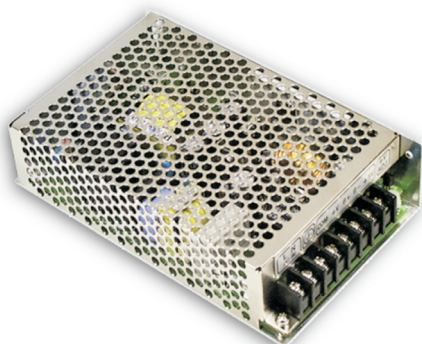




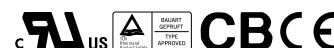
55W Single Output with Battery Charger(UPS Function)

AD-55 series



■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Battery low protections
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 45KHz
- 2 years warranty

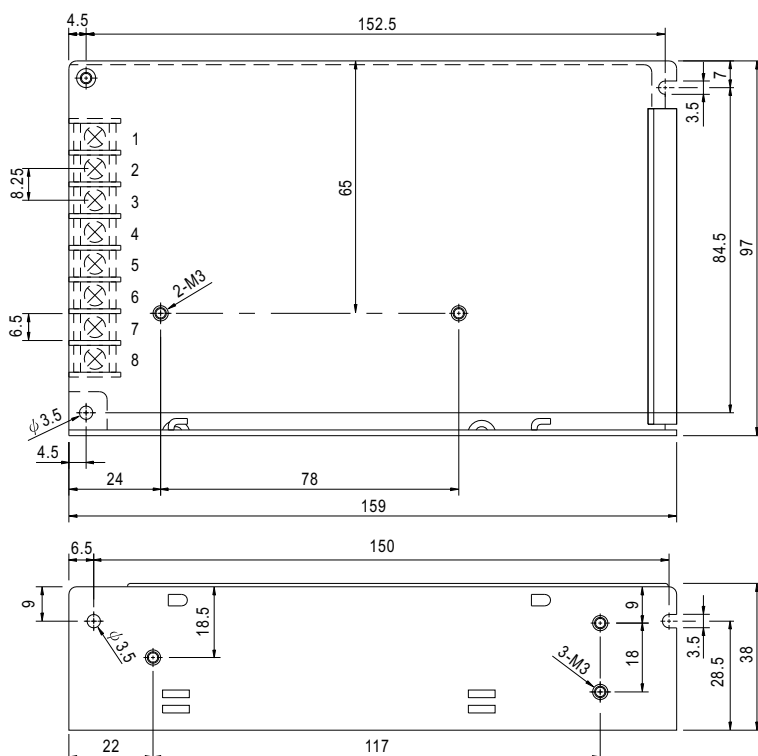


SPECIFICATION

MODEL		AD-55A		AD-55B	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	13.8V	13.4V	27.6V	26.5V
	RATED CURRENT	3.5A	0.23A	1.8A	0.16A
	CURRENT RANGE	0 ~ 4A	-----	0 ~ 2A	-----
	RATED POWER	51.38W		53.92W	
	RIPPLE & NOISE (max.) Note.2	100mVp-p	-----	100mVp-p	-----
	VOLTAGE ADJ. RANGE	CH1: 12 ~ 14.5V		CH1: 24 ~ 29V	
	VOLTAGE TOLERANCE Note.3	±1.0%	-----	±1.0%	-----
	LINE REGULATION	±0.5%	-----	±0.5%	-----
	LOAD REGULATION	±0.5%	-----	±0.5%	-----
	SETUP, RISE TIME	800ms, 50ms/230VAC 1600ms, 50ms/115VAC at full load			
HOLD UP TIME (Typ.)	80ms/230VAC 16ms/115VAC at full load				
INPUT	VOLTAGE RANGE	88 ~ 264VAC 124 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	71%		74%	
	AC CURRENT (Typ.)	1.6A/115VAC 1A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC 40A/230VAC			
	LEAKAGE CURRENT	<1mA / 240VAC			
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	OVER VOLTAGE	CH1:14.49 ~ 18.63V		CH1:28.98 ~ 37.26V Protection type : Hiccup mode, recovers automatically after fault condition is removed	
FUNCTION	DC ALARM SIGNAL(OPTIONAL)	AC fail CN1 PIN2			
		Battery low under charge voltage 82.5%±2% CN1 PIN1			
		Normal 0.8V max. Abnormal 5V±0.5V			
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/℃ (0~50℃) on CH1 output			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC/ 25℃ / 70% RH			
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A			
OTHERS	MTBF	304.3K hrs min. MIL-HDBK-217F (25℃)			
	DIMENSION	159*97*38mm (L*W*H)			
	PACKING	0.5Kg; 24pcs/12.6Kg/0.75CUFT			
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.				

