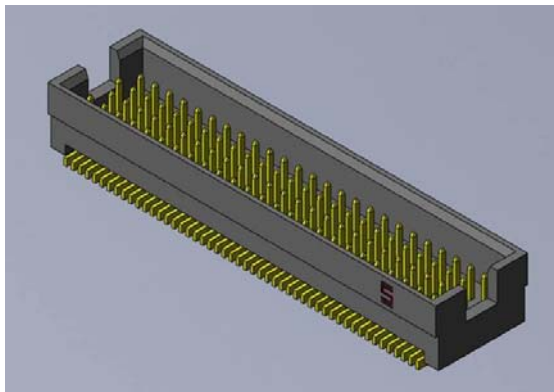
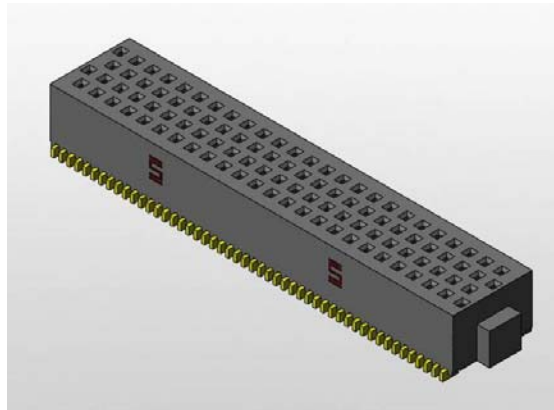




Project Number: Design Qualification Test Report		Tracking Code: 115836_Report_Rev_1	
Requested by: Mark Shireman		Date: 10/31/2011	Product Rev: N/A
Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q		Lot #: N/A	Tech: Kason He Eng: Vico Zhao
Part description: SOLC\TOLC			Qty to test: 80
Test Start: 4/18/2011	Test Completed: 5/16/2011		



DESIGN QUALIFICATION TEST REPORT

SOLC\TOLC
SOLC-125-02-S-Q\TOLC-125-02-S-Q

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

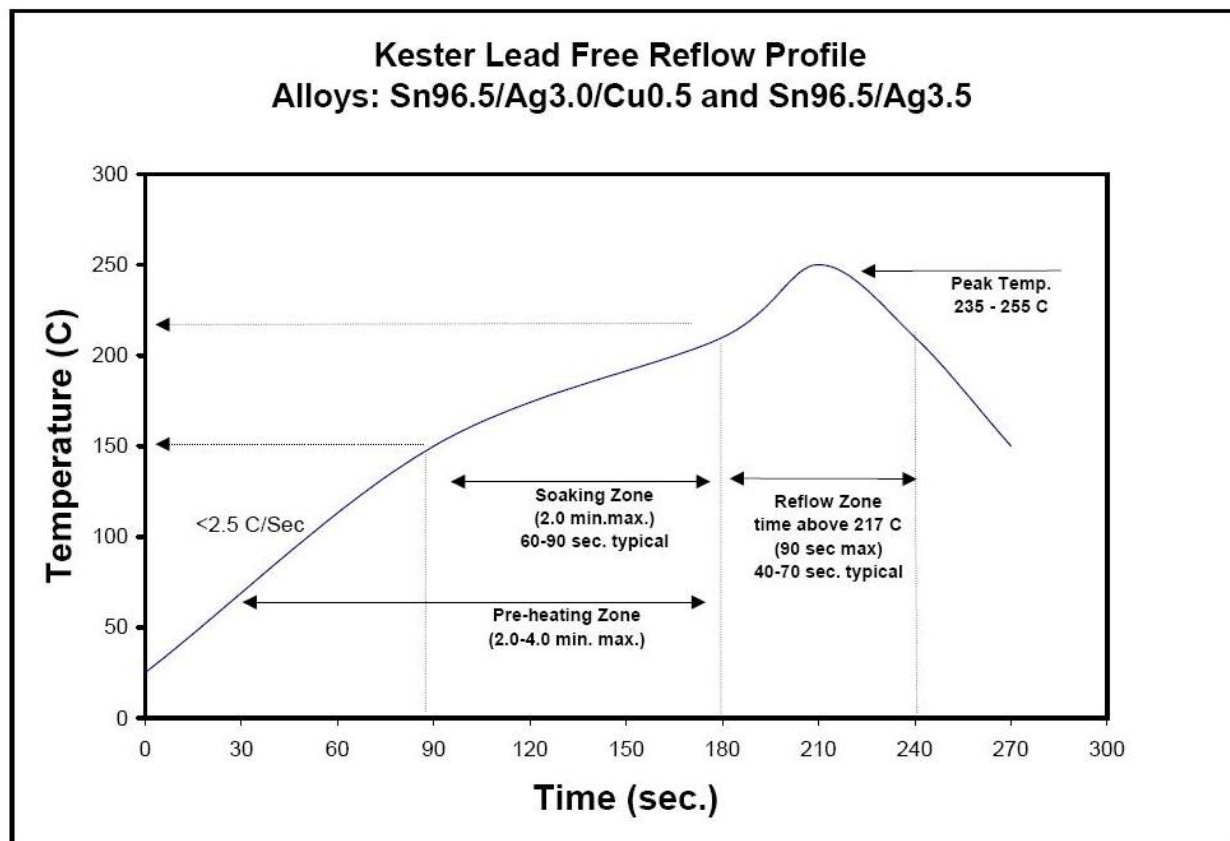
To perform the following tests: Design qualification test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) After soldering, the parts to be used for LLCr and DWV/IR testing were cleaned according to TLWI-0001.
- 4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 5) The automated procedure is used with aqueous compatible soldering materials.
- 6) Parts not intended for testing LLCr and DWV/IR are visually inspected and cleaned if necessary.
- 7) Any additional preparation will be noted in the individual test sequences.
- 8) Solder Information: Lead Free
- 9) Re-Flow Time/Temp: See accompanying profile.
- 10) Samtec Test PCBs used: PCB-103131-TST\PCB-103132-TST

TYPICAL OVEN PROFILE (Soldering Parts to Test Boards)

FLOWCHARTS**Gas Tight**

TEST STEP	GROUP A1 192 Points
01	LLCR-1
02	Gas Tight
03	LLCR-2

Gas Tight = EIA-364-36A

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

Normal Force

TEST STEP	GROUP A1 Individual Contacts (8-10 min)	GROUP A2 Individual Contacts (8-10 min)
01	Contact Gaps	Contact Gaps
02	Setup Approved	Thermal Aging (Mated and Undisturbed)
03	Normal Force (in the body and soldered on PCB unless otherwise specified)	Contact Gaps
04		Setup Approved
05		Normal Force (in the body and soldered on PCB unless otherwise specified)

Thermal Aging = EIA-364-17, Test Condition 4 (105°C)

Time Condition 'B' (250 Hours)

Normal Force = EIA-364-04

(Perpendicular) Displacement Force = 12.7 mm/min $\pm$ 6 mm/min

Spec is 50 N @ 1 mm displacement

Contact Gaps / Height - No standard method. Usually measured optically

Gaps to be taken on a minimum of 20% of each part tested

FLOWCHARTS Continued**Thermal Aging**

TEST STEP	GROUP A1 8 Boards Thermal Aging (Mated)
01	Contact Gaps
02	Forces - Mating / Unmating
03	LLCR-1
04	Thermal Aging (Mated and Undisturbed)
05	LLCR-2
06	Forces - Mating / Unmating
07	Contact Gaps

Thermal Aging = EIA-364-17, Test Condition 4 (105°C)

Time Condition 'B' (250 Hours)

Mating / Unmating Forces = EIA-364-13

Contact Gaps / Height - No standard method. Usually measured optically.

Gaps to be taken on a minimum of 20% of each part tested

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

FLOWCHARTS Continued**Durability/Mating/Unmating/Gaps**

TEST STEP	GROUP B1 8 Boards (middle position submitted)	GROUP B2 8 Boards (largest position submitted)
01	Contact Gaps	Contact Gaps
02	LLCR-1	Forces - Mating / Unmating
03	Forces - Mating / Unmating	25 Cycles
04	25 Cycles	Forces - Mating / Unmating
05	Forces - Mating / Unmating	25 Cycles (50 Total)
06	25 Cycles (50 Total)	Forces - Mating / Unmating
07	Forces - Mating / Unmating	25 Cycles (75 Total)
08	25 Cycles (75 Total)	Forces - Mating / Unmating
09	Forces - Mating / Unmating	25 Cycles (100 Total)
10	25 Cycles (100 Total)	Forces - Mating / Unmating
11	Forces - Mating / Unmating	
12	Clean w/Compressed Air	
13	Contact Gaps	
14	LLCR-2	
15	Thermal Shock (Mated and Undisturbed)	
16	LLCR-3	
17	Cyclic Humidity (Mated and Undisturbed)	
18	LLCR-4	
19	Forces - Mating / Unmating	

Thermal Shock = EIA-364-32, Table II, Test Condition I:

-55°C to +85°C 1/2 hour dwell, 100 cycles

Humidity = EIA-364-31, Test Condition B (240 Hours)

and Method III (+25°C to +65°C @ 90% RH to 98% RH)

ambient pre-condition and delete steps 7a and 7b

Mating / Unmating Forces = EIA-364-13

Contact Gaps / Height - No standard method. Usually measured optically.

Gaps to be taken on a minimum of 20% of each part tested

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

FLOWCHARTS Continued**IR & DWV**

TEST STEP	GROUP A1 2 Mated Sets Break Down Pin-to-Pin	GROUP A2 2 Unmated of Part # Being Tested Break Down Pin-to-Pin	GROUP A3 2 Unmated of Mating Part # Break Down Pin-to-Pin	GROUP B1 2 Mated Sets Pin-to-Pin
01	DWV/Break Down Voltage	DWV/Break Down Voltage	DWV/Break Down Voltage	IR & DWV at test voltage (on both mated sets and on each connector unmated)
02				Thermal Shock (Mated and Undisturbed)
03				IR & DWV at test voltage (on both mated sets and on each connector unmated)
04				Cyclic Humidity (Mated and Undisturbed)
05				IR & DWV at test voltage (on both mated sets and on each connector unmated)

DWV on Group B1 to be performed at Test Voltage

DWV test voltage is equal to 75% of the lowest break down voltage from Groups A1, A2 or A3

Thermal Shock = EIA-364-32, Table II, Test Condition I:

-55°C to +85°C 1/2 hour dwell, 100 cycles

Humidity = EIA-364-31, Test Condition B (240 Hours)

and Method III (+25°C to +65°C @ 90% RH to 98% RH)

ambient pre-condition and delete steps 7a and 7b

IR = EIA-364-21

DWV = EIA-364-20, Test Condition 1

Current Carrying Capacity - Double Row

TEST STEP	GROUP B1 3 Mated Assemblies 2 Contacts Powered	GROUP B2 3 Mated Assemblies 4 Contacts Powered	GROUP B3 3 Mated Assemblies 6 Contacts Powered	GROUP B4 3 Mated Assemblies 8 Contacts Powered	GROUP B5 3 Mated Assemblies All Contacts Powered
01	CCC	CCC	CCC	CCC	CCC

(TIN PLATING) - Tabulate calculated current at RT, 65°C, 75°C and 95°C
after derating 20% and based on 105°C

(GOLD PLATING) - Tabulate calculated current at RT, 85°C, 95°C and 115°C
after derating 20% and based on 125°C

CCC, Temp rise = EIA-364-70

FLOWCHARTS Continued**Mechanical Shock / Vibration / LLCR**

TEST STEP	GROUP A1 192 Points
01	LLCR-1
02	Shock
03	Vibration
04	LLCR-2

Mechanical Shock = EIA 364-27 Half Sine,

100 g's, 6 milliSeconds (Condition "C") each axis

Vibration = EIA 364-28, Random Vibration

7.56 g RMS, Condition VB --- 2 hours/axis

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

Shock / Vibration / nanoSecond Event Detection

TEST STEP	GROUP A1 60 Points
01	Event Detection, Shock
02	Event Detection, Vibration

Mechanical Shock = EIA 364-27 Half Sine,

100 g's, 6 milliSeconds (Condition "C") each axis

Vibration = EIA 364-28, Random Vibration

7.56 g RMS, Condition VB --- 2 hours/axis

Event detection requirement during Shock / Vibration is 50 nanoseconds minimum

FLOWCHARTS Continued**Extended Life**

TEST STEP	GROUP B1 192 Points 250 Cycles	GROUP C1 192 Points 500 Cycles
01	* Plating Thickness Verification	* Plating Thickness Verification
02	LLCR-1	LLCR-1
03	250 Cycles	500 Cycles
04	Clean Mating Interface	Clean Mating Interface
05	LLCR-2	LLCR-2
06	Thermal Shock (Mated and undisturbed)	Thermal Shock (Mated and undisturbed)
07	LLCR-3	LLCR-3
08	Cyclic Humidity (Mated and undisturbed)	Cyclic Humidity (Mated and undisturbed)
09	LLCR-4	LLCR-4
10	*** Photos of Contact Area	*** Photos of Contact Area

Thermal Shock = EIA-364-32, Table II, Test Condition I:

-55°C to +85°C 1/2 hour dwell, 100 cycles

Humidity = EIA-364-31, Test Condition 'B' (240 Hours)

and Method III (+25°C to +65°C @ 90% RH to 98% RH)

ambient pre-condition and delete steps 7a and 7b

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

* Measure, verify, and document plating thickness on both male and female (one group only)

** Plating thickness to be measured on loose pins used during assembly. Pins to be provided by requestor.

*** Save 2-3 photos of contact area in project folder for each group

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL SHOCK:

- 1) EIA-364-32, *Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors*.
- 2) Test Condition 1: -55°C to +85°C
- 3) Test Time: ½ hour dwell at each temperature extreme
- 4) Number of Cycles: 100
- 5) All test samples are pre-conditioned at ambient.
- 6) All test samples are exposed to environmental stressing in the mated condition.

THERMAL:

- 1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors*.
- 2) Test Condition 4 at 105° C.
- 3) Test Time Condition B for 250 hours.
- 4) All test samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

MECHANICAL SHOCK (Specified Pulse):

- 1) Reference document: EIA-364-27, *Mechanical Shock Test Procedure for Electrical Connectors*
- 2) Test Condition C
- 3) Peak Value: 100 G
- 4) Duration: 6 Milliseconds
- 5) Wave Form: Half Sine
- 6) Velocity: 12.3 ft/s
- 7) Number of Shocks: 3 Shocks / Direction, 3 Axis (18 Total)

VIBRATION:

- 1) Reference document: EIA-364-28, *Vibration Test Procedure for Electrical Connectors*
- 2) Test Condition V, Letter B
- 3) Power Spectral Density: 0.04 G² / Hz
- 4) G 'RMS': 7.56
- 5) Frequency: 50 to 2000 Hz
- 6) Duration: 2.0 Hours per axis (3 axis total)

NANOSECOND-EVENT DETECTION:

- 1) Reference document: EIA-364-87, *Nanosecond-Event Detection for Electrical Connectors*
- 2) Prior to test, the samples were characterized to assure the low nanosecond event being monitored will trigger the detector.
- 3) After characterization it was determined the test samples could be monitored for 50 nanosecond events

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

TEMPERATURE RISE (Current Carrying Capacity, CCC):

- 1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
- 2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
- 3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
- 4) The size of the temperature probe can affect the measured temperature.
- 5) Copper traces on PC boards will contribute to temperature rise:
 - a. Self heating (resistive)
 - b. Reduction in heat sink capacity affecting the heated contacts
- 6) A de-rating curve, usually 20%, is calculated.
- 7) Calculated de-rated currents at three temperature points are reported:
 - a. Ambient
 - b. 80° C
 - c. 95° C
 - d. 115° C
- 8) Typically, neighboring contacts (in close proximity to maximize heat build up) are energized.
- 9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the maximum temperature in the vicinity of the heat generation area.
- 10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
- 11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
- 12) Hook-up wire length is longer than the minimum specified in the referencing standard.

CONTACT GAPS:

- 1) Gaps above the surrounding plastic surface were measured before and after stressing the contacts (e.g. thermal aging, mechanical cycling, etc.).
- 2) Typically, all contacts on the connector are measured.

