



GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-GED-193X252AAG02

Test Procedure for a 193X252AAG02 Card

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DATE 7/31/2009	DATE	DATE	DATE 7/31/2009

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1. SCOPE

1.1 This is a functional testing procedure for a 193X252AAG02 Card.

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.

3.1.1 **Test Instruction 224X697AB**

3.1.2 **Engineering Spec 224X250AA**

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning

4.1.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to the local documented procedures for cleaning guidelines.

4.2 Equipment Inspection

4.2.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:

4.2.1.1 Wires - broken, cracked, or loosely connected

4.2.1.2 Terminal strips / connectors - broken or cracked

4.2.1.3 Components - visually damaged

4.2.1.4 Capacitors - bloated or leaking

4.2.1.5 Solder joints - damaged or cold

4.2.1.6 Circuit board - burned or de-laminated

4.2.1.7 Printed wire runs / Traces - burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1		Fluke 87 DMM (or Equivalent)
1		Variable Power Supply +5VDC
1		Oscilloscope

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6. TESTING PROCESS

6.1 Setup

6.1.1 With a DVM in the diode check mode static check diodes using the following procedure.

6.1.1.1 Forward Bias

6.1.1.1.1 (-) to Pin 29 & (+) to pins 23 thru 28.

6.1.1.1.2 (+) to Pin 22 & (-) to pins 23 thru 28.

6.1.1.2 Reverse Bias

6.1.1.2.1 (+) to pin 29 & (-) to pins 23 thru 28.

6.1.1.2.2 (-) to Pin 22 & (+) to pins 23 thru 28.

6.2 Testing Procedure

6.2.1 30 Volt Power Supplies

6.2.1.1 Apply +30 VDC to pin 29 and -30VDC to pin 22 and common to pin 15.

6.2.1.2 Pin 31 should measure between +19.6 to +20.4VDC with no load applied.

6.2.1.3 Pin 2 should measure between -19.6 to -20.4VDC with no load applied.

6.2.2 20 Volt Power Supplies

6.2.2.1 Apply a 165 ohm load to the +- 20VDC supplies and the output voltage should sag less then .01VDC

6.2.3 Regulator

6.2.3.1 Apply 5VDC to tab 13 through a 6.81K 1% resistor. The regulator output, tab 6, should be 7.42VDC, (+-.12VDC). The first stage output should rest at 0.00 volts, pin 11.

6.2.4 FET Switch

6.2.4.1 With 5VDC applied as in the previous step, short tab 16 to common. Tab 11 should go to -12VDC min on pin 6. Tab 6 should go to between +8.3VDC and +8.8VDC.

6.2.4.2 Now apply -5VDC to tab 13 as above. Tab 11 should go to +12VDC min on a G02. Tab 6 should go to between -8.3VDC and -8.8VDC.

6.2.5 Feedback

6.2.5.1 With -5VDC applied as in previous step, apply a +6VDC signal to tab 18; tab 6 should go to -7.42VDC (+-.12VDC).

6.2.5.2 Remove the +6VDC from tab 18 and place a 6.8K-ohm 1% resistor between tab 3 & 14, tab 6 should go to between -4.85VDC and -5.15VDC.

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6.2.6 Auxiliary Amplifier

6.2.6.1 Place a 10K ohm 1% resistor between tabs 8 & 9 and a 10K ohm 1% resistor from 9 to common. Place -5VDC on tab 10. Tab 8 should go to -10VDC (+/-0.2VDC). Disconnect pin 10. Apply a -10VDC at tab 13 6.8K ohm 1% resistor. Pin 11 should measure a minimum of +12VDC.

6.3 *TEST COMPLETE *****

7. NOTES

7.1 None at this time.