Quality Engineering Test Report

SERIES: AD-155 155W AC-DC SINGLE OUTPUT WITH CHARGER

SAMPLE: **A.AD-155A** **+V1: 13.8V / 10.5A** **+V2:13.3V /0.5A** **B.AD-155B** **+V1:27.6V /5A** **+V2:27.1V/0.5A**

C.AD-155C **+V1:54V /2.7A** **+V2:53.5V/0.2A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:88~264VAC O/P:FULL LOAD	B:66.58VAC~264VAC	P
2	LINE REGULATION	I/P:88V~264VAC SPEC: O/P:FULL LOAD A :+V1 :±0.5% +V2 :-----% B :+V1 :±0.5% +V2 :-----% C :+V1 :±0.5% +V2 :-----%	A: +V1: 0%~0% +V2: -----%~-----% B: +V1: 0%~0% +V2: -----%~-----% C: +V1: 0.011%~0.011% +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 : -----% C : +V1 : ±0.5% +V2 : -----%	A: +V1: -0.043%~+0.043% +V2: -----%~-----% B: +V1: -0.021%~+0.00% +V2: ------%~------% C: +V1: -0.022%~0.092% +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 : ---% C : +V1 : ±1% +V2 : ---%	A: +V1: -0.086%~+0.043% +V2: -----%~-----% B: +V1: -0.00%~0.043% +V2: -----%~-----% C: +V1: -0.126%~0.024% +V2: -----%~-----%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :+V1 :150mV +V2 :-----mV B :+V1 :150mV +V2 :-----mV C :+V1 :240mV +V2 :-----mV	A: +V1: 4mV +V2: ---mV B: +V1: 14mV +V2: ---mV C: +V1: 5mV +V2: ---mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1.5A O/P:FULL LOAD	B:0.808A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:40A O/P: FULL LOAD	B:17.406A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A: V1:12V~14.5V B: V1:24V~29V C: V1:48V~58V	A: 11.566V~16.509V B: 23.18V~30.47V C: 44.6V~60.3V	P
9	SET UP TIME	I/P:230VAC SPEC:900mS O/P:FULL LOAD	B: 666.45mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	B: 37.32mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:81% O/P:FULL LOAD B:84% C:84%	A:81.1% B:84.86% C:84.66%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~135%(CH1) O/P:TESTING 0.51A~0.9A(CH2)	A:118%(CH1) 0.8A (CH2) B:143% 0.7 A C:125.9% 0.7A	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<1mA N-FG--<1mA	A: L-FG:0.39mA N-FG:0.39mA	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.	B: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>16</td><td>DIELECTRIC / WITHSTAND VOLTAGE</td><td>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)</td><td>B: I/P-O/P :4.6mA
I/P-FG 3.2mA
O/P-FG :1.2mA</td><td>P</td></tr>
<tr><td>17</td><td>BATTERY LOW PROTECTION</td><td>I/P:230VAC SPEC:
O/P FULL LOAD A:9.5~10.5V
B:19~20V
C:38.5~39.5V</td><td>A: 10.5V
B: 19.5V
C: 39V</td><td>P</td></tr>
<tr><td>18</td><td>BURN-IN TEST</td><td>I/P: 230VAC O/P100% LOAD with 18.6CFM FAN
TA:24.6ºC BURN-IN DURATION :1hr</td><td>A: NON BREAK</td><td>P</td></tr>
<tr><td rowspan="3">19</td><td rowspan="3">ENVIRONMENT TEST</td><td>1.LOW TEMPERATURE TEST
I/P:230 VAC O/P:100% LOAD
AMBIENT TEMPERATURE:-9.6ºC</td><td>A :AFTER 15 hrs POWER ON OK</td><td rowspan="3">P</td></tr>
<tr><td>2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:51.1ºC with 18.6CFM FAN</td><td>A :AFTER 3 hrs NON BREAK</td></tr>
<tr><td>3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST
I/P:264VAC O/P:FULL LOAD
AMBIENT TEMPERATURE：25ºC
AMBIENT HUMIDITY：95%</td><td>A :
AFTER15 hrs POWER ON/OFFNON BREAK</td></tr>
<tr><td>20</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td colspan="2">A: I/P :230VAC AFTER 1hr BURN-IN
O/P :100%LOAD TA:24.6ºC with 18.6CFM FAN
<table>
<tr><th></th><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>57.3ºC</td><td>32.7ºC</td></tr>
<tr><td></td><td>Q1</td><td>MAIN TRANSISTOR</td><td>41.5ºC</td><td>16.9ºC</td></tr>
<tr><td></td><td>T1</td><td>MAIN TRANSFORMER</td><td>58.2ºC</td><td>33.6ºC</td></tr>
<tr><td></td><td>D40</td><td>O/P DIODE</td><td>85.5ºC</td><td>60.9ºC</td></tr>
<tr><td></td><td>C44</td><td>O/P FILTER CAPACITOR</td><td>66.9ºC</td><td>42.3ºC</td></tr>
<tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>34.2ºC</td><td>9.6ºC</td></tr>
</table></td><td>P</td></tr>
<tr><td>21</td><td>LIFE CYCLE</td><td colspan="2">A: SUPPOSE C44 IS THE MOST CRITICAL COMPONENT with 18.6CFM FAN
I/P:230VAC O/P:100% LOAD Ta:24.6ºC Tc:66.9ºC Life:100008.5hrs
I/P:230VAC O/P:100% LOAD Ta:51.1ºC Tc:91.9ºC Life:19649.8hrs</td><td>P</td></tr>
<tr><td>22</td><td>CRITICAL COMPONENT RECORD
(FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">A: FUSE : 3A/250V CHARGER 15A/250V
BRIDGE DIODE : KBJ608G
LINE FILTER : LF201
TRANSFOMER : TF-695
POWER SWITCHER : 2SK2039
OUTPUT DIODE : D9202
OUTPUT CAPACITOR : RUBYCON 1000uF/25V YXG 105ºC
INPUT CAPACITOR : HITACHI 150uF/400V HP3 85ºC
P.C.B : ADD-155</td></tr>
</table>

DATE	SAMPLE	TEST RESULT	TEST	APPROVAL
20001229	RD SAMPLE	**PASS**	VINCENT	**Max Lin**
20000130	PRDUCTION **SAMPLE** **A101B30** **AD155A** **AD155B** **AD155C**	**PASS**	SAM	**Max Lin**
20010409	PRDUCTION **SAMPLE** **A104C25A** **AD155A** **AD155B** **AD155C**	**PASS**	VINCENT	**Max Lin**
20010630	PRDUCTION **SAMPLE** **A106B04** **AD155A**	**PASS**	VINCENT	**Max Lin**
20010727	PRDUCTION **SAMPLE** **A107C27** **AD155A**	**PASS**	VINCENT	**Max Lin**
20010901	PRDUCTION **SAMPLE** **A108C01** **AD155A**	**PASS**	VINCENT	**Max Lin**
20011102	PRDUCTION **SAMPLE** **A110C04A** **AD155B**	**PASS**	VINCENT	**Max Lin**