



GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-GED-DS3800HPBD

Test Procedure for a DS3800HPBD

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1. SCOPE

1.1 This is a functional testing procedure for a DS3800HPBD.

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 DS3800HPBD

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	H033882	Rainbow Box
1	H033767	Standard Connector Box for DS3800
1	H033772	DS3800 Power Supply

6. TESTING PROCESS

6.1 Setup

6.1.1 Set Jumpers to the following positions: J1 ON, J2 OFF, J3 HAK.

6.1.2 Make the following connections:

- PA1 to PA9
- PA1 to PA16
- PA1 to PA17
- PA2 to SW81
- PA4 to SW82
- PA6 to SW83
- PA12 to SW84

6.2 Testing Procedure

6.2.1 Toggle SW1 (on card) towards corner of card and verify RST illuminates and PA11 = H.

6.2.2 Set SW1 to "UP" position.

6.2.3 Set SW84 and SW81 to L.

6.2.4 Set SW82 and SW83 to H.

6.2.5 Verify L at pin 1 and 19 of U35.

6.2.6 Connect the following: **PA SW Output** (monitor in following steps)

34	85	PA61
35	86	PA62
36	87	PA63
37	88	PA64
38	89	PA65
39	90	PA66
40	91	PA67
41	92	PA68

6.2.7 Set switches as follows: H, L, H, L, H, L, H, L

6.2.8 Verify output follows input

6.2.9 Set switches as follows: L, H, L, H, L, H, L, H

6.2.10 Verify output follows input

6.2.11 Remove connections from step 6.2.6

6.2.12 Connect the following: **PA SW Output** (monitor in following steps)

26	85	PA18
27	86	PA19
28	87	PA20
33	88	PA52

6.2.13 Verify output follows input

6.2.14 Remove connections from step 6.2.12

6.2.15 Connect the following: **PA SW Output** (monitor in following steps)

30	85	PA49
31	86	PA50
32	87	PA51
29	88	PA48

6.2.16 Verify output follows input

6.2.17 Remove connections from step 6.2.15

6.2.18 Connect the following: **PA SW Output** (monitor in following steps)

28	85	PA46 and PA47
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6.2.19 Verify output follows input and that PA46 and PA47 are opposite of each other.

6.2.20 Toggle SW83 and verify PA13 follows

6.2.21 Remove connections from step 6.2.18

6.2.22 Connect the following: **PA SW Output** (monitor in following steps)

08	85	PA14
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6.2.23 Verify output follows input

6.2.24 Install J2 in 0-7 Range

6.2.25 Connect the following: **PA SW**

29	85
30	86
31	87

6.2.26 Set SW87 H and verify the following truth tables

SW85	SW86	PA21	PA22	PA23	PA24
0	0	H	H	H	L
1	0	H	H	L	H
0	1	H	L	H	H
1	1	L	H	H	H

6.2.27 Set SW87 L and verify the following truth tables

SW85	SW86	PA25	PA70	PA71	PA72
0	0	H	H	H	L
1	0	H	H	L	H
0	1	H	L	H	H
1	1	L	H	H	H

6.2.28 Remove PA29, PA30, and PA31

6.2.29 Reconnect to PA26, PA27, and PA28

6.2.30 Set SW87 L and verify the following truth tables

SW85	SW86	PA57	PA58
0	0	H	H
1	0	H	H
0	1	H	L
1	1	L	H

6.2.29 Set SW87 H and verify the following truth tables

SW85	SW86	PA55	PA56
0	0	H	L
1	0	L	H
0	1	H	H
1	1	H	H

6.2.31 Set SW87 L and verify the following truth tables

SW85	SW86	PA59	PA60
0	0	H	L
1	0	L	H
0	1	H	H
1	1	H	H

6.2.32 Set SW87 H and verify the following truth tables

SW85	SW86	PA53	PA54
0	0	H	H
1	0	H	H
0	1	H	L
1	1	L	H

6.2.33 Set SW87 H and verify the following truth tables

SW85	SW86	PA74	PA76
0	0	H	L
1	0	H	L
0	1	L	H
1	1	L	H

6.2.34 Set SW87 L and verify the following truth tables

SW85	SW86	PA78	PA80
0	0	H	L
1	0	H	L
0	1	L	H
1	1	L	H

6.3 *TEST COMPLETE*****

7. NOTES

7.1 None at this time