g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3800DFXG**

Test Procedure for a DS3800DFXG

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	2/23/2010
B			
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
Steve Pharris			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
2/23/2010			2/25/2010

1. SCOPE

1.1 This is a functional testing procedure for a DS3800DFXG.

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 Check board's electronic folder for more information

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 site specific SRA's 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		Millivolt Source
2		Tenma dual Power Supply
1		180 Ohm Resistor
2		DIP Clips

6. TESTING PROCESS

6.1 Setup

6.1.1 Set power supplies for 15VDC and 28VDC

6.1.2 Connect +15VDC to positive side of C38

6.1.3 Connect –15VDC to negative side of C39

6.1.4 Connect +5VDC to positive side of C37

6.1.5 Connect +28VDC to JD19

6.1.6 Connect all commons together

6.1.7 Connect common to positive side of C39 **AND** negative side of C37

6.1.8 Connect 180 ohm resistor in series with output of millivolt source

6.1.9 Connect other side of resistor to cathode of CR1

6.2 Testing Procedure

6.2.1 Apply power

6.2.2 Verify 0VDC at JA1

6.2.3 Connect U3 pin1 to com

6.2.4 Increase millivolt source to 4VDC

6.2.5 Verify JA1 = 28VDC

6.2.6 Verify JA2 = 0VDC

6.2.7 Connect U3 pin4 to com

6.2.8 Verify JA2 = 28VDC

6.2.9 Verify JA3 = 0VDC

6.2.10 Connect U3 pin9 to com

6.2.11 Verify JA3 = 28VDC

6.2.12 Verify JA4 = 28VDC

6.2.13 Connect U2 pin5 to com

6.2.14 Verify JA4 = 0VDC

6.2.15 Connect U3 pin13 to com

6.2.16 Verify JA4 = 28VDC

6.2.17 Verify JA8 = 1

6.2.18 Connect JD7 to com

6.2.19 Verify JA8 = 0

6.2.20 Verify JA7 = 1

6.2.21 Verify JA10 = 1

6.2.22 Connect JD8 to com

6.2.23 Verify JA10 = 0

6.2.24 Verify JA9 = 1

6.2.25 Verify JD11 = 1

6.2.26 Connect JA11 to 5VDC

6.2.27 Connect JA12 to com

6.2.28 Verify JD11 = 0

6.2.29 Verify JD10 = 1

6.2.30 Connect JA13 to 5VDC

6.2.31 Connect JA14 to com

6.2.32 Verify JD10 = 0

6.2.33 Verify JD9 = 1

6.2.34 Connect JA15 to com

6.2.35 Verify JD9 = 0

6.2.36 Remove connections from millivolt source

6.2.37 Using millivolt source apply 1VDC to JA16

6.2.38 Verify JC6 = 1V

6.2.39 Increase millivolt source at JA16 in 1VDC increments to 5VDC and verify JC6 follows

6.2.40 Using millivolt source apply 10VDC to JA17

6.2.41 Verify JC4 = approx. 4.3V

6.2.42 Increase millivolt source at JA17 in 1VDC increments to 14VDC and verify JC4 decreases by 1VDC increments

6.2.43 Using millivolt source apply 10VDC to JA18

6.2.44 Verify JC4 = approx. -4.3V

6.2.45 Increase millivolt source at JA18 in 1VDC increments to 14VDC and verify JC4 decreases by 1VDC increments

6.2.46 Using millivolt source apply 10VDC to JA19

6.2.47 Verify JC1 = approx. -8VDC

6.2.48 Increase millivolt source at JA19 to 11VDC

6.2.49 Verify JC1 = approx. –6.2VDC

6.2.50 Increase millivolt source at JA19 to 12VDC

6.2.51 Verify JC1 = approx. –4.3VDC

6.2.52 Increase millivolt source at JA19 to 13VDC

6.2.53 Verify JC1 = approx. –2.4VDC

6.2.54 Using millivolt source apply 10VDC to JA20

6.2.55 Verify JC1 = approx. 8VDC

6.2.56 Increase millivolt source at JA20 to 11VDC

6.2.57 Verify JC1 = approx. 6.2VDC

6.2.58 Increase millivolt source at JA20 to 12VDC

6.2.59 Verify JC1 = approx. 4.3VDC

6.2.60 Apply 5VDC to JA19

6.2.61 Using millivolt source apply –5.4VDC to JA20

6.2.62 Set jumper to “100”

6.2.63 Verify JD23 = -1.02VDC

6.2.64 Move jumper to “500/250”

6.2.65 Verify JD23 = -.81VDC

6.2.66 Move jumper to “550”

6.2.67 Verify JD23 = -.74VDC

6.2.68 Move jumper to “600/150”

6.2.69 Verify JD23 = -.68VDC

6.2.70 Move jumper to “315”

6.2.71 Verify JD23 = -.65VDC

6.2.72 Move jumper to “700”

6.2.73 Verify JD23 = -.58VDC

6.2.74 Move jumper to “750”

6.2.75 Verify JD23 = -.54VDC

6.2.76 Move jumper to “100”

6.2.77 Verify JD24 = approx. 1VDC

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time?

8. ATTACHMENTS

8.1 None at this time?