MATING/UNMATING:

- 1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
- 2) The full insertion position was to within 0.003" to 0.004" of the plug bottoming out in the receptacle to prevent damage to the system under test.
- 3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

NORMAL FORCE (FOR CONTACTS TESTED OUTSIDE THE HOUSING):

- 1) Reference document: EIA-364-04, *Normal Force Test Procedure for Electrical Connectors*.
- 2) The contacts shall be tested in the loose state, *not* inserted in connector housing.
- 3) The contacts shall be prepared to allow access to the spring member at the same attitude and deflection level as would occur in actual use.
- 4) In the event that portions of the contact prevent insertion of the test probe and/or deflection of the spring member under evaluation, said material shall be removed leaving the appropriate contact surfaces exposed.
- 5) In the case of multi-tine contacts, each tine shall be tested independently on separate samples as required.
- 6) The connector housing shall be simulated, if required, in order to provide an accurate representation of the actual contact system performance.
- 7) A holding fixture shall be fashioned to allow the contact to be properly deflected.
- 8) Said holding fixture shall be mounted on a floating, adjustable, X-Y table on the base of the Dillon TC², computer controlled test stand with a deflection measurement system accuracy of 5 μm (0.0002").
- 9) The probe shall be attached to a Dillon P/N 49761-0105, 5 N (1.1 Lb) load cell providing an accuracy of $\pm 0.2\%$.
- 10) The nominal deflection rate shall be 5 mm (0.2")/minute.
- 11) Unless otherwise noted a minimum of five contacts shall be tested.
- 12) The force/deflection characteristic to load and unload each contact shall be repeated five times.
- 13) The system shall utilize the TC² software in order to acquire and record the test data.
- 14) The permanent set of each contact shall be measured within the TC² software.
- 15) The acquired data shall be graphed with the deflection data on the X-axis and the force data on the Y-axis and a print out will be stored with the Tracking Code paperwork.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

INSULATION RESISTANCE (IR):

To determine the resistance of insulation materials to leakage of current through or on the surface of these materials when a DC potential is applied.

- 1) PROCEDURE:
 - a. Reference document: EIA-364-21, *Insulation Resistance Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Electrification Time 2.0 minutes
 - iii. Test Voltage (500 VDC) corresponds to calibration settings for measuring resistances.
- 2) MEASUREMENTS:
- 3) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 5000 megohms.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

To determine if the sockets can operate at its rated voltage and withstand momentary over potentials due to switching, surges, and other similar phenomenon. Separate samples are used to evaluate the effect of environmental stresses so not to influence the readings from arcing that occurs during the measurement process.

- 1) PROCEDURE:
 - a. Reference document: EIA-364-20, *Withstanding Voltage Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Barometric Test Condition 1
 - iii. Rate of Application 500 V/Sec
 - iv. Test Voltage (VAC) until breakdown occurs
- 2) MEASUREMENTS/CALCULATIONS
 - a. The breakdown voltage shall be measured and recorded.
 - b. The dielectric withstanding voltage shall be recorded as 75% of the minimum breakdown voltage.
 - c. The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

LLCR:

- 1) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 2) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 3) The following guidelines are used to categorize the changes in LLCR as a result from stressing
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms: ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

GAS TIGHT:

To provide method for evaluating the ability of the contacting surfaces in preventing penetration of harsh vapors which might lead to oxide formation that may degrade the electrical performance of the contact system.

- 1) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 2) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 3) The following guidelines are used to categorize the changes in LLCR as a result from stressing
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms: ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure
- 4) Procedure:
 - a. Reference document: EIA-364-36, *Test Procedure for Determination of Gas-Tight Characteristics for Electrical Connectors, Sockets and/or Contact Systems*.
 - b. Test Conditions:
 - i. Class II--- Mated pairs of contacts assembled to their plastic housings.
 - ii. Reagent grade Nitric Acid shall be used of sufficient volume to saturate the test chamber
 - iii. The ratio of the volume of the test chamber to the surface area of the acid shall be 10:1.
 - iv. The chamber shall be saturated with the vapor for at least 15 minutes before samples are added.
 - v. Exposure time, 55 to 65 minutes.
 - vi. The samples shall be no closer to the chamber walls than 1 inches and no closer to the surface of the acid than 3 inches.
 - vii. The samples shall be dried after exposure for a minimum of 1 hour.
 - viii. Drying temperature 50°C
 - ix. The final LLCR shall be conducted within 1 hour after drying.

RESULTS

Temperature Rise, CCC at a 20% de-rating

- CCC for a 30°C Temperature Rise -----3.9A per contact with 2 adjacent contacts powered
- CCC for a 30°C Temperature Rise -----2.9A per contact with 4 adjacent contacts powered
- CCC for a 30°C Temperature Rise -----2.4A per contact with 6 adjacent contacts powered
- CCC for a 30°C Temperature Rise -----2.3A per contact with 8 adjacent contacts powered
- CCC for a 30°C Temperature Rise -----1.0A per contact with all adjacent contacts powered

Contact Gaps

Normal Force Group

Group A1

- Initial
 - o Min-----0.0104 in
 - o Max -----0.0113 in

Group A2

- Initial
 - o Min-----0.0100 in
 - o Max -----0.0121 in
- Thermal
 - o Min-----0.0108 in
 - o Max -----0.0118 in

Thermal Aging Group

- Initial
 - o Min-----0.0091 in
 - o Max -----0.0130 in
- Thermal
 - o Min-----0.0091 in
 - o Max -----0.0136 in

Mating\Unmating Durability Group

- Initial
 - o Min-----0.0091 in
 - o Max -----0.0155 in
- After 100 Cycles
 - o Min-----0.0104 in
 - o Max -----0.0121 in

Tracking Code: 115836 Report Rev 1	Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q
Part description: SOLC\TOLC	

RESULTS Continued

Mating – Unmating Forces
Thermal Aging Group

- **Initial**
 - **Mating**
 - **Min** -----14.35 Lbs
 - **Max** -----17.14 Lbs
 - **Unmating**
 - **Min** -----11.28 Lbs
 - **Max** -----14.18 Lbs
- **Thermal**
 - **Mating**
 - **Min** -----10.09 Lbs
 - **Max** -----11.90 Lbs
 - **Unmating**
 - **Min** -----7.14 Lbs
 - **Max** -----10.02 Lbs

RESULTS Continued**Mating – Unmating Forces****Mating\Unmating Durability Group (SOLC-125-02-S-Q\TOLC-125-02-S-Q)**

- **Initial**
 - **Mating**
 - **Min** -----12.84 Lbs
 - **Max** -----15.60 Lbs
 - **Unmating**
 - **Min** -----10.46 Lbs
 - **Max** -----12.87 Lbs
- **After 25 Cycles**
 - **Mating**
 - **Min** -----12.17 Lbs
 - **Max** -----15.21 Lbs
 - **Unmating**
 - **Min** -----10.18 Lbs
 - **Max** -----11.93 Lbs
- **After 50 Cycles**
 - **Mating**
 - **Min** -----12.65 Lbs
 - **Max** -----14.82 Lbs
 - **Unmating**
 - **Min** -----10.87 Lbs
 - **Max** -----12.06 Lbs
- **After 75 Cycles**
 - **Mating**
 - **Min** -----12.58 Lbs
 - **Max** -----14.59 Lbs
 - **Unmating**
 - **Min** -----10.71 Lbs
 - **Max** -----11.99 Lbs
- **After 100 Cycles**
 - **Mating**
 - **Min** -----12.84 Lbs
 - **Max** -----14.43 Lbs
 - **Unmating**
 - **Min** -----11.12 Lbs
 - **Max** -----12.43 Lbs
- **Humidity**
 - **Mating**
 - **Min** -----9.54 Lbs
 - **Max** -----11.18 Lbs
 - **Unmating**
 - **Min** -----7.18 Lbs
 - **Max** -----9.37 Lbs

RESULTS Continued**Mating\Unmating Basic (SOLC-150-02-S-Q\TOLC-150-02-S-Q)**

- **Initial**
 - **Mating**
 - **Min** -----30.60 Lbs
 - **Max** -----35.17 Lbs
 - **Unmating**
 - **Min** -----22.90 Lbs
 - **Max** -----27.09 Lbs
- **After 25 Cycles**
 - **Mating**
 - **Min** -----32.46 Lbs
 - **Max** -----37.90 Lbs
 - **Unmating**
 - **Min** -----19.43 Lbs
 - **Max** -----25.89 Lbs
- **After 50 Cycles**
 - **Mating**
 - **Min** -----33.60 Lbs
 - **Max** -----44.16 Lbs
 - **Unmating**
 - **Min** -----20.30 Lbs
 - **Max** -----35.91 Lbs
- **After 75 Cycles**
 - **Mating**
 - **Min** -----36.07 Lbs
 - **Max** -----45.73 Lbs
 - **Unmating**
 - **Min** -----21.50 Lbs
 - **Max** -----26.27 Lbs
- **After 100 Cycles**
 - **Mating**
 - **Min** -----35.63 Lbs
 - **Max** -----43.02 Lbs
 - **Unmating**
 - **Min** -----22.28 Lbs
 - **Max** -----26.03 Lbs

Normal Force at 0.0028 inch deflection

- **Initial**
 - **Min** -----80.30 gf **Set** ---- 0.00 in
 - **Max** -----94.90 gf **Set** ---- 0.00 in
- **Thermal**
 - **Min** -----81.10 gf **Set** ---- 0.00 in
 - **Max** -----91.40 gf **Set** ---- 0.00 in

RESULTS Continued**Insulation Resistance minimums, IR**

- **Initial**
 - o Mated-----10000 Meg Ω ----- Pass
 - o Unmated -----10000 Meg Ω ----- Pass
- **Thermal**
 - o Mated-----10000 Meg Ω ----- Pass
 - o Unmated -----10000 Meg Ω ----- Pass
- **Humidity**
 - o Mated-----10000 Meg Ω ----- Pass
 - o Unmated -----10000 Meg Ω ----- Pass

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
 - o Breakdown Voltage-----750 VAC
 - o Test Voltage -----563 VAC
 - o Working Voltage -----188 VAC
- **Initial DWV** -----Passed
- **Thermal DWV** -----Passed
- **Humidity DWV** -----Passed

LLCR Gas Tight (192 LLCR test points)

- **Initial**-----9.0 mOhms Max
- **Gas-Tight**
 - o $\leq +5.0$ mOhms -----192 Points ----- Stable
 - o $+5.1$ to $+10.0$ mOhms -----0 Points ----- Minor
 - o $+10.1$ to $+15.0$ mOhms -----0 Points ----- Acceptable
 - o $+15.1$ to $+50.0$ mOhms -----0 Points ----- Marginal
 - o $+50.1$ to $+2000$ mOhms -----0 Points ----- Unstable
 - o $>+2000$ mOhms -----0 Points ----- Open Failure

LLCR Thermal Aging (192 LLCR test points)

- **Initial**-----9.2 mOhms Max
- **Thermal**
 - o $\leq +5.0$ mOhms -----192 Points ----- Stable
 - o $+5.1$ to $+10.0$ mOhms -----0 Points ----- Minor
 - o $+10.1$ to $+15.0$ mOhms -----0 Points ----- Acceptable
 - o $+15.1$ to $+50.0$ mOhms -----0 Points ----- Marginal
 - o $+50.1$ to $+2000$ mOhms -----0 Points ----- Unstable
 - o $>+2000$ mOhms -----0 Points ----- Open Failure

RESULTS Continued**LLCR Durability (192 LLCR test points)**

- **Initial**-----9.3 mOhms Max
- **Durability, 100 Cycles**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Thermal**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Humidity**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure

LLCR Mechanical Shock & Random Vibration (192 LLCR test points)

- **Initial**-----9.7 mOhms Max
- **Shock & Vibration**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure

Mechanical Shock & Random Vibration:

- o **Shock**
 - No Damage----- Passed
 - 50 Nanoseconds----- Passed
- o **Vibration**
 - No Damage----- Passed
 - 50 Nanoseconds----- Passed

RESULTS Continued**LLCR 250 cycles (192 LLCR test points)**

- **Initial**-----9.2 mOhms Max
- **Durability, 250 Cycles**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Thermal**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Humidity**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure

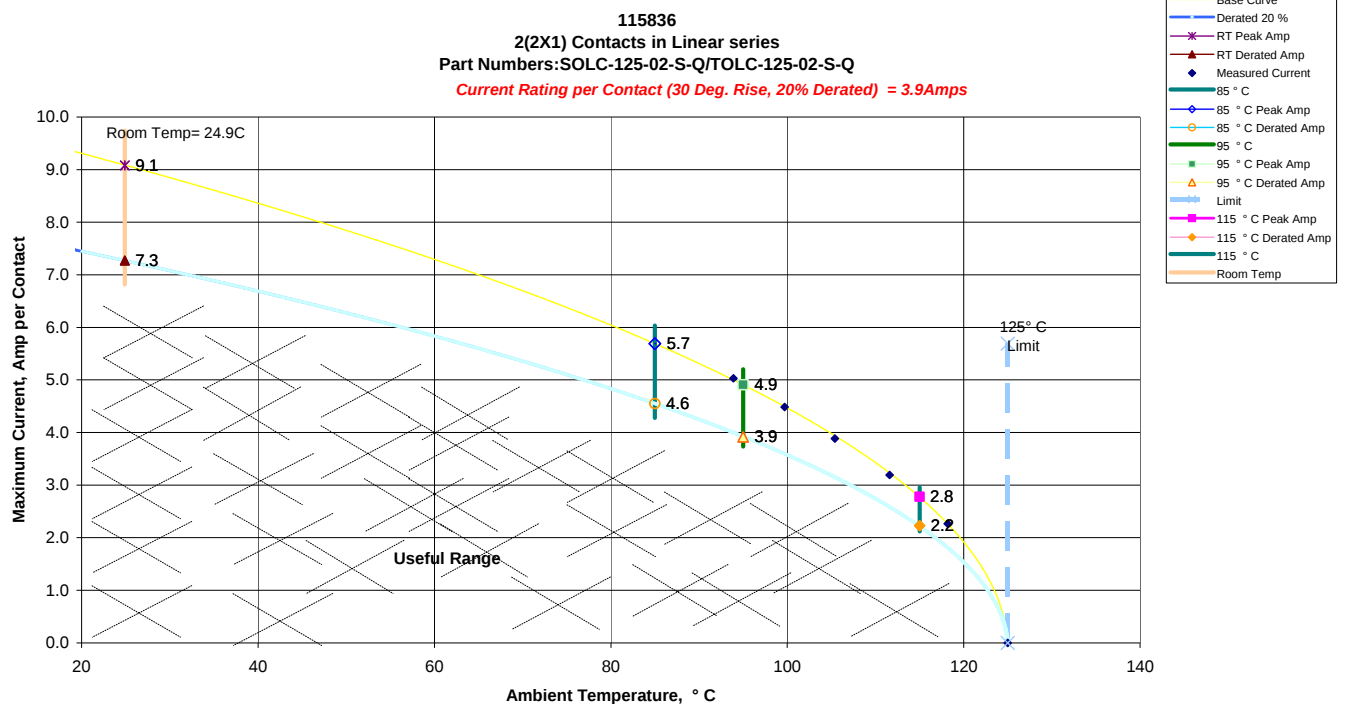
LLCR 500 cycles (192 LLCR test points)

- **Initial**----- 10.1 mOhms Max
- **Durability, 500 Cycles**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Thermal**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure
- **Humidity**
 - o <= +5.0 mOhms ----- 192 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 0 Points ----- Minor
 - o +10.1 to +15.0 mOhms ----- 0 Points ----- Acceptable
 - o +15.1 to +50.0 mOhms ----- 0 Points ----- Marginal
 - o +50.1 to +2000 mOhms ----- 0 Points ----- Unstable
 - o >+2000 mOhms ----- 0 Points ----- Open Failure

DATA SUMMARIES

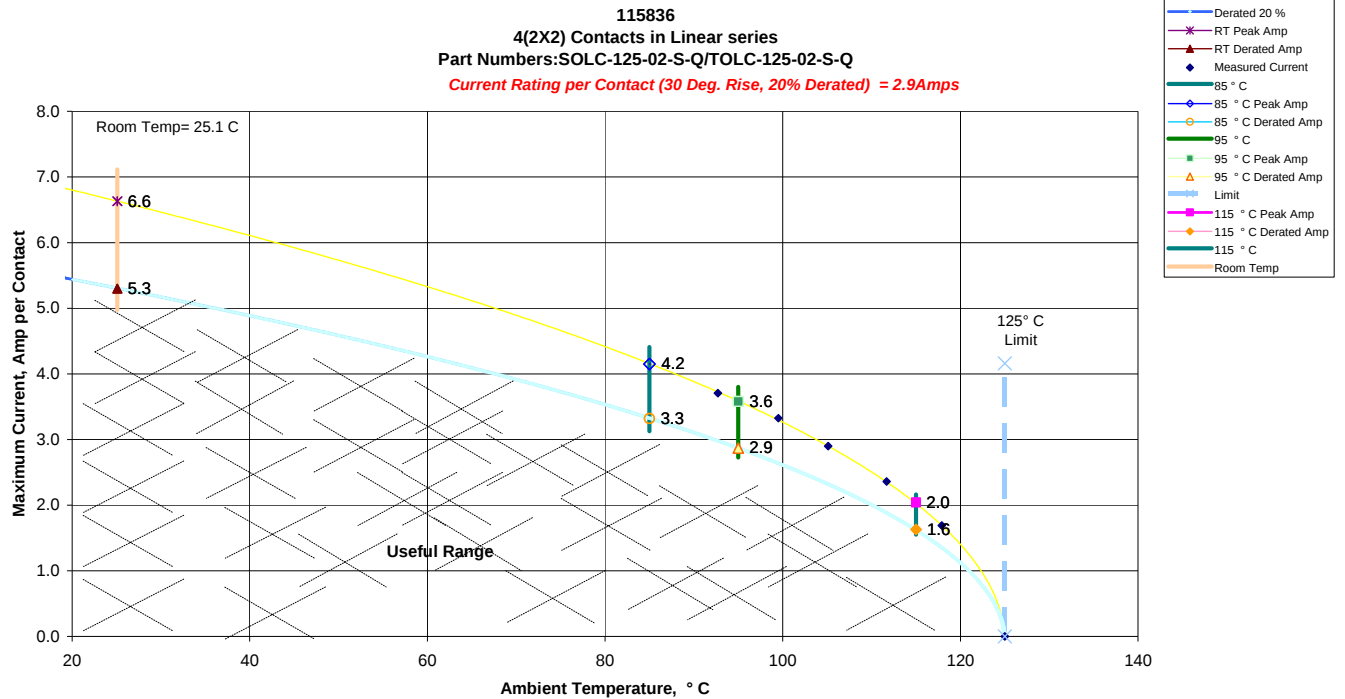
TEMPERATURE RISE (Current Carrying Capacity, CCC):

- 1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
- 2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
- 3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
- 4) Adjacent contacts were powered:
 - a. Linear configuration with 2 adjacent conductors/contacts powered



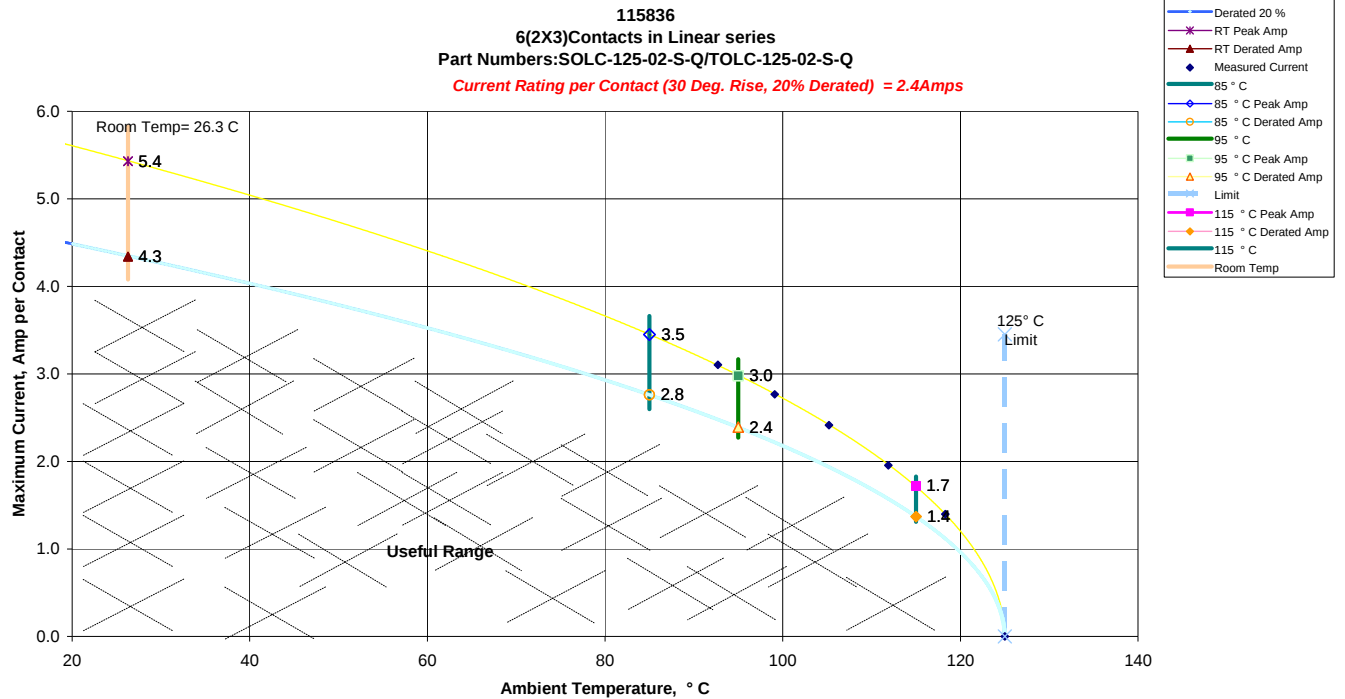
DATA SUMMARIES Continued

b. Linear configuration with 4 adjacent conductors/contacts powered



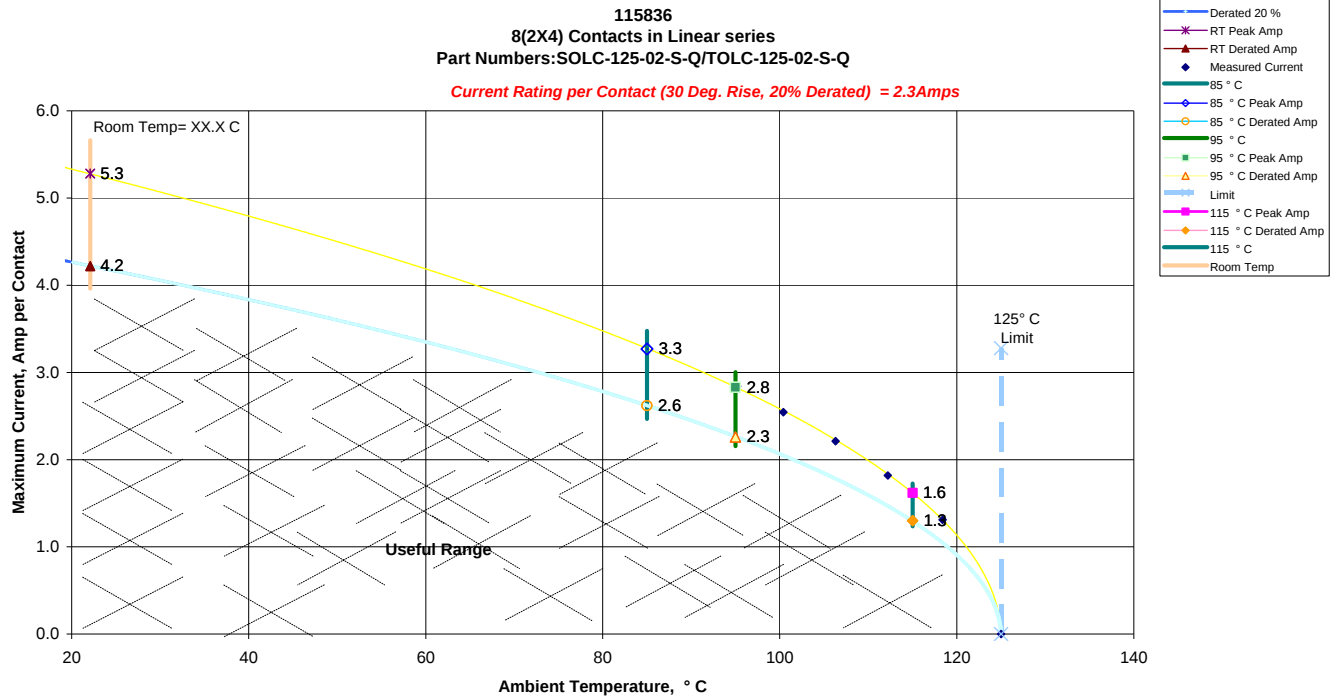
DATA SUMMARIES Continued

c. Linear configuration with 6 adjacent conductors/contacts powered



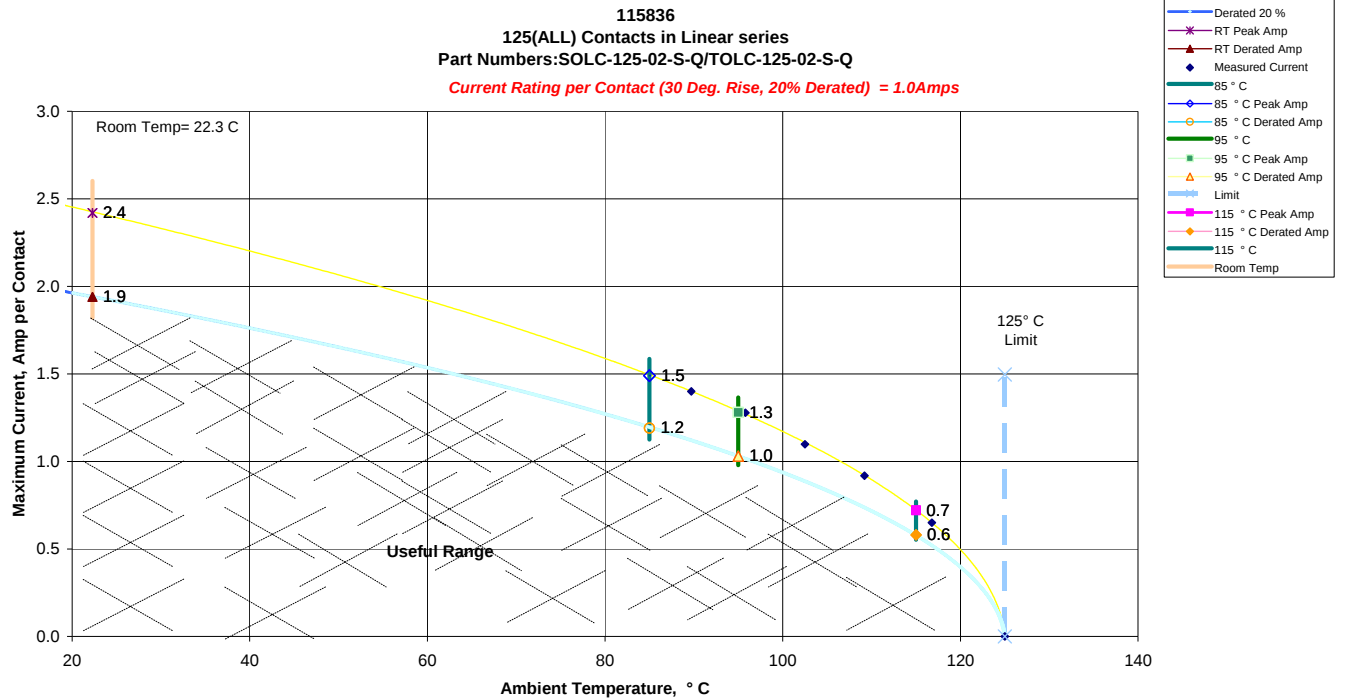
DATA SUMMARIES Continued

d. Linear configuration with 8 adjacent conductors/contacts powered



DATA SUMMARIES Continued

e. Linear configuration with all adjacent conductors/contacts powered



DATA SUMMARIES Continued**CONTACT GAPS:****Normal Force Group****Group A1**

Initial	
Units: inches	
<i>Minimum</i>	0.0104
<i>Maximum</i>	0.0113
<i>Average</i>	0.0110
<i>St. Dev.</i>	0.0002
<i>Count</i>	24

Group A2

Initial		After Thermal	
Units: inches		Units: inches	
<i>Minimum</i>	0.0100	<i>Minimum</i>	0.0108
<i>Maximum</i>	0.0121	<i>Maximum</i>	0.0118
<i>Average</i>	0.0112	<i>Average</i>	0.0112
<i>St. Dev.</i>	0.0005	<i>St. Dev.</i>	0.0003
<i>Count</i>	24	<i>Count</i>	24

Thermal Aging Group

Initial		After Thermal	
Units: inches		Units: inches	
<i>Minimum</i>	0.0091	<i>Minimum</i>	0.0091
<i>Maximum</i>	0.0130	<i>Maximum</i>	0.0136
<i>Average</i>	0.0112	<i>Average</i>	0.0115
<i>St. Dev.</i>	0.0005	<i>St. Dev.</i>	0.0005
<i>Count</i>	192	<i>Count</i>	192

Mating\Unmating Durability Group

Initial		After 100 Cycles	
Units: inches		Units: inches	
<i>Minimum</i>	0.0091	<i>Minimum</i>	0.0104
<i>Maximum</i>	0.0155	<i>Maximum</i>	0.0121
<i>Average</i>	0.0111	<i>Average</i>	0.0113
<i>St. Dev.</i>	0.0007	<i>St. Dev.</i>	0.0004
<i>Count</i>	192	<i>Count</i>	192

DATA SUMMARIES Continued

MATING/UNMATING:

Thermal Aging Group

	Initial				After Thermal			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	63.83	14.35	50.17	11.28	44.88	10.09	31.76	7.14
Maximum	76.24	17.14	63.07	14.18	52.93	11.90	44.57	10.02
Average	71.95	16.18	57.70	12.97	47.65	10.71	36.53	8.21
St Dev	3.83	0.86	3.96	0.89	2.64	0.59	4.07	0.92
Count	8	8	8	8	8	8	8	8

Mating\Unmating Durability Group (SOLC-125-02-S-Q\TOLC-125-02-S-Q)

	Initial				25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	57.11	12.84	46.53	10.46	54.13	12.17	45.28	10.18
Maximum	69.39	15.60	57.25	12.87	67.65	15.21	53.06	11.93
Average	64.21	14.44	51.64	11.61	59.21	13.31	48.42	10.89
St Dev	4.62	1.04	3.88	0.87	4.32	0.97	2.59	0.58
Count	8	8	8	8	8	8	8	8
	50 Cycles				75 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	56.27	12.65	48.35	10.87	55.96	12.58	47.64	10.71
Maximum	65.92	14.82	53.64	12.06	64.90	14.59	53.33	11.99
Average	59.82	13.45	50.02	11.25	60.25	13.55	50.98	11.46
St Dev	2.96	0.67	1.82	0.41	2.60	0.58	1.61	0.36
Count	8	8	8	8	8	8	8	8
	100 Cycles				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	57.11	12.84	49.46	11.12	42.43	9.54	31.94	7.18
Maximum	64.18	14.43	55.29	12.43	49.73	11.18	41.68	9.37
Average	61.08	13.73	52.32	11.76	45.86	10.31	34.74	7.81
St Dev	2.55	0.57	2.05	0.46	2.31	0.52	3.18	0.72
Count	8	8	8	8	8	8	8	8

DATA SUMMARIES Continued**MATING/UNMATING:****Mating\Unmating Basic (SOLC-150-02-S-Q\TOLC-150-02-S-Q)**

	Initial				25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	136.11	30.60	101.86	22.90	144.38	32.46	86.42	19.43
Maximum	156.44	35.17	120.50	27.09	168.58	37.90	115.16	25.89
Average	147.82	33.23	111.47	25.06	155.77	35.02	104.94	23.59
St Dev	6.11	1.37	7.13	1.60	7.75	1.74	11.84	2.66
Count	8	8	8	8	8	8	8	8
	50 Cycles				75 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	149.45	33.60	90.29	20.30	160.44	36.07	95.63	21.50
Maximum	196.42	44.16	159.73	35.91	203.41	45.73	116.85	26.27
Average	164.06	36.88	113.53	25.52	170.76	38.39	108.20	24.33
St Dev	14.74	3.31	20.39	4.58	14.00	3.15	6.52	1.47
Count	8	8	8	8	8	8	8	8
	100 Cycles							
	Mating		Unmating					
	Newtons	Force (Lbs)	Newtons	Force (Lbs)				
Minimum	158.48	35.63	99.10	22.28				
Maximum	191.35	43.02	115.78	26.03				
Average	175.42	39.44	105.74	23.77				
St Dev	9.88	2.22	4.90	1.10				
Count	8	8	8	8				

DATA SUMMARIES Continued**NORMAL FORCE (FOR CONTACTS TESTED IN THE HOUSING):**

- 1) Calibrated force gauges are used along with computer controlled positioning equipment.
- 2) For Normal force 8-10 measurements are taken and the averages reported.

Initial	Deflections in inches Forces in Grams				
	<u>0.0004</u>	<u>0.0016</u>	<u>0.0020</u>	<u>0.0028</u>	<i>SET</i>
Averages	13.75	49.97	62.18	87.07	0.0000
Min	10.70	46.00	57.50	80.30	0.0000
Max	17.30	53.60	68.40	94.90	0.0000
St. Dev	2.125	2.615	3.323	4.317	0.0000
Count	13	13	13	13	13

After Thermals	Deflections in inches Forces in Grams				
	<u>0.0004</u>	<u>0.0016</u>	<u>0.0020</u>	<u>0.0028</u>	<i>SET</i>
Averages	12.75	48.55	60.25	85.96	0.0000
Min	9.90	46.50	56.60	81.10	0.0000
Max	17.50	52.80	66.80	91.40	0.0000
St. Dev	1.849	2.046	2.742	3.298	0.0000
Count	13	13	13	13	13

INSULATION RESISTANCE (IR):

	Pin to Pin		
	Mated	Unmated	Unmated
Minimum	SOLC/TOLC	SOLC	TOLC
Initial	10000	10000	10000
Thermal	10000	10000	10000
Humidity	10000	10000	10000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	SOLC/TOLC
Break Down Voltage	750
Test Voltage	563
Working Voltage	188

Pin to Pin	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

Tracking Code: 115836 Report Rev 1	Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q
Part description: SOLC/TOLC	

DATA SUMMARIES Continued

LLCR Durability:

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms:----- Open Failure

Date	2011-4-18	2011-4-20	2011-4-26	2011-5-6
Room Temp C	24	23	24	23
RH	50%	55%	56%	64%
Name	kason	kason	Kason	Kason
mOhm values	Actual Initial	Delta 100 Cycles	Delta Thermal	Delta Humidity
Average	8.0	0.1	0.0	0.1
St. Dev.	0.8	0.4	0.2	0.4
Min	4.3	-1.5	-0.7	-1.0
Max	9.3	1.4	0.9	3.0
Count	192	192	192	192

How many samples are being tested? 8

How many contacts are on each board? 24

	Stable	Minor	Acceptable	Marginal	Unstable	Open
100 Cycles	192	0	0	0	0	0
Thermal	192	0	0	0	0	0
Humidity	192	0	0	0	0	0

Tracking Code: 115836 Report Rev 1	Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q
Part description: SOLC/TOLC	

DATA SUMMARIES Continued

LLCR Thermal:

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

Date	2011-4-19	2011-4-30
Room Temp C	23	23
RH	56%	53%
Name	Kason He	Kason
mOhm values	Actual Initial	Delta Thermal Age
Average	8.0	0.0
St. Dev.	0.6	0.3
Min	4.4	-1.5
Max	9.2	1.8
Count	192	192

How many samples are being tested?	<u>8</u>
How many contacts are on each board?	<u>24</u>

	Stable	Minor	Acceptable	Marginal	Unstable	Open
Thermal Age	192	0	0	0	0	0

DATA SUMMARIES Continued**GAS TIGHT:**

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms: ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

Date	2011-4-12	2011-5-5
Room Temp C	23	24
RH	50%	57%
Name	kason	kason
mOhm values	Actual Initial	Delta Gas Tight
Average	8.0	0.2
St. Dev.	0.6	0.4
Min	6.3	-1.0
Max	9.0	1.4
Count	192	192

How many samples are being tested?

8

How many contacts are on each board?

24

	Stable	Minor	Acceptable	Marginal	Unstable	Open
Gas Tight	192	0	0	0	0	0

DATA SUMMARIES Continued**LLCR Shock & Vibration:**

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

Date	2011-7-6	2011-7-8
Room Temp C	22	22
RH	45%	51%
Name	Aaron McKim	Aaron McKim
mOhm values	Actual Initial	Delta Shock / Vibe
Average	8.2	-0.1
St. Dev.	0.7	0.3
Min	4.7	-0.6
Max	9.7	1.8
Count	192	192

How many samples are being tested?**8****How many contacts are on each board?****24**

	Stable	Minor	Acceptable	Marginal	Unstable	Open
Shock / Vibe	192	0	0	0	0	0

Nanosecond Event Detection:

Shock and Vibration Event Detection Summary	
Contacts tested	60
Test Condition	C, 100g's, 6ms, Half-Sine
Shock Events	0
Test Condition	V-B, 7.56 rms g
Vibration Events	0
Total Events	0

DATA SUMMARIES Continued**LLCR 250 cycles:**

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms: ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

Date	2011-4-22	2011-4-22	2011-4-29	2011-5-10
Room Temp C	23	23	26	23
RH	54%	54%	53%	59%
Name	kason	Kason	kason	Kason
mOhm values	Actual Initial	Delta 250 Cycles	Delta Thermal	Delta Humidity
Average	8.1	0.0	0.1	0.0
St. Dev.	0.6	0.4	0.5	0.4
Min	4.4	-2.9	-3.0	-3.0
Max	9.2	1.5	2.3	1.2
Count	192	192	192	192

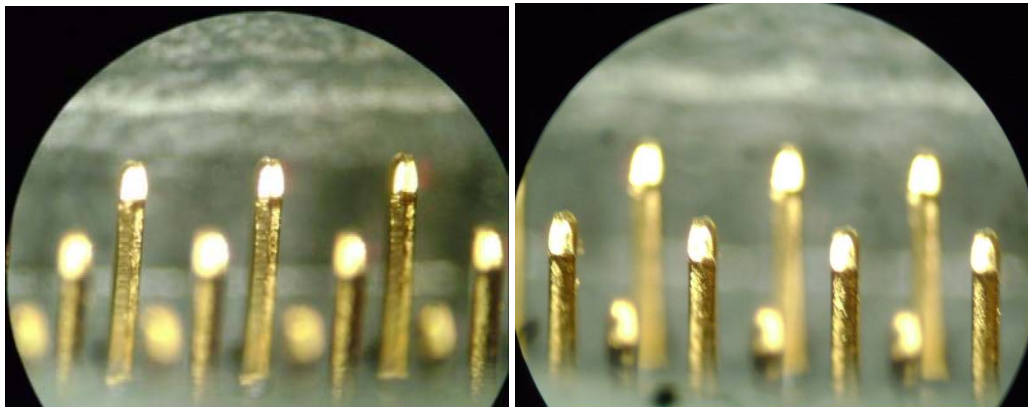
How many samples are being tested?

8

How many contacts are on each board?

24

	Stable	Minor	Acceptable	Marginal	Unstable	Open
250 Cycles	192	0	0	0	0	0
Thermal	192	0	0	0	0	0
Humidity	192	0	0	0	0	0

Photos of Contact Area after 250 cycles

DATA SUMMARIES Continued**LLCR 500 cycles:**

- 1) A total of 192 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: ----- Stable
 - b. $+5.1$ to $+10.0$ mOhms: ----- Minor
 - c. $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e. $+50.1$ to $+2000$ mOhms: ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

Date	2011-4-23	2011-4-23	2011-4-29	2011-5-10
Room Temp C	21	21	26	23
RH	57%	57%	53%	59%
Name	kason	kason	Kason	Kason
mOhm values	Actual Initial	Delta 500 Cycles	Delta Thermal	Delta Humidity
Average	8.0	0.0	-0.1	-0.1
St. Dev.	0.9	0.3	0.3	0.4
Min	4.4	-1.5	-1.8	-1.8
Max	10.1	0.8	0.7	2.1
Count	192	192	192	192

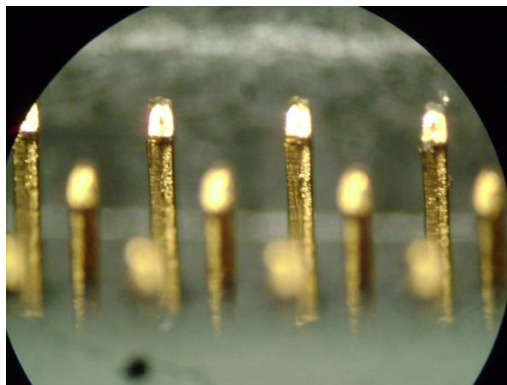
How many samples are being tested?

8

How many contacts are on each board?

24

	Stable	Minor	Acceptable	Marginal	Unstable	Open
500 Cycles	192	0	0	0	0	0
Thermal	192	0	0	0	0	0
Humidity	192	0	0	0	0	0

Photos of Contact Area after 500 cycles

DATA**CONTACT GAPS:****Normal Force Group****Group A1**

Initial	
Units: inches	
Pos.#	B1
1	0.0107
2	0.0110
3	0.0113
4	0.0110
5	0.0110
6	0.0110
7	0.0110
8	0.0107
9	0.0109
10	0.0111
11	0.0112
12	0.0113
13	0.0113
14	0.0108
15	0.0112
16	0.0110
17	0.0106
18	0.0110
19	0.0113
20	0.0108
21	0.0104
22	0.0110
23	0.0111
24	0.0111

Group A2

Initial	
Units: inches	
Pos.#	B1
1	0.0108
2	0.0116
3	0.0112
4	0.0113
5	0.0105
6	0.0113
7	0.0117
8	0.0110
9	0.0121
10	0.0115
11	0.0117
12	0.0114

13	0.0116
14	0.0117
15	0.0115
16	0.0105
17	0.0113
18	0.0112
19	0.0100
20	0.0111
21	0.0110
22	0.0108
23	0.0114
24	0.0110
After Thermal	
Units: inches	
Pos.#	B1
1	0.0110
2	0.0118
3	0.0117
4	0.0111
5	0.0113
6	0.0114
7	0.0117
8	0.0111
9	0.0109
10	0.0110
11	0.0111
12	0.0115
13	0.0112
14	0.0111
15	0.0113
16	0.0110
17	0.0111
18	0.0113
19	0.0108
20	0.0113
21	0.0112
22	0.0113
23	0.0110
24	0.0110

DATA Continued**Thermal Aging Group**

Initial								
Units: inches								
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8
1	0.0114	0.0113	0.0109	0.0114	0.0115	0.0109	0.0112	0.0110
2	0.0113	0.0115	0.0111	0.0113	0.0114	0.0095	0.0117	0.0115
3	0.0116	0.0113	0.0114	0.0117	0.0114	0.0111	0.0114	0.0114
4	0.0110	0.0118	0.0105	0.0116	0.0117	0.0111	0.0101	0.0116
5	0.0110	0.0112	0.0115	0.0115	0.0120	0.0111	0.0114	0.0117
6	0.0110	0.0110	0.0113	0.0115	0.0115	0.0114	0.0117	0.0110
7	0.0110	0.0113	0.0109	0.0117	0.0114	0.0110	0.0113	0.0113
8	0.0112	0.0111	0.0110	0.0111	0.0113	0.0093	0.0121	0.0109
9	0.0118	0.0107	0.0110	0.0113	0.0112	0.0109	0.0117	0.0114
10	0.0113	0.0111	0.0103	0.0112	0.0114	0.0111	0.0117	0.0103
11	0.0115	0.0115	0.0111	0.0114	0.0114	0.0113	0.0113	0.0112
12	0.0110	0.0113	0.0113	0.0114	0.0113	0.0113	0.0115	0.0117
13	0.0113	0.0113	0.0113	0.0114	0.0116	0.0116	0.0124	0.0113
14	0.0094	0.0114	0.0114	0.0115	0.0112	0.0113	0.0110	0.0115
15	0.0111	0.0114	0.0112	0.0112	0.0118	0.0111	0.0112	0.0110
16	0.0102	0.0113	0.0113	0.0116	0.0110	0.0112	0.0112	0.0111
17	0.0110	0.0111	0.0115	0.0113	0.0113	0.0114	0.0115	0.0113
18	0.0113	0.0110	0.0117	0.0112	0.0113	0.0095	0.0113	0.0109
19	0.0112	0.0110	0.0115	0.0113	0.0117	0.0114	0.0115	0.0116
20	0.0111	0.0116	0.0122	0.0110	0.0112	0.0101	0.0113	0.0115
21	0.0115	0.0091	0.0104	0.0117	0.0113	0.0115	0.0117	0.0115
22	0.0115	0.0101	0.0113	0.0112	0.0115	0.0098	0.0119	0.0130
23	0.0110	0.0110	0.0112	0.0113	0.0113	0.0113	0.0115	0.0114
24	0.0111	0.0109	0.0110	0.0116	0.0107	0.0111	0.0116	0.0114
After Thermal								
Units: inches								
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8
1	0.0118	0.0118	0.0116	0.0121	0.0121	0.0114	0.0115	0.0119
2	0.0113	0.0113	0.0110	0.0116	0.0117	0.0107	0.0115	0.0106
3	0.0118	0.0099	0.0107	0.0116	0.0118	0.0114	0.0119	0.0118
4	0.0092	0.0114	0.0120	0.0118	0.0136	0.0117	0.0116	0.0118
5	0.0116	0.0120	0.0116	0.0118	0.0120	0.0109	0.0116	0.0116
6	0.0116	0.0113	0.0091	0.0120	0.0113	0.0116	0.0116	0.0115
7	0.0116	0.0116	0.0109	0.0116	0.0120	0.0117	0.0113	0.0116
8	0.0116	0.0116	0.0110	0.0105	0.0105	0.0113	0.0120	0.0120
9	0.0103	0.0113	0.0109	0.0118	0.0102	0.0116	0.0113	0.0118
10	0.0121	0.0107	0.0116	0.0116	0.0118	0.0113	0.0116	0.0116
11	0.0119	0.0118	0.0101	0.0101	0.0110	0.0116	0.0123	0.0123
12	0.0118	0.0114	0.0118	0.0115	0.0121	0.0113	0.0110	0.0110
13	0.0113	0.0113	0.0119	0.0108	0.0123	0.0120	0.0105	0.0121
14	0.0111	0.0116	0.0113	0.0116	0.0115	0.0113	0.0110	0.0118
15	0.0116	0.0114	0.0116	0.0110	0.0116	0.0114	0.0121	0.0116
16	0.0117	0.0116	0.0118	0.0116	0.0112	0.0113	0.0121	0.0118

17	0.0115	0.0120	0.0113	0.0105	0.0121	0.0116	0.0115	0.0116
18	0.0106	0.0117	0.0108	0.0116	0.0118	0.0113	0.0114	0.0116
19	0.0105	0.0113	0.0110	0.0114	0.0109	0.0124	0.0118	0.0117
20	0.0110	0.0116	0.0113	0.0117	0.0117	0.0113	0.0118	0.0121
21	0.0106	0.0116	0.0116	0.0112	0.0119	0.0115	0.0118	0.0120
22	0.0118	0.0118	0.0110	0.0117	0.0119	0.0117	0.0120	0.0115
23	0.0111	0.0112	0.0116	0.0110	0.0115	0.0118	0.0117	0.0121
24	0.0108	0.0113	0.0107	0.0118	0.0120	0.0111	0.0113	0.0116

Mating\Unmating Durability Group

Initial								
Units: inches								
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8
1	0.0107	0.0117	0.0115	0.0111	0.0112	0.0109	0.0108	0.0107
2	0.0112	0.0094	0.0111	0.0115	0.0111	0.0112	0.0115	0.0109
3	0.0111	0.0113	0.0116	0.0116	0.0112	0.0112	0.0113	0.0113
4	0.0099	0.0113	0.0115	0.0101	0.0110	0.0116	0.0113	0.0113
5	0.0115	0.0113	0.0116	0.0106	0.0114	0.0118	0.0106	0.0119
6	0.0108	0.0113	0.0117	0.0115	0.0115	0.0114	0.0111	0.0091
7	0.0111	0.0110	0.0110	0.0112	0.0113	0.0107	0.0113	0.0093
8	0.0113	0.0102	0.0107	0.0108	0.0109	0.0097	0.0115	0.0097
9	0.0103	0.0110	0.0116	0.0113	0.0113	0.0114	0.0113	0.0111
10	0.0110	0.0112	0.0117	0.0102	0.0112	0.0112	0.0114	0.0115
11	0.0108	0.0115	0.0117	0.0119	0.0117	0.0115	0.0095	0.0113
12	0.0108	0.0112	0.0114	0.0116	0.0117	0.0113	0.0100	0.0110
13	0.0113	0.0115	0.0116	0.0104	0.0113	0.0106	0.0110	0.0117
14	0.0117	0.0116	0.0108	0.0126	0.0112	0.0108	0.0098	0.0155
15	0.0112	0.0114	0.0117	0.0115	0.0113	0.0115	0.0115	0.0113
16	0.0113	0.0110	0.0114	0.0112	0.0117	0.0114	0.0109	0.0107
17	0.0110	0.0111	0.0114	0.0114	0.0113	0.0110	0.0110	0.0102
18	0.0112	0.0112	0.0113	0.0110	0.0113	0.0112	0.0110	0.0115
19	0.0113	0.0111	0.0111	0.0119	0.0101	0.0112	0.0111	0.0095
20	0.0110	0.0111	0.0114	0.0110	0.0113	0.0113	0.0106	0.0110
21	0.0103	0.0113	0.0115	0.0110	0.0096	0.0112	0.0111	0.0110
22	0.0097	0.0109	0.0138	0.0111	0.0110	0.0113	0.0112	0.0093
23	0.0109	0.0113	0.0109	0.0106	0.0114	0.0108	0.0113	0.0095
24	0.0124	0.0113	0.0116	0.0113	0.0110	0.0096	0.0114	0.0091
After 100 Cycles								
Units: inches								
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8
1	0.0111	0.0113	0.0115	0.0113	0.0106	0.0113	0.0114	0.0113
2	0.0113	0.0116	0.0111	0.0105	0.0113	0.0117	0.0112	0.0120
3	0.0112	0.0116	0.0113	0.0113	0.0112	0.0117	0.0121	0.0117
4	0.0115	0.0113	0.0113	0.0114	0.0117	0.0117	0.0117	0.0121
5	0.0113	0.0113	0.0110	0.0110	0.0116	0.0113	0.0113	0.0114
6	0.0113	0.0117	0.0114	0.0115	0.0114	0.0116	0.0117	0.0121
7	0.0117	0.0107	0.0115	0.0110	0.0119	0.0116	0.0113	0.0114
8	0.0120	0.0108	0.0115	0.0110	0.0114	0.0113	0.0116	0.0113
9	0.0114	0.0111	0.0113	0.0113	0.0112	0.0112	0.0113	0.0121

10	0.0115	0.0106	0.0117	0.0108	0.0113	0.0113	0.0113	0.0109
11	0.0116	0.0113	0.0113	0.0113	0.0118	0.0116	0.0112	0.0115
12	0.0116	0.0110	0.0118	0.0113	0.0113	0.0117	0.0117	0.0110
13	0.0110	0.0113	0.0113	0.0121	0.0119	0.0113	0.0112	0.0113
14	0.0113	0.0107	0.0113	0.0120	0.0119	0.0116	0.0115	0.0113
15	0.0116	0.0113	0.0117	0.0115	0.0114	0.0115	0.0104	0.0117
16	0.0109	0.0107	0.0116	0.0115	0.0118	0.0109	0.0108	0.0119
17	0.0111	0.0112	0.0115	0.0117	0.0108	0.0113	0.0113	0.0113
18	0.0117	0.0110	0.0105	0.0109	0.0111	0.0116	0.0110	0.0113
19	0.0116	0.0113	0.0111	0.0112	0.0106	0.0113	0.0111	0.0110
20	0.0110	0.0110	0.0114	0.0110	0.0106	0.0112	0.0114	0.0120
21	0.0113	0.0110	0.0110	0.0109	0.0109	0.0114	0.0112	0.0120
22	0.0117	0.0106	0.0110	0.0107	0.0116	0.0112	0.0111	0.0116
23	0.0109	0.0113	0.0113	0.0110	0.0108	0.0107	0.0111	0.0114
24	0.0112	0.0110	0.0115	0.0110	0.0111	0.0118	0.0112	0.0117

DATA Continued**MATING/UNMATING:
Thermal Aging Group**

<u>Sample#</u>	Initial		After Thermals	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	16.15	11.28	10.47	7.62
2	16.05	12.43	10.78	8.49
3	17.14	14.18	11.90	10.02
4	16.02	12.87	10.33	7.62
5	16.96	13.31	10.23	7.14
6	16.68	13.74	10.09	7.62
7	14.35	12.65	10.72	8.49
8	16.06	13.31	11.19	8.71

Mating\Unmating Durability Group (SOLC-125-02-S-Q\TOLC-125-02-S-Q)

<u>Sample#</u>	Initial		After 25 Cycles		After 50 Cycles		After 75 Cycles		After 100 Cycles		After Humidity	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	15.11	11.99	12.69	10.46	12.95	10.90	13.21	11.56	13.50	11.99	11.18	9.37
2	15.36	12.21	13.17	10.98	12.65	11.14	13.22	11.59	13.42	11.56	10.27	7.62
3	15.11	12.43	13.15	10.68	13.34	11.34	13.81	11.99	14.25	12.43	10.89	8.27
4	12.84	11.12	12.17	10.35	13.19	11.54	12.58	11.36	12.84	11.99	9.54	7.40
5	13.24	10.90	12.59	10.18	13.19	11.24	13.55	11.56	13.24	11.12	10.34	7.40
6	14.46	10.90	14.17	11.25	13.86	10.87	13.59	11.35	13.85	11.12	10.01	7.18
7	15.60	12.87	15.21	11.93	14.82	12.06	14.59	11.57	14.32	11.99	9.99	7.40
8	13.77	10.46	13.34	11.26	13.59	10.87	13.82	10.71	14.43	11.90	10.27	7.84

Mating\Unmating Basic (SOLC-150-02-S-Q\TOLC-150-02-S-Q)

<u>Sample#</u>	Initial		25 Cycles		50 Cycles		75 Cycles		100 Cycles	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	32.86	23.19	37.90	21.25	44.16	24.06	45.73	26.27	43.02	26.03
2	30.60	22.90	33.25	20.84	36.66	22.85	37.63	23.44	39.27	23.80
3	32.82	24.80	32.46	19.43	33.60	20.30	36.07	21.50	38.34	22.96
4	33.80	26.22	35.71	25.82	34.24	25.17	36.17	24.19	35.63	22.28
5	32.50	24.08	34.59	25.71	35.28	24.17	36.77	25.63	38.16	23.24
6	34.16	26.86	36.27	25.89	38.44	25.36	39.25	24.12	41.41	23.81
7	35.17	27.09	34.27	25.64	35.82	26.37	37.29	25.19	39.57	24.25
8	33.95	25.34	35.71	24.16	36.87	35.91	38.22	24.26	40.10	23.81

DATA Continued**NORMAL FORCE (FOR CONTACTS TESTED OUTSIDE THE HOUSING):**

Initial	Deflections in inches, Forces in Grams				
Sample #	0.0004	0.0016	0.0020	0.0028	SET
1	14.8	53.6	67.0	93.2	0.0000
2	10.7	46.0	59.7	85.4	0.0000
3	12.3	49.3	60.5	82.6	0.0000
4	13.4	50.4	62.1	84.1	0.0000
5	11.8	48.4	60.5	89.9	0.0000
6	13.2	48.4	59.4	84.6	0.0000
7	15.6	53.4	66.2	88.6	0.0000
8	13.2	47.9	59.4	80.3	0.0000
9	12.3	49.5	62.1	88.5	0.0000
10	11.5	46.2	57.5	82.3	0.0000
11	15.6	52.5	64.3	89.2	0.0000
12	17.0	50.9	61.3	88.3	0.0000
13	17.3	53.1	68.4	94.9	0.0000

After Thermals	Deflections in inches, Forces in Grams				
Sample #	0.0004	0.0016	0.0020	0.0028	SET
1	14.0	46.5	57.7	85.3	0.0000
2	9.9	47.9	58.8	83.9	0.0000
3	12.3	47.1	59.7	81.1	0.0000
4	14.5	51.7	66.8	91.4	0.0000
5	12.6	46.8	57.7	83.6	0.0000
6	12.1	46.8	56.6	83.1	0.0000
7	12.9	50.1	60.7	88.2	0.0000
8	12.3	46.8	58.8	82.9	0.0000
9	11.5	49.0	62.7	90.2	0.0000
10	12.9	50.1	61.0	89.8	0.0000
11	17.5	52.8	62.9	88.6	0.0000
12	12.3	47.6	58.8	85.6	0.0000
13	11.0	47.9	61.0	83.8	0.0000

Tracking Code: 115836 Report Rev 1	Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q
Part description: SOLC/TOLC	

DATA Continued

INSULATION RESISTANCE (IR):

Initial Insulation Resistance	
Measured In Meg Ohms	

Pin to Pin		
Mated	A	Unmated B
x	x	x
SOLC/TOLC	SOLC	TOLC
10000	10000	10000
10000	10000	10000

Thermal Insulation Resistance	
Measured In Meg Ohms	

Pin to Pin		
Mated	A	Unmated B
x	x	x
SOLC/TOLC	SOLC	TOLC
10000	10000	10000
10000	10000	10000

Humidity Insulation Resistance	
Measured In Meg Ohms	

Pin to Pin		
Mated	A	Unmated B
x	x	x
SOLC/TOLC	SOLC	TOLC
10000	10000	10000
10000	10000	10000

DATA Continued**DIELECTRIC WITHSTANDING VOLTAGE (DWV):**

Initial Breakdown Voltage		
Test Voltage <i>Until Breakdown Occurs</i>		

Pin to Pin		
Mated	A	Unmated B
X		
SOLC/TOLC	SOLC	TOLC
750	750	870
750	870	870

Initial DWV		
Test Voltage= 563		

Pin to Pin		
Mated	A	Unmated B
SOLC/TOLC	SOLC	TOLC
563	563	563
563	563	563

Thermal Test Voltage		
Test Voltage= 563		

Pin to Pin		
Mated	A	Unmated B
SOLC/TOLC	SOLC	TOLC
563	563	563
563	563	563

Humidity Test Voltage		
Test Voltage= 563		

Pin to Pin		
Mated	A	Unmated B
SOLC/TOLC	SOLC	TOLC
563	563	563
563	563	563

DATA Continued**GAS TIGHT:**

	mOhm values	Actual	Delta
Board	Position	Initial	Gas Tight
1	P1	8.0	0.2
1	P2	7.6	0.2
1	P3	7.7	0.2
1	P4	7.7	0.2
1	P5	7.6	0.3
1	P6	8.0	0.0
1	P7	8.3	0.0
1	P8	7.8	0.1
1	P9	8.1	0.0
1	P10	8.3	-0.2
1	P11	8.1	-0.1
1	P12	8.2	0.1
1	P13	8.9	0.2
1	P14	8.8	-0.1
1	P15	8.7	0.1
1	P16	8.7	0.0
1	P17	8.7	-0.1
1	P18	8.5	0.4
1	P19	8.8	0.0
1	P20	8.7	0.2
1	P21	8.6	0.2
1	P22	8.7	0.5
1	P23	8.8	0.0
1	P24	8.6	0.1
2	P1	7.6	0.0
2	P2	7.4	0.0
2	P3	8.3	-1.0
2	P4	8.1	-0.8
2	P5	7.7	-0.3
2	P6	8.3	-0.7
2	P7	6.4	1.2
2	P8	7.3	0.3
2	P9	8.0	-0.2
2	P10	6.3	1.4
2	P11	8.0	-0.5
2	P12	6.9	0.8
2	P13	8.5	-0.3
2	P14	8.9	-0.5
2	P15	8.9	-0.5
2	P16	8.1	0.5
2	P17	8.9	-0.7
2	P18	8.9	-0.5
2	P19	7.1	1.3

2	P20	8.7	-0.1
2	P21	8.1	0.1
2	P22	7.3	1.0
2	P23	9.0	-0.4
2	P24	8.4	0.2
3	P1	7.6	0.1
3	P2	7.3	0.0
3	P3	7.5	0.0
3	P4	7.6	-0.1
3	P5	7.2	1.0
3	P6	7.6	0.0
3	P7	7.6	0.0
3	P8	7.6	0.1
3	P9	7.6	0.0
3	P10	7.6	0.1
3	P11	8.1	-0.4
3	P12	7.7	-0.1
3	P13	8.8	0.2
3	P14	8.6	0.2
3	P15	8.9	0.2
3	P16	8.8	0.2
3	P17	8.8	0.0
3	P18	8.7	0.0
3	P19	8.2	0.3
3	P20	8.6	0.2
3	P21	8.2	0.1
3	P22	8.4	0.3
3	P23	8.3	0.4
3	P24	8.3	0.3
4	P1	7.6	0.1
4	P2	7.5	0.2
4	P3	7.4	0.4
4	P4	7.6	-0.2
4	P5	7.3	0.4
4	P6	7.5	-0.1
4	P7	7.4	0.1
4	P8	7.2	0.3
4	P9	7.6	0.1
4	P10	7.6	-0.2
4	P11	7.6	-0.2
4	P12	7.5	-0.1
4	P13	8.7	0.2
4	P14	8.7	0.0
4	P15	8.7	-0.1
4	P16	8.7	0.0
4	P17	8.7	0.0
4	P18	8.5	0.1
4	P19	8.1	0.8
4	P20	8.4	1.1

4	P21	8.2	0.9
4	P22	8.4	0.4
4	P23	8.5	0.4
4	P24	8.2	0.4
5	P1	7.8	0.3
5	P2	7.7	-0.1
5	P3	8.0	-0.4
5	P4	7.4	0.1
5	P5	7.7	0.1
5	P6	7.4	0.1
5	P7	7.5	0.1
5	P8	7.5	0.1
5	P9	7.7	0.0
5	P10	7.4	0.2
5	P11	7.5	0.2
5	P12	7.5	-0.1
5	P13	8.4	0.0
5	P14	8.4	0.4
5	P15	8.3	0.1
5	P16	8.5	0.1
5	P17	8.5	-0.1
5	P18	8.6	0.0
5	P19	8.5	0.1
5	P20	8.6	0.0
5	P21	8.4	0.0
5	P22	8.7	-0.1
5	P23	8.5	-0.1
5	P24	8.6	0.0
6	P1	8.0	0.6
6	P2	7.6	0.6
6	P3	7.4	0.4
6	P4	7.4	0.6
6	P5	7.5	0.9
6	P6	7.6	0.4
6	P7	7.6	0.1
6	P8	7.9	0.0
6	P9	7.5	-0.2
6	P10	7.7	0.2
6	P11	7.8	0.2
6	P12	7.6	0.1
6	P13	8.5	0.6
6	P14	8.7	0.4
6	P15	8.6	0.7
6	P16	8.6	0.4
6	P17	8.4	0.1
6	P18	8.2	0.2
6	P19	8.3	0.6
6	P20	8.5	0.5
6	P21	8.5	0.5

6	P22	8.7	1.2
6	P23	8.6	0.8
6	P24	8.7	0.1
7	P1	7.6	0.0
7	P2	7.5	0.0
7	P3	7.4	0.2
7	P4	7.5	0.3
7	P5	7.3	0.5
7	P6	7.2	-0.4
7	P7	7.4	-0.3
7	P8	7.2	0.0
7	P9	7.1	0.0
7	P10	7.6	-0.3
7	P11	7.6	-0.3
7	P12	7.5	-0.1
7	P13	8.4	-0.1
7	P14	8.4	-0.2
7	P15	8.3	0.0
7	P16	8.2	-0.1
7	P17	8.4	0.1
7	P18	8.3	0.3
7	P19	8.4	0.8
7	P20	8.1	0.3
7	P21	8.3	0.3
7	P22	8.2	0.3
7	P23	8.6	0.2
7	P24	8.4	0.4
8	P1	7.5	0.3
8	P2	7.6	0.2
8	P3	7.7	0.5
8	P4	7.4	0.6
8	P5	7.5	0.1
8	P6	7.4	0.3
8	P7	7.2	0.4
8	P8	7.3	0.3
8	P9	7.2	0.3
8	P10	8.0	0.0
8	P11	7.7	-0.2
8	P12	7.4	0.2
8	P13	8.7	0.2
8	P14	8.7	0.1
8	P15	8.7	-0.1
8	P16	9.0	0.0
8	P17	8.6	-0.1
8	P18	8.5	0.2
8	P19	8.7	0.5
8	P20	8.4	0.5
8	P21	8.6	0.4
8	P22	8.6	0.2

8	P23	8.8	0.5
8	P24	8.7	0.2

LLCR Thermal:

	mOhm values	Actual	Delta
Board	Position	Initial	Thermal Age
1	P1	7.7	-0.1
1	P2	7.8	0.0
1	P3	7.4	0.1
1	P4	7.6	0.0
1	P5	7.4	0.0
1	P6	7.3	0.0
1	P7	7.1	0.0
1	P8	7.5	-0.1
1	P9	7.1	-0.1
1	P10	7.1	0.1
1	P11	7.1	-0.1
1	P12	7.0	-0.1
1	P13	8.8	-0.3
1	P14	8.7	-0.3
1	P15	8.4	-0.2
1	P16	8.4	-0.1
1	P17	8.3	-0.1
1	P18	8.5	-0.2
1	P19	9.2	-0.3
1	P20	8.3	-0.1
1	P21	8.4	-0.2
1	P22	8.3	-0.2
1	P23	8.2	-0.1
1	P24	8.7	-0.3
2	P1	7.8	0.1
2	P2	7.9	-0.1
2	P3	7.8	0.1
2	P4	7.7	0.1
2	P5	7.1	0.3
2	P6	8.9	-1.5
2	P7	8.3	-1.0
2	P8	8.2	-0.5
2	P9	7.4	-0.3
2	P10	7.6	-0.8
2	P11	8.5	-1.3
2	P12	7.4	0.2
2	P13	7.4	0.6
2	P14	7.9	0.0
2	P15	7.5	0.6
2	P16	7.8	0.2
2	P17	8.1	-0.1
2	P18	7.7	0.4

2	P19	7.7	1.3
2	P20	8.0	0.6
2	P21	7.3	1.8
2	P22	7.7	1.1
2	P23	7.1	1.6
2	P24	7.8	0.8
3	P1	7.5	-0.2
3	P2	6.7	-0.1
3	P3	6.9	0.0
3	P4	7.0	0.0
3	P5	6.8	0.0
3	P6	7.9	-0.2
3	P7	7.8	0.1
3	P8	7.8	0.0
3	P9	7.6	0.1
3	P10	7.6	0.0
3	P11	7.7	0.1
3	P12	7.6	0.0
3	P13	8.3	0.0
3	P14	8.2	-0.1
3	P15	8.7	-0.2
3	P16	8.4	-0.1
3	P17	8.3	-0.2
3	P18	8.2	-0.1
3	P19	8.4	-0.1
3	P20	8.5	-0.1
3	P21	8.4	-0.2
3	P22	8.3	-0.2
3	P23	8.1	-0.1
3	P24	8.4	-0.2
4	P1	8.2	0.0
4	P2	7.3	-0.1
4	P3	7.6	0.1
4	P4	7.3	-0.1
4	P5	8.0	-0.1
4	P6	7.6	0.0
4	P7	7.7	0.0
4	P8	7.8	0.1
4	P9	7.6	0.2
4	P10	7.7	0.1
4	P11	7.7	0.0
4	P12	7.7	0.0
4	P13	8.9	-0.1
4	P14	8.6	-0.1
4	P15	8.7	-0.1
4	P16	9.0	-0.2
4	P17	8.6	-0.1
4	P18	8.4	-0.1
4	P19	8.9	0.0

4	P20	8.7	-0.1
4	P21	8.8	-0.1
4	P22	8.8	-0.1
4	P23	9.0	-0.3
4	P24	9.1	-0.2
5	P1	7.4	0.0
5	P2	7.4	0.1
5	P3	7.3	0.1
5	P4	7.3	0.0
5	P5	7.2	0.0
5	P6	7.6	0.0
5	P7	7.5	0.0
5	P8	7.6	-0.1
5	P9	7.5	0.0
5	P10	7.7	0.0
5	P11	7.6	0.0
5	P12	7.4	-0.1
5	P13	8.7	-0.1
5	P14	8.6	-0.1
5	P15	8.5	-0.1
5	P16	8.7	-0.1
5	P17	8.5	0.0
5	P18	8.6	-0.1
5	P19	8.1	0.0
5	P20	8.2	0.0
5	P21	7.9	-0.1
5	P22	8.6	-0.1
5	P23	8.5	-0.1
5	P24	8.7	-0.3
6	P1	7.8	0.1
6	P2	7.6	0.0
6	P3	8.2	-0.1
6	P4	7.6	0.0
6	P5	7.4	0.0
6	P6	7.1	0.2
6	P7	7.2	-0.1
6	P8	7.1	-0.1
6	P9	7.0	-0.1
6	P10	7.1	-0.2
6	P11	7.2	0.1
6	P12	7.3	-0.1
6	P13	8.5	-0.2
6	P14	8.2	-0.1
6	P15	8.5	0.0
6	P16	8.3	-0.1
6	P17	8.4	-0.2
6	P18	8.8	-0.1
6	P19	8.0	0.0
6	P20	8.5	-0.1

6	P21	8.3	0.0
6	P22	8.4	-0.1
6	P23	8.4	0.0
6	P24	8.4	0.0
7	P1	8.2	-0.1
7	P2	7.9	-0.1
7	P3	7.8	0.0
7	P4	8.0	0.0
7	P5	7.9	0.1
7	P6	7.4	0.2
7	P7	7.5	0.0
7	P8	7.7	0.0
7	P9	7.4	0.1
7	P10	7.9	0.0
7	P11	7.6	0.2
7	P12	7.6	0.0
7	P13	8.8	-0.1
7	P14	8.5	-0.1
7	P15	8.6	-0.1
7	P16	8.6	-0.1
7	P17	8.8	-0.1
7	P18	8.8	0.0
7	P19	8.9	0.0
7	P20	8.9	-0.1
7	P21	8.9	-0.1
7	P22	8.7	-0.1
7	P23	8.9	-0.1
7	P24	8.9	-0.1
8	P1	7.5	0.0
8	P2	7.6	0.0
8	P3	7.4	0.0
8	P4	7.4	0.0
8	P5	7.4	-0.1
8	P6	7.1	0.1
8	P7	7.5	0.0
8	P8	4.4	0.0
8	P9	7.0	-0.1
8	P10	7.5	0.1
8	P11	7.5	0.1
8	P12	7.2	-0.1
8	P13	8.1	-0.1
8	P14	8.3	-0.1
8	P15	8.2	-0.1
8	P16	8.1	-0.1
8	P17	8.4	-0.1
8	P18	8.1	0.0
8	P19	8.8	-0.1
8	P20	8.8	-0.1
8	P21	8.6	-0.1

8	P22	8.6	-0.1
8	P23	8.9	-0.1
8	P24	8.9	-0.1

LLCR Durability:

	mOhm values	Actual	Delta	Delta	Delta
Board	Position	Initial	100 Cycles	Thermal	Humidity
1	P1	7.5	0.1	0.4	0.2
1	P2	7.5	0.2	0.2	0.4
1	P3	7.4	0.3	0.4	0.4
1	P4	7.3	0.1	0.3	0.4
1	P5	7.3	0.1	0.2	1.1
1	P6	7.3	-0.1	0.0	-0.2
1	P7	6.9	0.1	0.2	0.2
1	P8	7.2	0.0	-0.1	0.0
1	P9	6.9	0.3	0.5	0.3
1	P10	7.2	0.4	-0.1	0.1
1	P11	7.3	0.0	-0.1	0.1
1	P12	7.1	0.3	-0.1	-0.1
1	P13	8.2	0.0	0.1	0.2
1	P14	8.5	0.0	-0.2	-0.3
1	P15	8.1	0.3	0.2	0.3
1	P16	8.4	0.0	-0.1	-0.1
1	P17	8.2	0.1	0.0	0.2
1	P18	7.9	0.5	0.3	0.5
1	P19	8.1	0.4	0.3	1.1
1	P20	8.2	0.1	0.9	0.7
1	P21	8.3	-0.2	-0.1	0.3
1	P22	8.2	0.1	0.1	0.7
1	P23	8.2	0.5	0.4	0.5
1	P24	8.2	0.3	0.0	0.4
2	P1	7.8	0.6	0.0	-0.4
2	P2	7.7	0.6	0.1	0.0
2	P3	7.6	1.4	0.0	-0.3
2	P4	7.8	0.3	-0.1	-0.3
2	P5	7.5	0.3	0.0	-0.1
2	P6	7.8	1.1	-0.3	0.3
2	P7	7.5	0.1	0.0	-0.1
2	P8	7.4	-0.2	-0.3	0.3
2	P9	7.4	1.2	0.1	0.7
2	P10	7.5	0.6	-0.2	0.3
2	P11	7.7	-0.6	-0.3	-0.1
2	P12	7.5	0.3	-0.5	0.6
2	P13	9.0	-0.9	-0.4	-0.1
2	P14	8.4	-0.9	-0.1	0.2
2	P15	8.5	-1.0	-0.1	0.7
2	P16	8.6	-0.3	-0.3	-0.2
2	P17	8.5	-0.5	0.0	0.2

2	P18	8.4	-0.5	0.0	0.0
2	P19	8.7	-1.5	-0.3	0.1
2	P20	8.6	-1.2	-0.1	0.0
2	P21	8.5	0.5	-0.2	0.0
2	P22	8.8	0.1	-0.3	0.1
2	P23	8.7	0.0	-0.4	0.1
2	P24	8.6	-0.4	-0.2	0.2
3	P1	7.5	0.1	0.0	0.0
3	P2	7.2	0.2	0.2	-0.1
3	P3	7.5	0.0	0.0	-0.1
3	P4	7.1	0.1	0.2	0.0
3	P5	7.1	0.2	0.2	0.1
3	P6	7.4	0.3	0.2	0.1
3	P7	7.4	0.5	0.4	0.3
3	P8	7.6	0.3	0.2	0.1
3	P9	7.3	0.4	0.4	0.3
3	P10	7.7	0.1	0.0	0.0
3	P11	7.8	0.3	0.1	0.0
3	P12	7.9	0.0	-0.2	-0.2
3	P13	8.8	-0.2	-0.3	-0.3
3	P14	8.7	0.1	-0.1	-0.2
3	P15	9.0	-0.3	-0.4	-0.5
3	P16	8.8	0.1	0.0	-0.1
3	P17	8.8	0.1	0.1	-0.1
3	P18	8.9	0.2	0.1	0.0
3	P19	8.2	0.0	0.0	-0.2
3	P20	8.0	0.2	0.3	0.2
3	P21	8.0	0.2	0.1	0.1
3	P22	8.2	-0.1	-0.1	-0.2
3	P23	8.1	-0.2	-0.2	-0.3
3	P24	8.1	0.1	0.0	-0.1
4	P1	8.0	0.2	0.3	0.2
4	P2	8.1	0.2	0.2	0.1
4	P3	7.9	0.5	0.1	0.1
4	P4	4.7	0.2	0.0	0.0
4	P5	7.6	0.8	0.7	0.6
4	P6	4.3	-0.1	-0.1	-0.1
4	P7	4.4	-0.1	-0.2	-0.2
4	P8	7.2	0.4	0.2	0.1
4	P9	7.3	0.0	0.1	0.0
4	P10	7.6	-0.2	-0.4	-0.5
4	P11	7.5	-0.2	0.0	0.1
4	P12	7.4	-0.2	-0.2	-0.3
4	P13	8.6	-0.2	-0.1	-0.1
4	P14	8.2	-0.1	0.0	0.0
4	P15	8.5	-0.5	-0.3	-0.3
4	P16	8.7	-0.4	-0.3	-0.3
4	P17	8.4	-0.1	0.0	-0.1
4	P18	8.2	0.2	0.2	0.1

4	P19	8.7	0.4	0.0	-0.1
4	P20	8.5	1.0	0.6	0.6
4	P21	8.6	1.0	0.2	0.2
4	P22	8.7	0.2	0.3	0.3
4	P23	8.7	0.6	0.2	0.1
4	P24	8.9	0.4	0.3	0.3
5	P1	7.5	0.0	-0.1	-0.1
5	P2	7.5	0.0	0.0	-0.1
5	P3	7.6	-0.1	-0.2	-0.3
5	P4	7.7	0.1	0.0	-0.1
5	P5	7.8	0.1	0.0	-0.1
5	P6	7.3	0.3	0.3	0.3
5	P7	7.1	0.6	0.6	0.5
5	P8	7.1	0.3	0.4	0.3
5	P9	7.5	-0.1	0.1	0.1
5	P10	7.1	0.3	0.4	0.3
5	P11	7.1	0.4	0.4	0.4
5	P12	7.5	0.0	0.2	0.0
5	P13	8.5	-0.1	-0.2	-0.2
5	P14	8.5	0.0	-0.2	-0.3
5	P15	8.2	0.3	0.2	0.1
5	P16	8.5	0.0	-0.3	-0.4
5	P17	8.3	-0.1	0.0	-0.1
5	P18	8.5	0.1	-0.1	-0.2
5	P19	8.7	-0.1	-0.3	-0.3
5	P20	8.5	-0.3	-0.2	-0.3
5	P21	8.8	-0.2	-0.3	-0.5
5	P22	8.5	0.1	0.1	-0.1
5	P23	8.6	-0.1	-0.2	-0.3
5	P24	8.6	-0.2	-0.2	-0.4
6	P1	7.8	0.2	0.1	-0.2
6	P2	7.6	0.2	0.2	-0.1
6	P3	7.4	0.2	0.2	0.1
6	P4	7.5	0.1	0.3	0.1
6	P5	7.7	0.2	0.1	0.0
6	P6	7.7	0.1	0.0	-0.1
6	P7	7.5	0.5	0.5	0.4
6	P8	7.4	0.1	0.2	0.3
6	P9	7.4	0.6	0.5	0.4
6	P10	7.3	0.1	0.1	0.0
6	P11	7.8	0.3	0.3	0.2
6	P12	7.8	0.2	0.1	0.1
6	P13	8.7	0.1	0.3	0.2
6	P14	8.6	0.0	0.1	0.0
6	P15	8.7	-0.1	-0.2	-0.3
6	P16	8.7	0.1	0.2	0.1
6	P17	8.8	0.1	0.0	0.0
6	P18	8.7	-0.1	-0.1	-0.1
6	P19	8.6	0.2	-0.2	-0.2

6	P20	8.6	0.3	0.0	0.0
6	P21	8.6	0.2	-0.2	-0.2
6	P22	8.8	0.2	-0.1	-0.2
6	P23	8.8	0.2	0.0	-0.1
6	P24	8.7	0.0	-0.1	-0.2
7	P1	8.0	0.1	0.2	0.0
7	P2	8.0	0.0	0.2	0.0
7	P3	8.1	0.0	0.1	-0.1
7	P4	8.1	-0.3	0.0	-0.2
7	P5	7.7	0.4	0.5	0.5
7	P6	7.7	0.0	0.1	0.0
7	P7	7.9	-0.1	-0.3	-0.3
7	P8	7.1	0.4	0.6	0.6
7	P9	7.4	0.4	0.4	0.3
7	P10	7.3	0.1	0.3	0.2
7	P11	7.5	0.5	0.5	0.3
7	P12	7.2	0.1	0.3	0.3
7	P13	9.1	-0.8	-0.7	-1.0
7	P14	8.6	-0.1	0.0	-0.1
7	P15	8.7	-0.3	-0.2	-0.3
7	P16	8.6	-0.3	-0.3	-0.5
7	P17	8.7	-0.2	-0.2	-0.3
7	P18	8.3	0.1	0.3	0.2
7	P19	9.3	-0.1	-0.2	-0.2
7	P20	8.8	0.2	0.2	0.1
7	P21	8.9	0.1	0.0	-0.2
7	P22	9.0	0.0	-0.1	-0.2
7	P23	8.8	0.3	0.3	0.2
7	P24	9.1	0.1	0.0	-0.1
8	P1	7.6	0.2	0.1	0.4
8	P2	7.4	0.4	0.3	0.3
8	P3	7.6	-0.1	-0.1	0.1
8	P4	7.5	0.1	0.1	0.0
8	P5	4.5	0.0	-0.1	3.0
8	P6	7.4	-0.1	-0.1	0.1
8	P7	7.4	0.5	0.5	0.5
8	P8	7.5	-0.1	-0.2	-0.2
8	P9	7.3	0.0	0.1	0.4
8	P10	8.0	-0.2	-0.2	-0.1
8	P11	7.8	0.4	0.1	0.3
8	P12	7.8	0.4	0.1	0.1
8	P13	8.7	0.0	-0.2	0.3
8	P14	8.1	0.1	0.3	0.2
8	P15	8.6	-0.1	-0.2	-0.2
8	P16	8.4	0.3	0.2	0.1
8	P17	8.8	0.0	-0.1	-0.2
8	P18	8.8	-0.3	-0.3	-0.2
8	P19	8.5	0.2	0.1	0.0
8	P20	8.5	0.1	0.1	0.0

8	P21	8.4	0.2	0.1	0.2
8	P22	8.6	0.2	0.1	0.5
8	P23	8.6	0.2	0.1	0.1
8	P24	8.5	0.1	0.0	0.1

LLCR Shock / Vibration:

	mOhm values	Actual	Delta
Board	Position	Initial	Shock / Vibe
1	P1	7.5	0.0
1	P2	7.8	-0.1
1	P3	7.2	0.0
1	P4	7.1	-0.1
1	P5	7.0	-0.1
1	P6	7.9	-0.1
1	P7	7.5	-0.1
1	P8	7.6	-0.1
1	P9	7.8	-0.1
1	P10	7.8	-0.1
1	P11	7.8	-0.1
1	P12	7.6	0.1
1	P13	8.7	-0.1
1	P14	8.7	-0.1
1	P15	8.7	-0.1
1	P16	8.7	-0.2
1	P17	8.5	-0.1
1	P18	8.8	-0.2
1	P19	8.6	-0.1
1	P20	8.5	-0.1
1	P21	8.8	-0.1
1	P22	8.6	-0.1
1	P23	8.6	0.0
1	P24	8.8	-0.1
2	P1	8.1	-0.1
2	P2	8.1	0.0
2	P3	8.1	0.0
2	P4	8.3	-0.2
2	P5	8.0	-0.2
2	P6	7.9	-0.3
2	P7	7.8	-0.1
2	P8	7.3	-0.1
2	P9	7.8	-0.2
2	P10	7.6	-0.1
2	P11	7.5	0.0
2	P12	7.5	-0.1
2	P13	4.9	-0.1
2	P14	8.5	0.1
2	P15	8.8	0.0
2	P16	8.7	-0.1

2	P17	9.3	-0.2
2	P18	8.9	-0.1
2	P19	9.1	-0.4
2	P20	9.6	-0.6
2	P21	8.9	-0.1
2	P22	9.0	-0.2
2	P23	9.3	-0.5
2	P24	9.2	-0.1
3	P1	7.5	0.1
3	P2	7.6	0.0
3	P3	7.9	-0.1
3	P4	7.8	-0.1
3	P5	7.5	-0.1
3	P6	7.7	-0.2
3	P7	8.0	-0.2
3	P8	7.5	0.0
3	P9	7.2	-0.1
3	P10	7.7	0.0
3	P11	7.8	-0.1
3	P12	7.7	-0.2
3	P13	8.6	0.1
3	P14	8.9	-0.1
3	P15	8.8	0.0
3	P16	8.7	-0.1
3	P17	9.0	-0.1
3	P18	8.6	-0.1
3	P19	8.5	-0.1
3	P20	8.3	-0.1
3	P21	8.2	-0.1
3	P22	8.6	-0.1
3	P23	8.7	-0.1
3	P24	8.5	0.0
4	P1	7.9	1.8
4	P2	7.6	0.1
4	P3	7.4	0.1
4	P4	7.9	1.7
4	P5	9.2	-0.1
4	P6	7.9	-0.2
4	P7	7.7	1.8
4	P8	7.5	0.5
4	P9	7.7	0.2
4	P10	7.8	-0.1
4	P11	7.9	-0.3
4	P12	7.8	-0.3
4	P13	8.2	0.0
4	P14	8.2	0.0
4	P15	8.9	-0.5
4	P16	8.1	0.0
4	P17	8.1	0.0

4	P18	8.2	-0.1
4	P19	8.4	0.1
4	P20	8.5	0.0
4	P21	8.9	-0.1
4	P22	8.4	0.1
4	P23	8.9	-0.1
4	P24	9.0	-0.3
5	P1	8.0	0.0
5	P2	7.8	0.0
5	P3	8.1	-0.2
5	P4	7.6	0.0
5	P5	7.7	0.0
5	P6	7.4	-0.1
5	P7	7.3	0.2
5	P8	7.6	-0.1
5	P9	7.6	0.1
5	P10	7.4	0.2
5	P11	7.6	-0.1
5	P12	7.9	-0.3
5	P13	9.5	-0.4
5	P14	8.6	-0.1
5	P15	9.2	-0.3
5	P16	8.9	-0.1
5	P17	9.1	-0.4
5	P18	8.8	-0.2
5	P19	9.1	-0.2
5	P20	8.5	-0.1
5	P21	9.0	-0.1
5	P22	8.8	-0.1
5	P23	9.7	-0.3
5	P24	9.2	-0.3
6	P1	8.2	-0.1
6	P2	7.9	0.1
6	P3	8.1	-0.1
6	P4	7.3	-0.1
6	P5	7.8	-0.1
6	P6	7.9	-0.3
6	P7	8.0	-0.1
6	P8	7.5	-0.1
6	P9	7.8	-0.2
6	P10	7.6	0.0
6	P11	7.5	0.1
6	P12	7.3	-0.1
6	P13	7.7	0.9
6	P14	8.6	-0.1
6	P15	9.0	-0.1
6	P16	8.5	-0.1
6	P17	8.7	-0.1
6	P18	8.7	-0.2

6	P19	9.2	-0.2
6	P20	9.0	-0.1
6	P21	8.7	0.0
6	P22	8.9	-0.1
6	P23	8.7	0.2
6	P24	9.0	0.0
7	P1	8.0	-0.2
7	P2	8.4	-0.4
7	P3	8.1	-0.3
7	P4	7.7	-0.2
7	P5	8.2	-0.2
7	P6	7.6	-0.2
7	P7	7.6	-0.1
7	P8	7.7	0.0
7	P9	7.6	0.1
7	P10	7.3	-0.1
7	P11	7.5	-0.2
7	P12	7.4	-0.3
7	P13	8.9	-0.2
7	P14	8.9	-0.2
7	P15	8.7	-0.2
7	P16	8.7	-0.1
7	P17	8.9	-0.3
7	P18	8.8	-0.2
7	P19	8.5	-0.2
7	P20	8.9	-0.1
7	P21	8.6	-0.1
7	P22	8.7	-0.2
7	P23	8.3	-0.1
7	P24	8.5	-0.2
8	P1	7.9	0.0
8	P2	7.8	0.1
8	P3	7.9	0.0
8	P4	8.2	-0.1
8	P5	8.5	-0.5
8	P6	4.7	-0.1
8	P7	7.8	-0.1
8	P8	7.8	-0.2
8	P9	7.7	0.0
8	P10	7.8	0.0
8	P11	7.9	0.0
8	P12	7.8	-0.2
8	P13	8.4	0.0
8	P14	8.7	-0.3
8	P15	8.8	-0.1
8	P16	9.2	-0.2
8	P17	8.6	-0.1
8	P18	8.7	0.0
8	P19	8.7	-0.2

8	P20	8.3	0.1
8	P21	8.8	-0.1
8	P22	8.9	-0.1
8	P23	9.2	-0.3
8	P24	8.9	-0.1

LLCR 250 cycles:

	mOhm values	Actual	Delta	Delta	Delta
Board	Position	Initial	250 Cycles	Thermal	Humidity
1	P1	7.7	-0.3	0.4	-0.3
1	P2	7.6	0.0	0.3	-0.4
1	P3	7.5	0.0	0.3	-0.1
1	P4	7.3	0.3	0.8	0.3
1	P5	7.3	0.2	0.4	0.2
1	P6	4.4	0.2	0.4	0.2
1	P7	7.7	-0.2	0.6	0.1
1	P8	7.8	0.1	0.2	-0.1
1	P9	7.7	-0.1	0.3	0.0
1	P10	7.6	0.1	0.4	0.2
1	P11	7.8	0.0	0.2	-0.1
1	P12	7.5	-0.1	0.5	0.2
1	P13	8.4	0.2	0.1	-0.3
1	P14	8.5	0.2	0.3	0.1
1	P15	8.4	0.1	0.5	0.2
1	P16	8.4	0.4	0.9	0.3
1	P17	8.5	-0.1	0.1	-0.3
1	P18	8.5	0.1	0.1	-0.4
1	P19	8.1	0.4	0.3	0.2
1	P20	8.2	0.1	0.3	-0.1
1	P21	8.3	0.1	0.7	0.0
1	P22	8.3	0.3	0.5	0.3
1	P23	8.3	-0.1	0.3	0.0
1	P24	8.4	-0.1	0.1	-0.4
2	P1	7.7	0.2	0.2	0.1
2	P2	7.5	0.2	0.3	0.1
2	P3	7.5	0.5	0.5	0.5
2	P4	7.4	0.1	0.2	0.1
2	P5	8.1	-0.3	-0.4	-0.3
2	P6	7.6	0.1	0.0	-0.1
2	P7	7.5	-2.9	-3.0	-3.0
2	P8	7.4	0.2	0.1	0.0
2	P9	8.2	-0.4	-0.4	-0.5
2	P10	8.1	-0.3	-0.4	-0.5
2	P11	7.9	-0.2	-0.3	-0.4
2	P12	7.8	0.0	-0.1	-0.2
2	P13	8.1	0.7	0.5	0.4
2	P14	7.7	1.2	1.0	0.9
2	P15	7.6	1.0	0.9	0.8

2	P16	7.4	1.4	1.3	1.2
2	P17	7.3	1.5	1.2	1.1
2	P18	7.9	0.8	0.7	0.6
2	P19	8.8	-0.3	-0.5	-0.5
2	P20	8.7	0.1	-0.2	-0.3
2	P21	8.7	0.1	-0.2	-0.4
2	P22	8.3	0.5	0.2	0.0
2	P23	8.7	-0.2	-0.3	-0.4
2	P24	8.6	0.0	-0.2	-0.3
3	P1	7.8	-0.3	-0.4	-0.6
3	P2	7.3	0.4	0.2	0.0
3	P3	7.3	0.5	0.2	0.1
3	P4	7.2	0.6	0.0	-0.1
3	P5	7.2	0.4	0.1	0.0
3	P6	7.8	-0.3	0.0	-0.3
3	P7	7.6	-0.6	0.3	0.1
3	P8	7.9	-0.4	-0.3	-0.4
3	P9	7.5	-0.4	0.2	0.1
3	P10	7.4	-0.4	0.3	0.2
3	P11	7.6	-0.4	0.4	0.3
3	P12	7.5	0.5	0.4	0.2
3	P13	8.3	0.1	0.2	0.0
3	P14	8.3	0.1	-0.1	-0.2
3	P15	8.4	0.2	0.3	0.1
3	P16	8.5	-0.4	0.1	-0.2
3	P17	8.3	0.2	0.2	-0.1
3	P18	8.3	0.0	0.3	0.0
3	P19	8.2	0.2	0.8	0.5
3	P20	8.2	0.6	0.5	0.0
3	P21	8.4	0.1	0.3	0.0
3	P22	8.1	0.2	0.6	0.3
3	P23	8.7	0.0	0.4	0.1
3	P24	8.6	0.1	0.6	0.4
4	P1	8.1	0.5	0.7	0.0
4	P2	7.9	-0.1	0.5	0.1
4	P3	8.0	0.2	0.7	0.2
4	P4	8.0	0.2	0.8	0.0
4	P5	7.9	0.2	0.3	0.0
4	P6	7.5	-0.7	0.4	0.0
4	P7	7.3	-0.3	1.0	0.4
4	P8	7.2	-0.1	1.9	0.6
4	P9	7.8	-0.7	0.0	-0.2
4	P10	7.3	-0.2	0.6	0.4
4	P11	7.4	-0.5	0.8	0.5
4	P12	7.2	-0.1	0.9	0.7
4	P13	8.4	0.3	0.5	0.1
4	P14	8.8	-0.1	0.1	-0.2
4	P15	8.5	-0.4	2.3	0.3
4	P16	8.2	0.1	0.3	0.0

4	P17	8.3	-0.2	0.3	-0.1
4	P18	8.2	-0.1	0.3	0.1
4	P19	8.7	-0.3	0.1	0.0
4	P20	8.6	-0.1	0.1	-0.2
4	P21	8.7	-0.2	0.1	-0.2
4	P22	8.6	-0.1	0.2	-0.1
4	P23	8.7	0.3	0.5	0.0
4	P24	8.9	-0.2	-0.1	-0.4
5	P1	8.2	-0.1	-0.1	-0.2
5	P2	8.0	-0.2	-0.2	-0.4
5	P3	8.1	-0.3	-0.3	-0.4
5	P4	7.8	-0.1	-0.2	-0.1
5	P5	7.9	-0.4	-0.5	-0.5
5	P6	8.1	-0.1	-0.1	-0.3
5	P7	7.9	-0.1	-0.1	0.2
5	P8	8.1	-0.1	-0.1	0.0
5	P9	7.5	-0.1	-0.1	0.2
5	P10	7.7	-0.1	-0.2	0.1
5	P11	8.1	-0.1	-0.1	-0.2
5	P12	7.7	-0.1	-0.2	-0.2
5	P13	9.0	-0.1	-0.2	-0.1
5	P14	9.2	0.1	-0.2	-0.1
5	P15	9.0	0.0	-0.1	0.0
5	P16	9.0	0.1	-0.1	0.0
5	P17	9.0	0.2	-0.1	-0.1
5	P18	8.8	0.0	-0.1	-0.1
5	P19	8.8	-0.1	-0.1	-0.2
5	P20	8.8	-0.1	-0.2	-0.3
5	P21	8.7	0.3	0.1	0.0
5	P22	8.8	0.0	-0.1	-0.2
5	P23	8.5	0.2	0.1	0.1
5	P24	9.1	-0.3	-0.4	-0.4
6	P1	7.4	0.2	0.2	0.2
6	P2	7.2	0.2	0.2	0.1
6	P3	7.2	0.2	0.3	0.2
6	P4	7.2	0.4	0.5	0.3
6	P5	7.2	0.5	0.5	0.3
6	P6	7.7	-0.1	0.0	0.0
6	P7	8.0	-0.2	-0.1	-0.2
6	P8	8.0	-0.4	-0.5	-0.5
6	P9	7.9	-0.1	-0.1	-0.2
6	P10	7.8	0.0	-0.1	-0.2
6	P11	7.8	-0.4	-0.4	-0.4
6	P12	8.3	-0.7	-0.8	-0.7
6	P13	9.2	-0.2	-0.3	-0.3
6	P14	9.1	0.1	-0.1	-0.1
6	P15	9.0	-0.3	-0.3	-0.3
6	P16	9.2	-0.4	-0.5	-0.5
6	P17	8.8	0.1	0.0	0.0

6	P18	9.0	-0.1	-0.1	-0.2
6	P19	8.6	0.2	0.1	0.1
6	P20	8.4	0.2	0.1	0.0
6	P21	8.3	0.0	0.0	0.0
6	P22	8.1	0.1	0.1	0.0
6	P23	8.4	0.2	0.1	0.1
6	P24	8.5	0.1	0.0	0.0
7	P1	7.9	0.2	0.2	0.1
7	P2	7.7	0.1	0.1	0.0
7	P3	8.0	0.0	0.0	-0.1
7	P4	7.9	0.0	-0.1	-0.2
7	P5	7.6	0.1	0.1	0.0
7	P6	7.4	-0.1	-0.1	-0.2
7	P7	7.3	-0.1	0.2	0.0
7	P8	7.5	0.0	0.1	0.1
7	P9	7.3	-0.2	-0.2	-0.3
7	P10	7.6	-0.2	0.0	0.0
7	P11	7.4	0.0	-0.1	-0.1
7	P12	7.5	-0.1	-0.1	-0.2
7	P13	8.8	-0.1	-0.2	-0.3
7	P14	8.9	-0.1	-0.3	-0.3
7	P15	8.8	-0.2	-0.3	-0.4
7	P16	8.7	-0.1	-0.1	-0.2
7	P17	8.7	0.0	-0.3	-0.3
7	P18	8.6	-0.1	-0.1	-0.2
7	P19	8.3	0.6	0.5	0.4
7	P20	8.3	0.1	0.2	0.1
7	P21	8.6	0.0	0.1	0.0
7	P22	8.6	0.0	0.0	-0.1
7	P23	8.5	-0.1	-0.1	-0.2
7	P24	8.6	-0.2	-0.2	-0.3
8	P1	8.1	0.0	-0.1	-0.4
8	P2	7.9	-0.3	-0.2	0.1
8	P3	8.0	-0.3	-0.3	0.0
8	P4	7.4	0.3	0.4	0.2
8	P5	7.9	-0.4	-0.4	-0.1
8	P6	7.4	-0.3	-0.4	0.0
8	P7	7.1	-0.1	-0.1	0.5
8	P8	7.3	0.0	0.2	0.1
8	P9	7.3	-0.2	-0.2	0.1
8	P10	7.0	0.1	0.1	0.0
8	P11	7.4	0.1	0.2	0.2
8	P12	7.1	0.0	0.0	0.5
8	P13	8.7	0.0	-0.2	-1.1
8	P14	8.8	-0.8	-0.8	-0.5
8	P15	8.5	0.0	-0.1	-0.2
8	P16	8.4	-0.1	-0.1	0.3
8	P17	8.6	-0.3	-0.4	0.3
8	P18	8.5	0.0	-0.2	-0.1

8	P19	8.7	-0.1	-0.1	-0.1
8	P20	8.7	0.3	0.2	0.4
8	P21	8.5	0.4	0.4	-0.1
8	P22	8.4	0.4	0.4	0.5
8	P23	8.8	0.1	0.0	0.1
8	P24	8.3	0.1	0.1	0.3

LLCR 500 cycles

	mOhm values	Actual	Delta	Delta	Delta
Board	Position	Initial	500 Cycles	Thermal	Humidity
1	P1	8.0	-0.1	-0.1	-0.2
1	P2	7.3	0.4	0.5	0.4
1	P3	7.3	0.3	0.3	0.1
1	P4	7.5	0.0	0.2	0.0
1	P5	4.5	0.2	0.1	0.1
1	P6	4.7	-0.2	-0.1	-0.1
1	P7	7.9	0.0	0.0	0.0
1	P8	4.7	0.1	0.1	0.0
1	P9	7.8	-0.3	-0.2	-0.2
1	P10	7.9	0.2	0.1	0.0
1	P11	7.9	0.1	0.0	0.0
1	P12	7.8	0.1	0.1	0.0
1	P13	8.8	-0.2	-0.3	-0.4
1	P14	8.8	-0.4	-0.5	-0.6
1	P15	8.8	-0.5	-0.5	-0.5
1	P16	8.9	-0.3	-0.4	-0.3
1	P17	8.4	0.2	0.1	0.1
1	P18	8.4	0.1	0.1	0.0
1	P19	8.2	0.3	0.3	0.1
1	P20	8.4	0.1	0.0	-0.1
1	P21	8.6	0.1	-0.1	-0.1
1	P22	8.6	0.0	-0.2	-0.1
1	P23	8.9	-0.1	-0.3	-0.2
1	P24	8.6	0.2	0.0	0.0
2	P1	7.6	0.3	0.2	0.5
2	P2	7.6	0.2	0.2	0.0
2	P3	7.6	0.0	0.0	0.2
2	P4	7.4	0.0	0.1	0.5
2	P5	7.2	0.2	0.1	0.4
2	P6	7.4	-0.2	-0.2	0.2
2	P7	7.2	0.5	0.4	0.6
2	P8	4.5	0.0	0.0	0.2
2	P9	7.3	0.2	0.3	0.6
2	P10	7.4	0.1	0.2	0.3
2	P11	7.2	0.2	0.3	0.8
2	P12	7.5	0.3	0.2	0.3
2	P13	8.5	0.2	-0.1	0.0
2	P14	8.6	0.0	-0.2	0.2

2	P15	8.6	-0.1	-0.2	0.3
2	P16	8.6	-0.1	-0.3	0.5
2	P17	8.5	0.0	-0.2	0.9
2	P18	8.3	0.2	0.0	0.1
2	P19	8.4	-0.3	-0.3	0.7
2	P20	8.3	0.3	0.2	2.1
2	P21	8.3	0.1	0.0	1.0
2	P22	8.1	0.2	0.1	0.8
2	P23	8.2	0.3	0.1	0.4
2	P24	8.5	0.0	-0.2	0.5
3	P1	7.4	0.8	0.7	0.6
3	P2	7.3	0.1	0.1	0.0
3	P3	7.7	-0.1	-0.1	-0.2
3	P4	7.3	0.4	0.5	0.4
3	P5	7.1	0.4	0.4	0.3
3	P6	7.9	-0.5	-0.3	-0.5
3	P7	7.9	-0.4	-0.4	-0.5
3	P8	8.0	-0.3	-0.1	-0.2
3	P9	7.9	0.2	0.2	0.1
3	P10	7.7	-0.1	0.0	-0.1
3	P11	7.5	0.1	0.1	0.0
3	P12	8.1	-0.4	-0.2	-0.1
3	P13	8.8	0.0	-0.3	-0.4
3	P14	8.8	0.2	-0.1	-0.2
3	P15	8.6	0.2	0.1	0.1
3	P16	8.6	-0.1	-0.1	-0.2
3	P17	8.7	-0.1	-0.3	-0.3
3	P18	8.5	0.1	-0.1	-0.1
3	P19	8.5	0.0	0.1	-0.1
3	P20	8.3	0.4	0.3	0.2
3	P21	8.2	0.5	0.4	0.3
3	P22	8.4	0.6	0.5	0.4
3	P23	8.8	-0.1	-0.3	-0.4
3	P24	8.4	0.4	0.3	0.1
4	P1	8.1	-0.1	0.0	-0.1
4	P2	7.7	0.1	0.2	0.1
4	P3	7.8	0.1	0.2	0.1
4	P4	7.8	-0.1	0.2	-0.1
4	P5	4.4	0.0	0.0	0.0
4	P6	7.4	-0.3	-0.3	-0.3
4	P7	7.5	-0.3	-0.2	-0.2
4	P8	7.3	0.4	0.3	0.3
4	P9	7.3	0.4	0.4	0.3
4	P10	7.5	-0.3	-0.2	-0.3
4	P11	7.2	-0.3	-0.1	-0.1
4	P12	7.3	0.2	0.2	0.1
4	P13	8.9	-0.6	-0.7	-0.7
4	P14	8.6	-0.3	-0.4	-0.4
4	P15	8.9	-0.2	-0.3	-0.3
4	P16	8.9	-0.3	-0.5	-0.6

4	P17	8.8	-0.2	-0.4	-0.4
4	P18	8.3	0.1	-0.1	-0.2
4	P19	9.1	-0.2	-0.4	-0.4
4	P20	8.8	0.1	0.0	-0.1
4	P21	8.6	0.1	0.0	-0.1
4	P22	8.8	0.0	-0.3	-0.3
4	P23	8.9	0.4	-0.1	-0.1
4	P24	9.1	-0.7	-0.7	-0.8
5	P1	7.7	0.8	0.4	0.3
5	P2	7.8	0.0	0.0	-0.1
5	P3	7.9	-0.3	-0.1	-0.2
5	P4	7.5	0.2	0.1	0.0
5	P5	7.6	0.2	0.2	0.1
5	P6	7.8	0.4	0.2	0.1
5	P7	7.4	0.2	0.1	0.0
5	P8	7.8	0.0	-0.1	-0.2
5	P9	7.7	-0.2	-0.1	-0.1
5	P10	7.4	0.4	0.4	0.4
5	P11	7.6	0.4	0.1	0.0
5	P12	7.5	0.3	0.3	0.3
5	P13	8.5	-0.2	-0.4	-0.4
5	P14	8.6	-0.1	-0.3	-0.3
5	P15	8.7	-0.3	-0.5	-0.6
5	P16	8.8	-0.3	-0.4	-0.4
5	P17	8.5	0.4	0.1	0.1
5	P18	8.5	-0.2	-0.2	-0.3
5	P19	8.5	0.5	0.3	0.7
5	P20	8.4	0.3	0.2	0.2
5	P21	8.7	-0.1	-0.3	-0.3
5	P22	8.6	0.3	0.0	-0.1
5	P23	8.9	0.1	-0.2	-0.3
5	P24	8.6	0.6	0.1	0.0
6	P1	8.3	-0.1	-0.1	-0.2
6	P2	7.9	0.0	0.0	0.0
6	P3	8.0	-0.1	0.0	-0.1
6	P4	7.7	0.2	0.3	0.2
6	P5	7.8	0.3	0.3	0.2
6	P6	7.4	0.0	0.1	0.0
6	P7	7.7	-0.2	-0.3	-0.4
6	P8	7.4	0.2	0.1	0.0
6	P9	7.4	-0.2	-0.3	-0.3
6	P10	7.8	-0.6	-0.7	-0.7
6	P11	7.7	0.0	-0.1	-0.1
6	P12	7.6	0.1	-0.2	-0.2
6	P13	10.1	-1.5	-1.8	-1.8
6	P14	9.4	-1.2	-1.3	-1.4
6	P15	9.6	-1.2	-1.5	-1.6
6	P16	8.8	-0.4	-0.5	-0.5
6	P17	8.9	-0.5	-0.8	-0.8
6	P18	8.8	-0.6	-0.7	-0.8

6	P19	9.1	-0.5	-0.5	-0.7
6	P20	9.2	-0.3	-0.5	-0.5
6	P21	8.9	0.0	-0.1	-0.1
6	P22	9.1	-0.3	-0.4	-0.5
6	P23	8.9	0.4	0.0	-0.1
6	P24	8.9	0.3	0.1	0.0
7	P1	7.9	-0.3	-0.2	-0.1
7	P2	7.7	-0.1	-0.1	-0.2
7	P3	7.9	0.2	0.1	0.0
7	P4	7.6	-0.2	-0.2	-0.3
7	P5	7.6	0.2	0.1	0.0
7	P6	7.7	0.0	0.0	-0.1
7	P7	7.6	-0.2	-0.3	-0.4
7	P8	7.1	0.1	0.1	0.0
7	P9	7.6	0.1	0.1	0.0
7	P10	7.3	-0.1	-0.1	-0.1
7	P11	7.9	0.0	-0.1	-0.2
7	P12	7.3	-0.1	-0.1	-0.1
7	P13	8.7	0.3	0.0	0.0
7	P14	8.9	-0.5	-0.7	-0.7
7	P15	8.7	-0.1	-0.4	-0.4
7	P16	8.8	-0.2	-0.4	-0.5
7	P17	8.8	-0.4	-0.5	-0.6
7	P18	8.6	-0.2	-0.1	-0.2
7	P19	8.6	-0.1	-0.1	-0.2
7	P20	8.6	-0.2	-0.3	-0.4
7	P21	9.0	-0.5	-0.9	-0.9
7	P22	9.1	-0.6	-0.7	-0.7
7	P23	8.9	-0.4	-0.5	-0.5
7	P24	8.7	0.0	-0.4	-0.4
8	P1	7.5	0.0	0.0	0.0
8	P2	7.5	0.5	0.1	0.1
8	P3	7.3	-0.1	-0.2	-0.3
8	P4	7.6	-0.4	-0.3	-0.4
8	P5	4.4	0.1	0.0	0.0
8	P6	4.7	0.2	0.1	0.1
8	P7	7.6	0.1	0.2	0.1
8	P8	7.6	0.3	0.2	0.2
8	P9	7.7	0.1	0.0	0.0
8	P10	7.5	0.3	0.4	0.2
8	P11	7.6	0.2	0.1	0.1
8	P12	7.9	0.1	0.0	0.0
8	P13	8.6	0.2	0.1	0.0
8	P14	9.2	-0.5	-0.6	-0.7
8	P15	8.5	0.0	-0.1	-0.2
8	P16	8.6	0.1	0.1	0.0
8	P17	8.5	0.4	0.3	0.2
8	P18	8.5	0.1	0.1	0.1
8	P19	8.6	0.1	0.0	-0.1
8	P20	8.3	0.2	0.2	0.0

Tracking Code: 115836 Report Rev 1	Part #: SOLC-125-02-S-Q\TOLC-125-02-S-Q
Part description: SOLC\TOLC	

8	P21	8.4	0.4	0.2	0.1
8	P22	8.7	0.3	0.1	0.0
8	P23	8.6	0.5	0.4	0.3
8	P24	8.6	0.2	0.0	-0.1

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** HZ-TCT-01**Description:** Normal force analyzer**Manufacturer:** Mecmesin Multitester**Model:** Mecmesin Multitester 2.5-i**Serial #:** 08-1049-04**Accuracy:** Last Cal: 4/27/2011, Next Cal: 4/26/2012**Equipment #:** HZ-OV-01**Description:** Oven**Manufacturer:** Huida**Model:** CS101-1E**Serial #:** CS101-1E-B**Accuracy:** Last Cal: 12/14/2010, Next Cal: 12/13/2011**Equipment #:** HZ-THC-01**Description:** Humidity transmitter**Manufacturer:** Thermtron**Model:** HMM30C**Serial #:** D0240037**Accuracy:** Last Cal: 3/2/2011, Next Cal: 3/1/2012**Equipment #:** HZ-OGP-01**Description:** Video measurement system**Manufacturer:** OGP**Model:** SMARTSCOPE FLASH 200**Serial #:** SVW2003632**Accuracy:** Last Cal: 6/9/2011, Next Cal: 6/8/2012**Equipment #:** HZ-MO-01**Description:** Micro-ohmmeter**Manufacturer:** Keithley**Model:** 2700**Serial #:** 1199807**Accuracy:** Last Cal: 4/27/2011, Next Cal: 4/26/2012**Equipment #:** HZ-PS-01**Description:** Power Supply**Manufacturer:** Agilent**Model:** 6031A**Serial #:** MY41000982**Accuracy:** Last Cal: 4/27/2011, Next Cal: 4/26/2012**Equipment #:** HZ-TSC-01**Description:** Vertical Thermal Shock Chamber**Manufacturer:** Cincinnatti Sub Zero**Model:** VTS-3-6-6-SC/AC**Serial #:** 10-VT14994**Accuracy:** See Manual

... Last Cal: 06/28/2011, Next Cal: 06/27/2012

EQUIPMENT AND CALIBRATION SCHEDULES Continued**Equipment #:** HZ-HPM-01**Description:** NA9636H**Manufacturer:** Ainuo**Model:** 6031A**Serial #:** 089601091**Accuracy:** Last Cal: 3/8/2011, Next Cal: 3/7/2012**Equipment #:** SVC-01**Description:** Shock & Vibration Table**Manufacturer:** Data Physics**Model:** LE-DSA-10-20K**Serial #:** 10037**Accuracy:** See Manual

... Last Cal: 11/31/2010, Next Cal: 11/31/2011

Equipment #: ACLM-01**Description:** Accelerometer**Manufacturer:** PCB Piezotronics**Model:** 352C03**Serial #:** 115819**Accuracy:** See Manual

... Last Cal: 07/09/2011, Next Cal: 07/09/2012

Equipment #: ED-03**Description:** Event Detector**Manufacturer:** Analysis Tech**Model:** 32EHD**Serial #:** 1100604**Accuracy:** See Manual

... Last Cal: 06/04/2011, Next Cal: 06/04/2012