■ Mechanical Specification

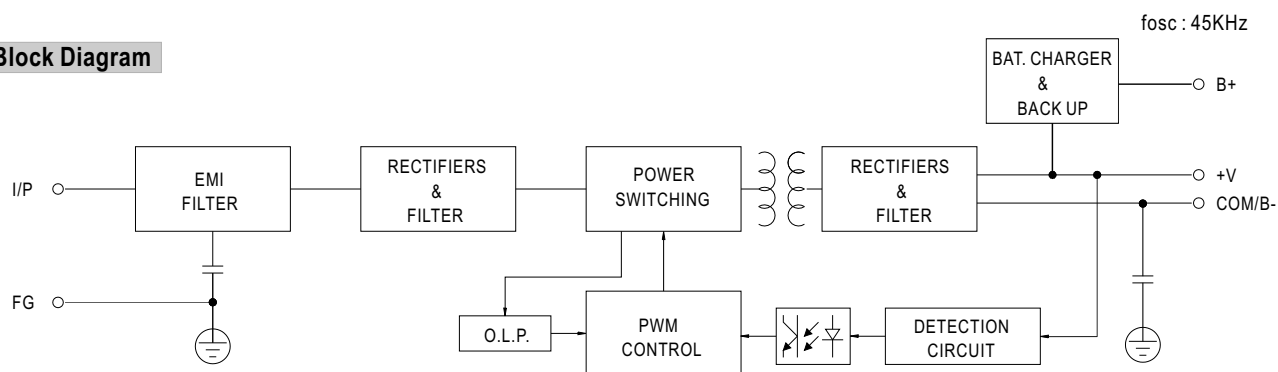
Case No. 901 Unit:mm



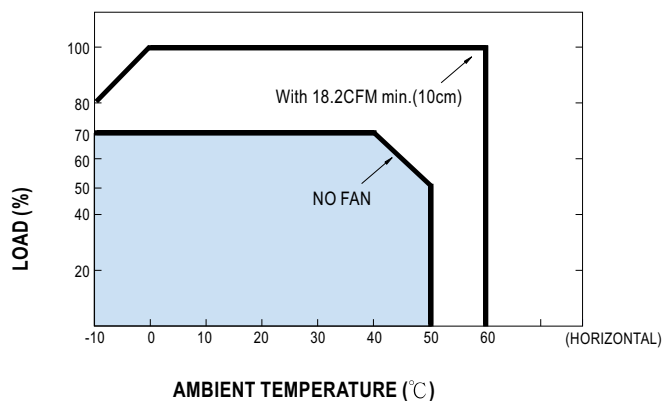
Terminal Pin No. Assignment:

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT +V
2	AC/N	6	BAT. +
3	FG $\underline{\text{E}}$	7	BAT.-/COM
4	DC OUTPUT COM	8	NC

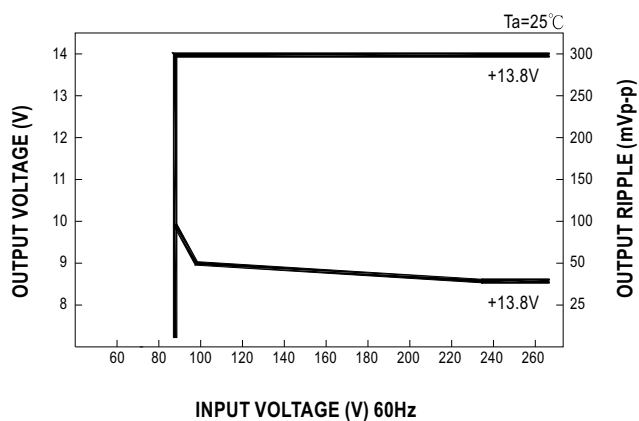
■ Block Diagram



Derating Curve



■ Static Characteristics (A)



