

Quality Engineering Test Report

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

SAMPLE: A.AD-55A

**+V1: 13.8V / 3.5A
+V2:13.4V /0.23A**

B.AD-55B

**+V1:27.6V /1.8A
+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 |

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|----------|---|--|---|----------|----------|-----|------|--------|--|-----|--------------|--------|-------|--|----|-----------------|--------|-------|--|----|------------------|--------|--------|--|-----|-----------|--------|--------|--|-----|----------------------|--------|--------|--|----|----------------------|--------|-----|---|
| 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 : AFTER 14 hrs POWER ON/OFFNON BREAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | TEMPERATURE RISE TEST T rise OF PARTS | A: I/P :230VAC O/P :70%LOAD AFTER 2 hr BURN-IN TA:26.5°C with 17.8CFM FAN | <table border="1"> <thead> <tr> <th></th> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <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> </tbody> </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 |
| | POSITION | P/N | TEMP | T rise | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | C17 | O/P FILTER CAPACITOR | 40.4°C | 13.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C5 | I/P FILTER CAPACITOR | 30.5°C | 4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |