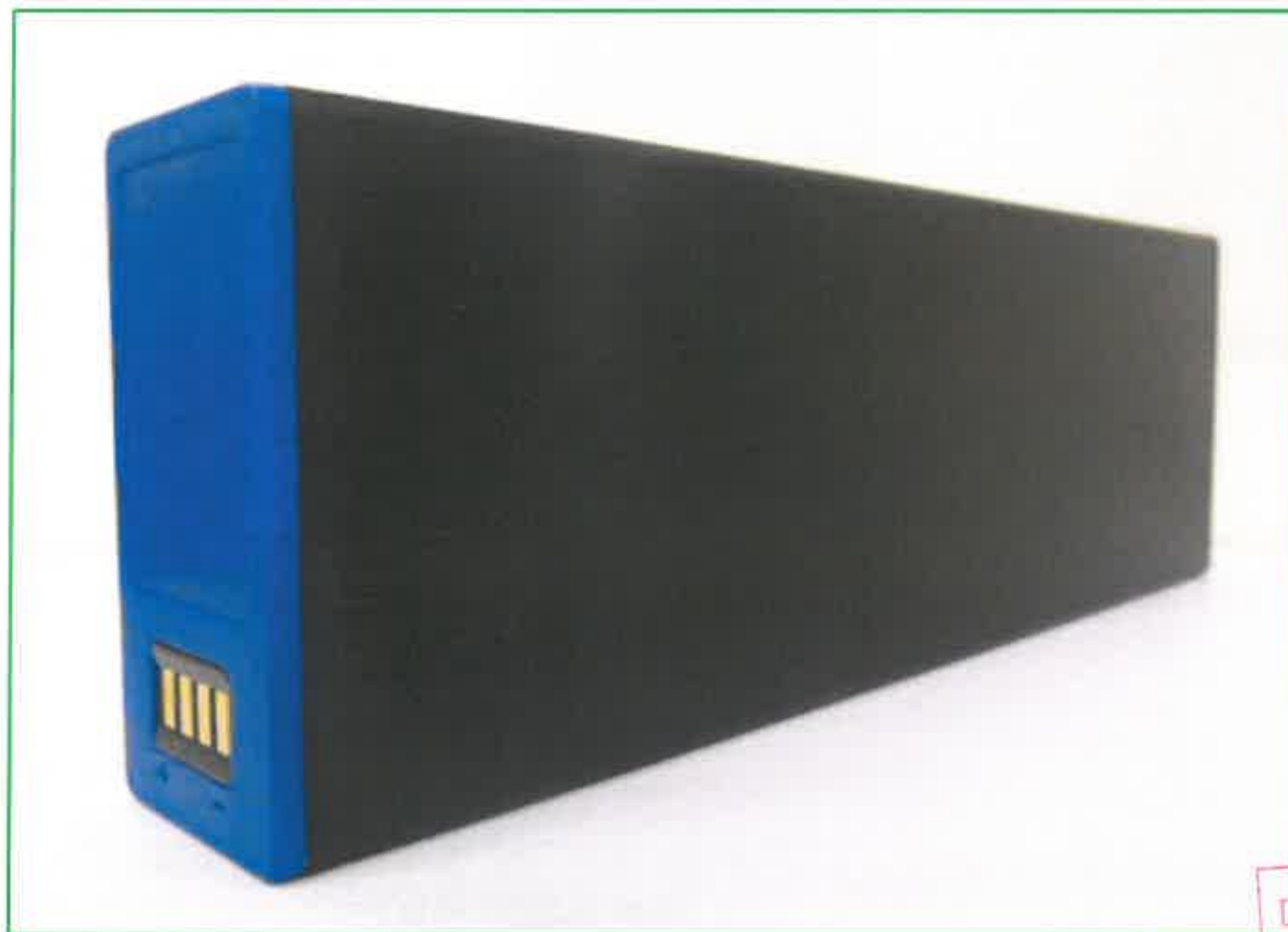


## Covidien Lead Assembly Work Instruction – L6A051BE00004-Stage 4



DEV STAGE 4  
FULL PRODUCTION

**IMPORTANT NOTE:** Quickly solder the fuse to the board to avoid damaging or blowing the fuse.

**IMPORTANT NOTE:** Please ensure that the soldering iron is tested and verified for the required temperature before use.



