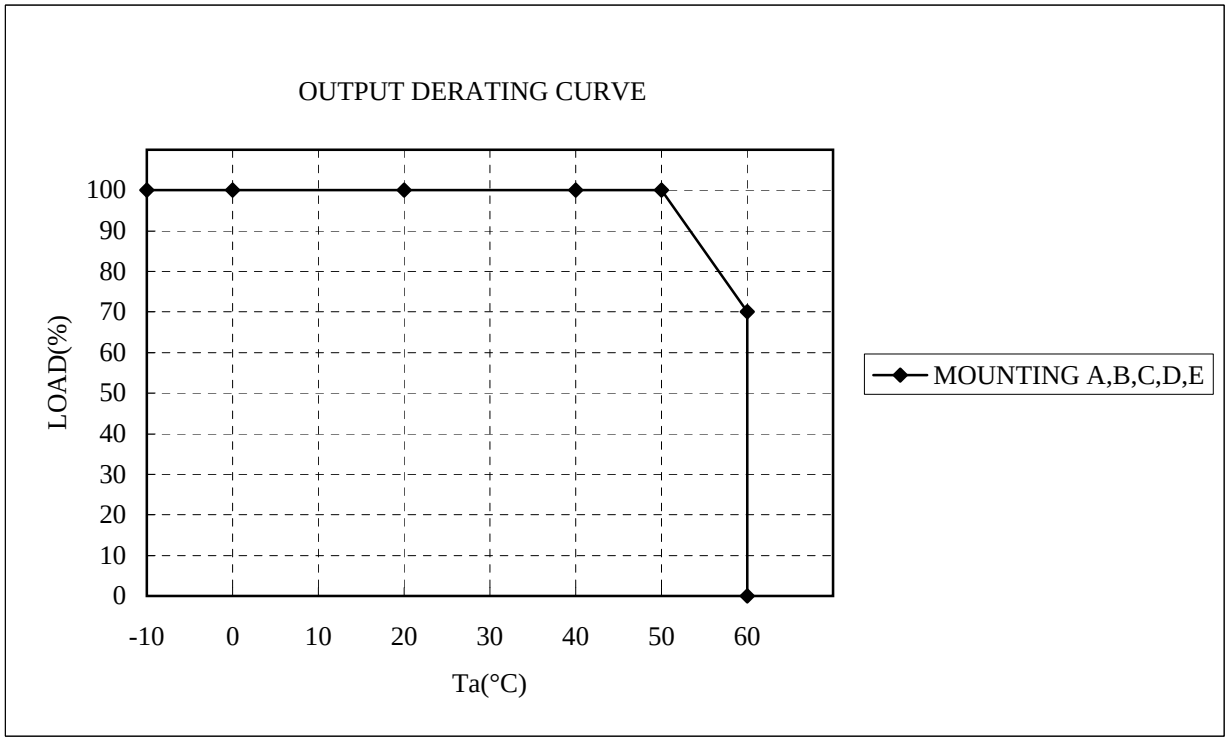
OUTPUT DERATING

A156-01-03

COOLING : CONVECTION COOLING

Ta(°C)	LOAD(%)				
	MOUNTING A	MOUNTING B	MOUNTING C	MOUTING D	MOUTING E
-10 ~+50	100	100	100	100	100
60	70	70	70	70	70

※Derating curve is the same in each mounting direction A,B,C,D,E.



MOUNTING A	MOUNTING B	MOUNTING C	MOUNTING D	MOUNTING E	DON'T USE
(STANDARD MOUNTING)