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GE Energy

Functional Testing Specification*Parts & Repair Services
Louisville, KY***LOU-GED-189A6383****Test Procedure for a 189A6383G1 & G2 cards****DOCUMENT REVISION STATUS:** Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Transfer of information to L-Ville format	G. Chandler	11/16/2012
B			
C			

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PREPARED BY G. Chandler	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL <i>Charlie Wade</i>
DATE 11/16/2012	DATE	DATE	DATE 11/16/2012

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1. SCOPE

1.1 This is a functional testing procedure for 189A6383G1 & G2 cards

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		15VDC Power Supply
1		Voltage Calibrator
1		Function Generator
1		Frequency Counter
1		Oscilloscope
1		Fluke 85 or equivalent
3		1K ohm ½ watt resistors

6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

ENGINEERING MANUFACTURING INSTRUCTIONS — No. 4655																					
<p>FOR USE OF GSE EMPLOYEES ONLY</p> <p>CANADIAN GENERAL ELECTRIC COMPANY LIMITED</p>	<p>SUBJECT</p> <p>SE & C CAND TEST</p>																				
	<p>SECTION— 6383</p> <p>PART— 1 & 3</p> <p>PAGE— 1</p> <p>CONT'D on PG.— 2</p>																				
	<p>1. PURPOSE</p> <p>To test the Rectifier Firing Card 189A6383 G1, GP.</p>																				
	<p>2. ELEMENTARY</p> <p>SE & C Data Book 1088 Sect. 6383 Pwg. 0194C4044 (G1) 0316A3079AF (G2)</p>																				
<p>3. EQUIPMENT</p> <p>a) FN 15 V DC power supply</p> <p>b) Voltage calibrator</p> <p>c) Square wave generator (Wavetek or equivalent)</p> <p>d) Frequency counter</p> <p>e) Oscilloscope</p> <p>f) EVM</p> <p>g) 3 - 1K ohm $\frac{1}{4}$ W resistors (0177A1001 P49)</p>	<p>4. SET UP</p> <p>a)</p> <p>FIG. 1</p> <p>b) Set R2, R3, and R4 fully CCW</p>																				
<p>5. TEST</p> <p>a) Power up and adjust the supply to 15.00 volts</p> <p>b) Adjust R1 for +5.00 \pm 0.01 volts at Pin 6 of IC7 (top of R33) (GND SWN at pin 2 of Cand)</p> <p>c) Remove Pin 24 from COM, connect to Va (voltage calibrator) and set to +5.000 V</p>	<p>Signatures Required as Shown</p> <table border="1"> <tr> <td>Prepared by</td> <td>Checked and Unit</td> <td>Type Name</td> <td>Signature</td> </tr> <tr> <td>D.L. Cleveland</td> <td>IC 952</td> <td>Prod. Engineering</td> <td>RW Lye</td> </tr> <tr> <td>Date Issued</td> <td>Separation Issue Dated</td> <td>Manuf. Eng.</td> <td>J. Beak</td> </tr> <tr> <td>April 9, 1987</td> <td>Nov. 11, 1985</td> <td>Quality Control</td> <td>J. Beak</td> </tr> <tr> <td colspan="2"></td> <td>Eng'g. Lab.</td> <td></td> </tr> </table>	Prepared by	Checked and Unit	Type Name	Signature	D.L. Cleveland	IC 952	Prod. Engineering	RW Lye	Date Issued	Separation Issue Dated	Manuf. Eng.	J. Beak	April 9, 1987	Nov. 11, 1985	Quality Control	J. Beak			Eng'g. Lab.	
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SUBJECT SZ & C CARD TEST	SECTION — 6383 PART — 1 & 3 PAGE — 2 CONT'D on PG. — 3																							
<p>5. Test - cont'd...</p> <p>d) Check the voltage at Pin 6 of IC7 (top of H33) is 0.00 +/- 0.00 ^{0.02} volts</p> <p>e) Adjust the signal generator for a 60.00 Hz 10V square wave (FIG. 2A)</p> <p>NOTE: use the frequency counter to keep the generator at 60.00 Hz during test.</p> <div style="text-align: center; margin: 20px 0;"> <p>FIG. 2</p> </div> <p>f) Check the waveform at Pin 36 is as in FIG 2B.</p> <p>g) Adjust R5 for a pulse width (W) of 5.6 +/- 0.2 ms</p> <p>h) Repeat f) and g) for Pin 40/R6 and Pin 46/R7</p> <p>i) Check the waveform on Pins 38, 42 and 46 is as in FIG 2C</p> <p>j) Connect Pin 24 to COM and adjust R2 CW until the waveform on Pin 36 is within 10 us of the falling edge of A $\pm 10 \mu s$</p> <p>k) Repeat j) for Pin 40/R3 and Pin 46/R4</p> <p>l) Connect Pin 24 to +5.000 volts and note the waveform on Pins 36, 40 and 46 is within 10 us of the rising edge of A</p> <p>m) Jumper Pin 32 to P15V and note all pulses on Pins 36, 38, 40, 42, 46 and 48 stop</p>																								
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9. Attachments

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9.1 None at this time.