**ESD Cutters**

DEV STAGE 4

FULL PRODUCTION

**Reference HSR0005**



**Note: Soldering Iron set at 400°C.**

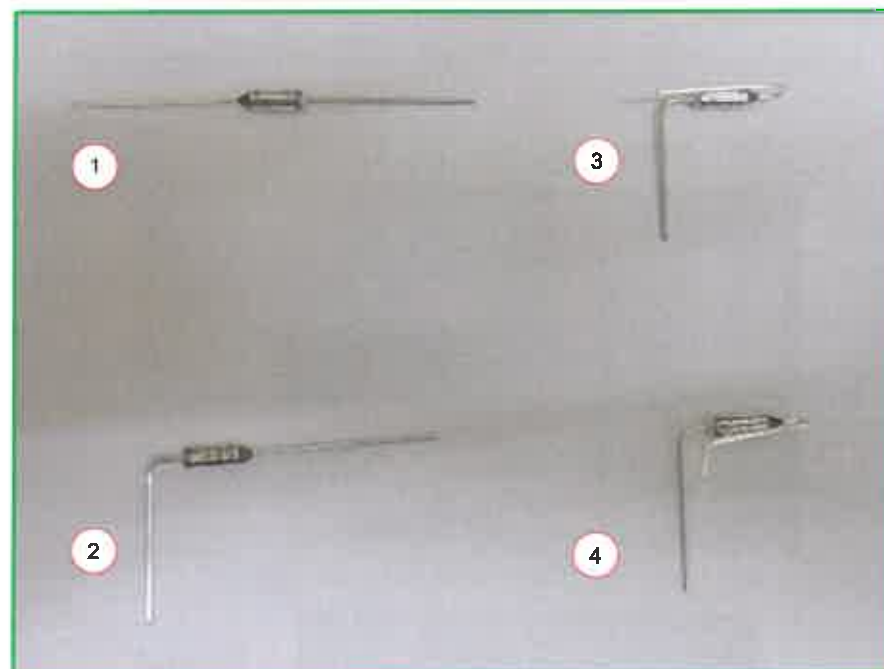


**Note: Use lead free solder HW1012.**

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DATE: 21/05/15	NAME: JME	SCALE:	Accutronics Ltd Unit 20, Loxley Road, Newcastle-under-Lyme, Staffordshire, England ST5 2LB	NDE96004	CAT No.:	SHT: 1	accutronics professional safety solutions
DATE: 18/6/15	CHKD: JA	NTS			L6A051BE00004_WI	Total: 14	

## End Cap Assembly – Bending the Fuse

- 1 Bend the fuse FU0128B into shape using the fuse bending jig.



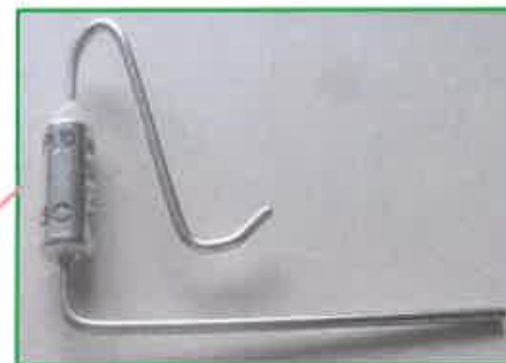
DEV STAGE 4  
FULL PRODUCTION

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DATE: 18/6/15	CHKD: PA				Total: 14		

# QUALITY KEYPOINTS



Formed  
incorrectly



Must be straight  
edge not curved.