Quality Engineering Test Report

SERIES: AD-55 55W AC-DC SINGLE OUTPUT WITH CHARGER

SAMPLE: A.AD-55A

+V1: 13.8V / 3.5A

B.AD-55B

+V1:27.6V /1.8A

+V2:13.4V /0.23A

+V2:26.5V/0.16A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:88~264VAC O/P:FULL LOAD	A:63.16VAC~264VAC	P
2	LINE REGULATION	I/P:88V~264VAC SPEC: O/P:FULL LOAD A :+V1 :±0.5% +V2 :-----% B :+V1 :±0.5% +V2 :-----%	A: +V1: -0.04%~-0.04% +V2: -----%~-----% B: +V1: -0.02%~+0% +V2: -----%~-----%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A :+V1 : ±0.5% +V2 : -----% B : +V1 : ±0.5% +V2 : -----%	A: +V1: -0.043%~+0% +V2: -----%~-----% B: +V1: +0.02%~+0.02% +V2: -----%~-----%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:88~264VAC SPEC: O/P:MIN. TO FULL LOAD A :+V1 : ±1% +V2 : ----% B : +V1 : ±1% +V2 : ----%	A: +V1: -0.028%~-0.11% +V2: -----%~-----% B: +V1: -0.02%~+0.02% +V2: -----%~-----%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :+V1 :100mV +V2 :----mV A :+V1 :100mV +V2 :----mV	A: +V1: 12mV +V2: ---mV B: +V1: 14mV +V2: ---mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1A O/P:FULL LOAD	A:0.607A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:40A O/P: FULL LOAD	A:35.57A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A: V1:12V~14.5V B: V1:24V~29V	A: 11.634V~16.016V B: 23.98V~32.8V	P
9	SET UP TIME	I/P:230VAC SPEC:800mS O/P:FULL LOAD	A: 502.1mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:60mS O/P:FULL LOAD	A: 122.4mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:71% O/P:FULL LOAD B:74%	A:77.5% B:81%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~135% O/P:TESTING	A:119% B:122%	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<1mA N-FG--<1mA	A: L-FG:0.48mA N-FG:0.48mA	P
15	INSULATION RESISTANCE	SPEC: O/P-FG 500VDC/100M Ohms MIN. I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P
16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3000VAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1500VAC/ 1 min. (10mA CUT-OFF) O/P - FG: 500VAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P 4.52mA I/P-FG :3.74mA O/P-FG 3.62mA	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																			
17	BATTERY LOW PROTECTION	I/P:230VAC SPEC: O/P FULL LOAD A:10~11.5V B:20~22V	A: 10.6V B: 21.7V	P																																			
18	BURN-IN TEST	I/P: 230VAC O/P100% LOAD with 17.8CFM FAN TA:26.5°C BURN-IN DURATION :1.5 hrs	A: NON BREAK	P																																			
19	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230 VAC O/P:100% LOAD AMBIENT TEMPERATURE:-9.8°C	A : AFTER 2.5 hrs POWER ON OK	P																																			
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:59.1°C with 17.8CFM FAN	A : AFTER 3.5 hrs NON BREAK																																				
		3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST I/P:264VAC O/P:FULL LOAD AMBIENT TEMPERATURE : 25°C AMBIENT HUMIDITY : 95%	A : AFTER14 hrs POWER ON/OFFNON BREAK																																				
20	TEMPERATURE RISE TEST T rise OF PARTS	A: I/P :230VAC AFTER 2 hr BURN-IN O/P :70%LOAD TA:26.5°C with 17.8CFM FAN <table><tr><td></td><td>POSITION</td><td>P/N</td><td>TEMP</td><td>T rise</td></tr><tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>30.4°C</td><td>3.9°C</td></tr><tr><td></td><td>Q1</td><td>MAIN TRANSISTOR</td><td>35.4°C</td><td>8.9°C</td></tr><tr><td></td><td>T1</td><td>MAIN TRANSFORMER</td><td>42.4°C</td><td>15.9°C</td></tr><tr><td></td><td>D20</td><td>O/P DIODE</td><td>48.7°C</td><td>22.2°C</td></tr><tr><td></td><td>C17</td><td>O/P FILTER CAPACITOR</td><td>40.4°C</td><td>13.9°C</td></tr><tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>30.5°C</td><td>4°C</td></tr></table>			POSITION	P/N	TEMP	T rise		BD1	BRIDGE DIODE	30.4°C	3.9°C		Q1	MAIN TRANSISTOR	35.4°C	8.9°C		T1	MAIN TRANSFORMER	42.4°C	15.9°C		D20	O/P DIODE	48.7°C	22.2°C		C17	O/P FILTER CAPACITOR	40.4°C	13.9°C		C5	I/P FILTER CAPACITOR	30.5°C	4°C	P
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21	LIFE CYCLE	A: SUPPOSE C17 IS THE MOST CRITICAL COMPONENT with 17.8CFM FAN I/P:230VAC O/P:100% LOAD Ta:25°C Tc:38.9°C Life:547008hrs I/P:230VAC O/P:100% LOAD Ta:60°C Tc:72.4°C Life:53648hrs		P																																			
22	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	A: FUSE : F 3A/250V CHARGER 15AL/250V BRIDGE DIODE : D3SB60 LINE FILTER : TF-484-R2 EE-25 TRANSFOMER : TF-688 EER-28L POWER SWITCHER : 2SK2645 TO-3P OUTPUT DIODE : BYQ-28X-200 OUTPUT CAPACITOR : RUBYCON 470uF/25V YXG 105°C INPUT CAPACITOR : RUBYCON 150uF/400V 85°C P.C.B : ADD-55-R1																																					
DATE	SAMPLE	TEST RESULT		TEST	APPROVAL																																		
20001007	RD SAMPLE	PASS		VINCENT	Max Lin																																		
20001116	A011B25 AD55A AD55B	PASS		VINCENT	Max Lin																																		
20010706	A106B23A AD55A	PASS		VINCENT	Max Lin																																		