DEV STAGE 4

FULL PRODUCTION

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DATE: 18/6/15	CHKD: DA	NTS			L6A051BE00004_WI	Total: 14	

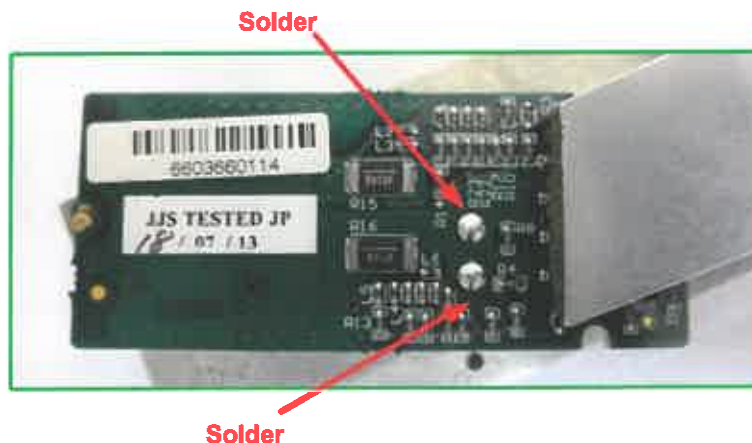
## End Cap Assembly – Attaching the fuse to the Board



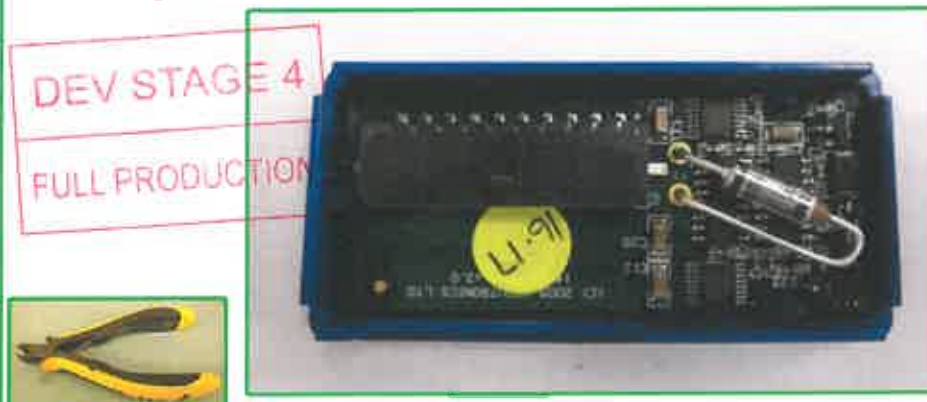
- 1 Cut off the solder legs as close as possible to the PCB. Using ESD cutters as below.



- 2 Using jig J0087 solder the fuse FU0128B to the board PCBA10003A01G.



- 3 Fit the board PCBA10003A01G into endcap moulding (CA3030BL).



**Note: Soldering Iron set at 400°C.**



**Note: Use lead free solder HW1012.**

**Warning: Quickly solder the fuse to the board to avoid damaging or blowing the fuse.**

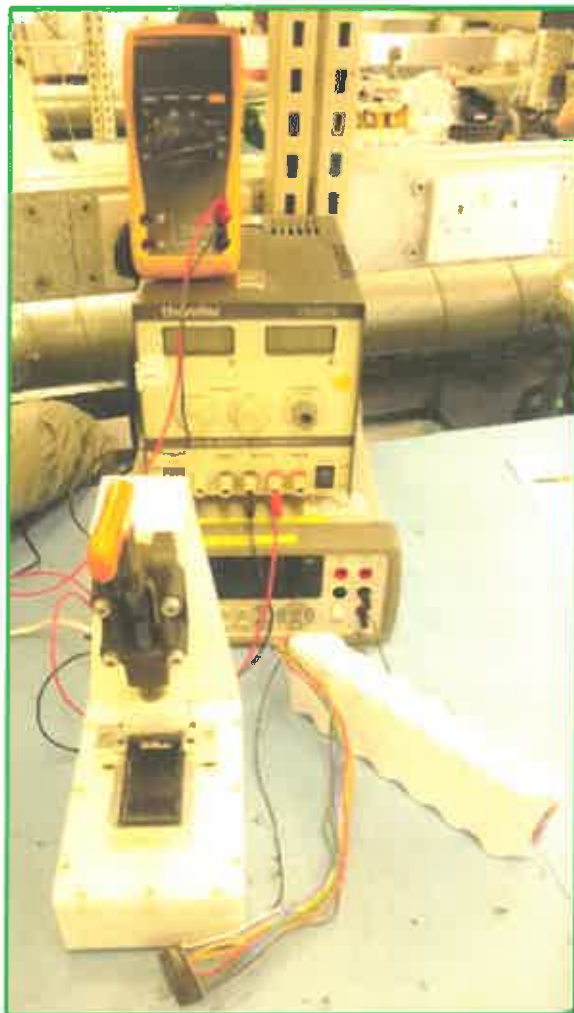
**A continuity Test must be done after each fuse is fitted with a multi meter.**

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DATE: 18/6/15	CHKD: 09	NTS			L6A051BE00004_WI	Total: 14

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## Current Drain Test



1

Turn on the test equipment and change the setting on the micro meter by pressing shift then DC V as shown below.

Press the Range arrow indicated 3 times.

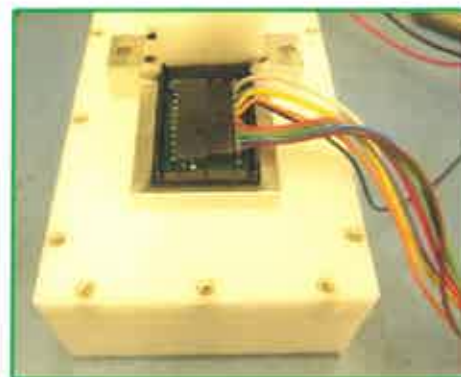


Fluke Tester – 26v or more – turn on the power supply for 5 seconds and wake each PCB up.

Make sure the resistance does not drop to 0 if this happens the PCB is a failure.

2

Attach the core pack to the board and check the readings are correct as shown below.



Using the switch box, test between 1-3 the micro meter should read between 25-150  $\mu$ ADC.

If less or more then the board is a fail.

Then switch between 2-4 the micro meter should read between 25-150  $\mu$ ADC.

If less or more then the PCB is a fail.

DEV STAGE 4

FULL PRODUCTION

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DATE: 21/05/15	NAME: JME				SCALE NT5	Accutronics Ltd. Unit 20, Loomer Road, Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004
DATE: 28/6/15	CHKD: DA	Total: 14					

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## End Cap Assembly – Secure End Cap Assembly



Soldering Station must be set at 200 Degrees



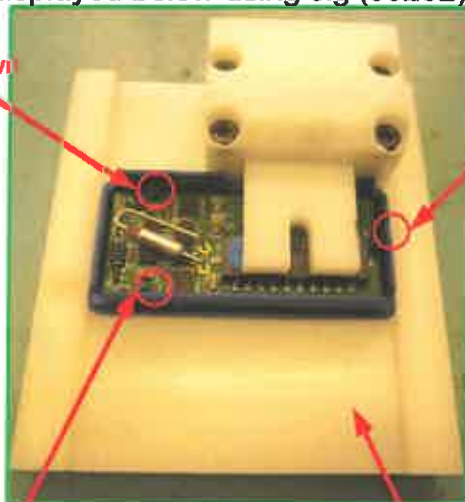
**IMPORTANT NOTE:** Ensure the Green LED is **NOT** lit this indicates the temperature is correct.



Heat Stake Solder Tip (T0182)

Using the heatstake melt the plastic at the points displayed below using Jig (J0252)

Melt Down



Melt Down



Melt Down

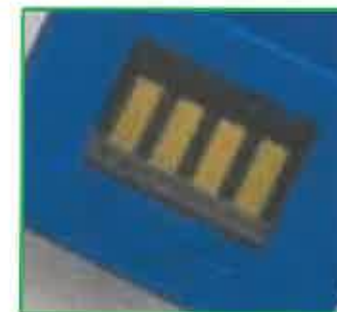
Heat Stake Jig (J0252)

DEV STAGE 4

FULL PRODUCTION



**IMPORTANT NOTE:**  
Ensure that the contacts are sitting flush with the endcap on the reverse side of the board.



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DATE: 21/05/15	NAME: JME	SCALE	Accutronics Ltd, Unit 20, Loomer Road, Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004	CAT No.:	SHT: 7
DATE: 18/6/15	CHKD: JF	NTS			L6A051BE00004_WI	Total: 14

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# QUALITY KEYPOINTS

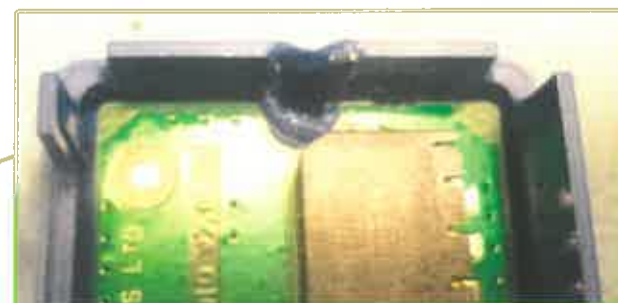


All heat-stakes points are formed correctly. (Domed)

DEV STAGE 4

FULL PRODUCTION

Side wall melted



Too much heat



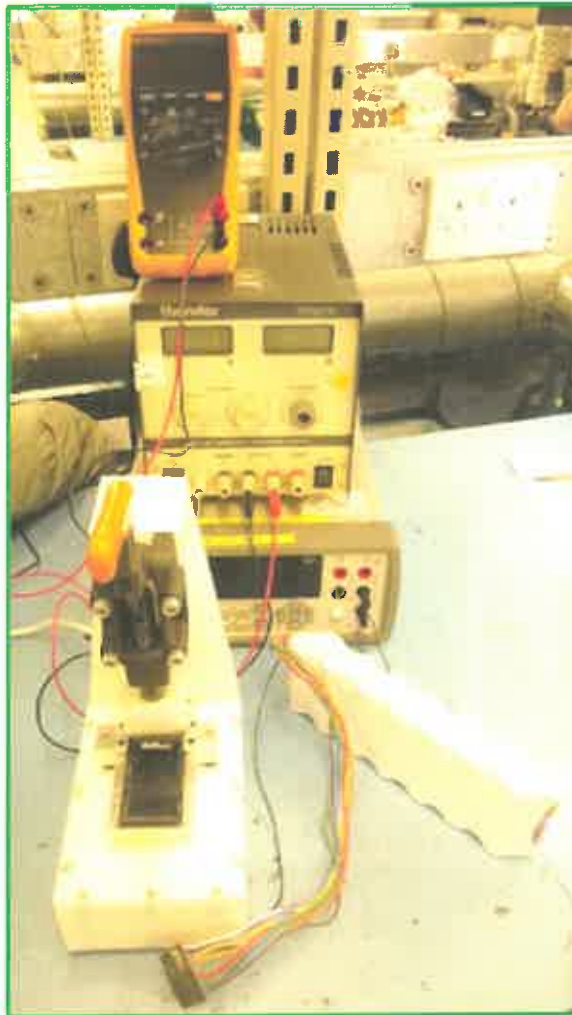
Too much pressure



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DATE: 18/6/15	CHKD: DA	NTS			L6A051BE00004_WI	Total: 14	



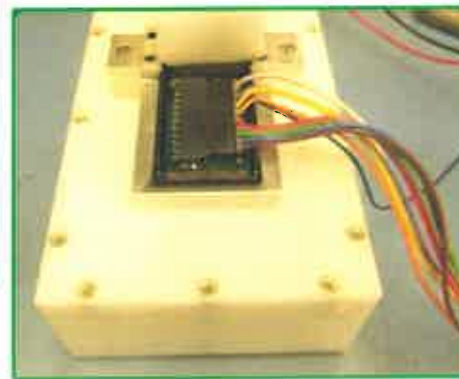
## Current Drain Test



- 1 Turn on the test equipment and change the setting on the micro meter by pressing shift then DC V as shown below.  
Press the Range arrow indicated 3 times.



- 2 Attach the core pack to the board and check the readings are correct as shown below.



DEV STAGE 4

FULL PRODUCTION

Fluke Tester – 26v or more – turn on the power supply for 5 seconds and wake each PCB up.

Make sure the resistance does not drop to 0 if this happens the PCB is a failure.

Using the switch box, test between 1-3 the micro meter should read between 25-150 uADC.

If less or more then the board is a fail.

Then switch between 2-4 the micro meter should read between 25-150 uADC.  
If less or more then the PCB is a fail.

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# End Cap Assembly – Epoxy Application

FISNAR TYPE JBE1113 AIR DELIVERY DISPENSER



**AIR PRESSURE SETTINGS  
1.5 BAR**



**Flexible Epoxy  
IRS2125  
(GL0202)**

**SEE NOTE BELOW:**

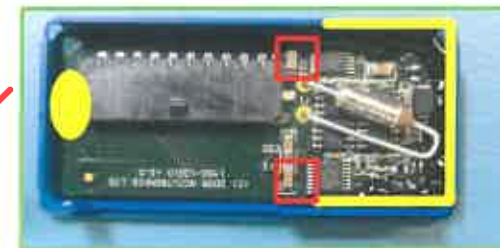


**Olive Nozzle Tip  
(HW1640)**

**NOTE:**  
**CHECK DATE AND TIME  
RECORDED ON LABEL.**  
**MUST START USING WITHIN 20  
MINUTES OF BEING DISPENSED.**  
**DISPOSE OF EPOXY AFTER  
90MINSFROM DISPENSED TIME.**



Using a Olive Nozzle (HW1640)  
apply flexible epoxy adhesive  
GL0202 around inside edge  
between the end-cap and PCB  
as shown below ensure that all  
3 heatstake position are  
covered



**When applying the flexible epoxy (GL0202) make sure  
the two capacitors identified are left clear.**

**DEV STAGE 4**  
**FULL PRODUCTION**

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DATE: 21/05/15	NAME: <b>JME</b>	SCALE	Accutronics Ltd. Unit 20, Loomer Road, Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004	CAT No.:	SHT: 10	<b>accutronics</b> professional battery solutions
DATE: <b>18/6/15</b>	CHKD: <b>OA</b>	NTS			<b>L6A051BE00004_WI</b>	Total: 14	

# QUALITY KEYPOINTS



DEV STAGE 4  
FULL PRODUCTION



Too much epoxy  
applied capacitor  
must be kept  
clear.



Too much epoxy.  
Connector is  
blocked.

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DATE: 18/6/15	CHKD: DA	NTS			L6A051BE00004_WI	Total: 14	



## Enviromental Chamber



Enviromental Chamber



Place End Cap Assemblies in Chamber



Place thermocouple in the chamber to record temperature .

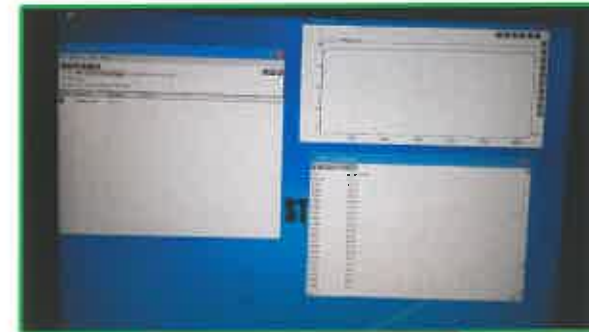
Make sure the glass door of the Chamber is closed securely.



Ensure that the temperature of the chamber is set at  $60^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$



Ensure that the safety Thermostat of the chamber is set at  $90^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$




Data is logged

DEV STAGE 4

FULL PRODUCTION

Cure Time is 10 Hours.  
Refer to NQA125

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DATE: 18/6/15	CHKD: DA					Total: 14			



### Procedure:

The following test needs to be completed after the PCBA has been heat staked and the flexible epoxy has been cured at 60°C for a minimum of 10 hours. This is the only time the test will be done and values will be recorded on the board itself

Step 1: Ensure load tester is turned on by pressing the on/off button



Step 2: Ensure that zero is pressed to reset the reading



Step 3: Press the peak button and 'peak' will appear above reading. This will capture highest reading during test.



All pictures are examples and do not represent actual required exact value from load test. Instructions specify the required values and their limits.

DEV STAGE 4

FULL PRODUCTION

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Step 4: Place assembly for testing in the jig



Step 5: Using lever; gently exert force till the tester reads 133 (-0+5). (133-138N) Make a note of the load on the board itself.



Step 5: Press zero before next test to reset the reading at 0.0

Due to nature of the test it is not possible to test all at exactly 133N. Test values of slightly above 133N are acceptable ensuring that min 133N is applied. Any value below 133N is a fail and needs to be segregated and passed to team leader/Manager.

All pictures are examples and do not represent actual required exact value from load test. Instructions specify the required values and their limits.

DEV STAGE 4

FULL PRODUCTION

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DATE: 18/6/15	CHKD: JM					Total: 14	