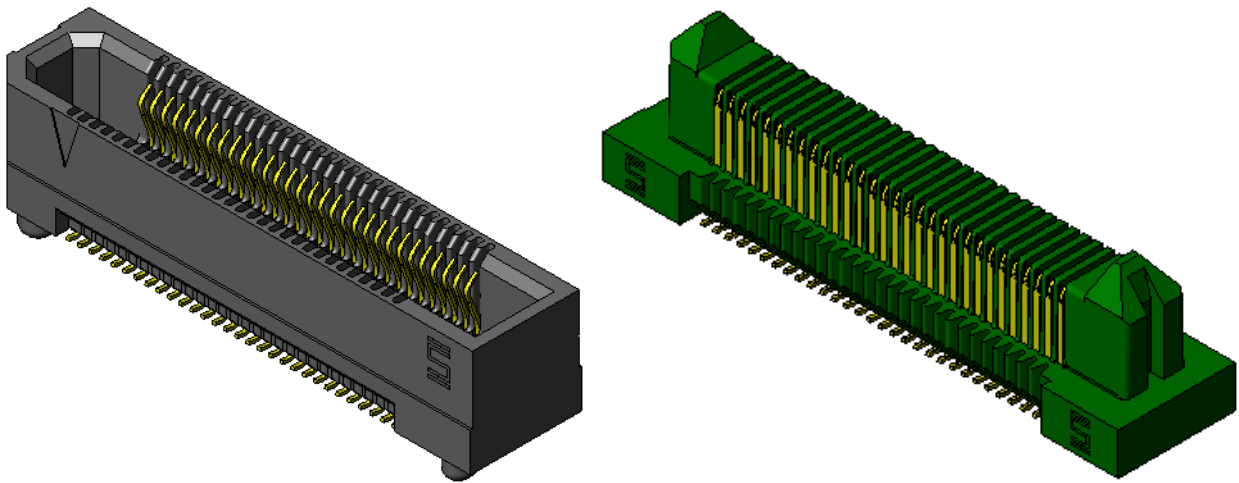




Project Number: Design Verification Test		Tracking Code: TC0926—2581_Report_Rev_1	
Requested by: Neal Patterson		Date: 10/27/2009	Product Rev: 2
Part #: ERM5-050-05.0-L-DV / ERF5-050-05.0-L-DV		Lot #: na	Tech: Rodney Riley Gary Lomax Troy Cook
Eng: Eric Mings Mark Shireman			
Part description: 0.5mm Edge Rate Assembly			Qty to test: 50
Test Start: 06/26/2009		Test Completed: 8/28/2009	



Design Verification Test Report

PART DESCRIPTION

ERM5-050-05.0-L-DV / ERF5-050-05.0-L-DV

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

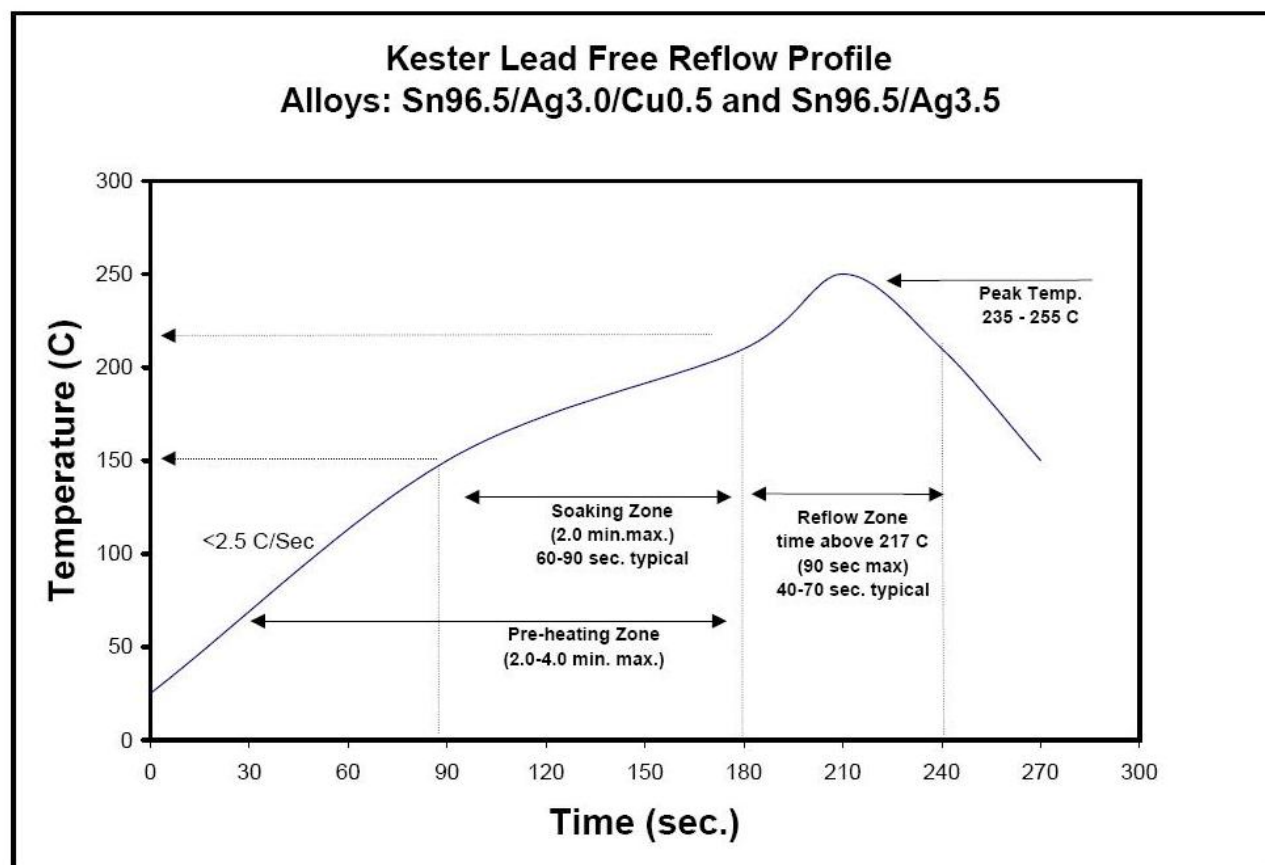
To perform the following tests: Design verification test. See test plan.

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 Reflow
- 9) Re-Flow Time/Temp: See accompanying profile.
- 10) Samtec Test PCBs used: PCB-101449-TST / PCB-101452-TST

TYPICAL OVEN PROFILE (Soldering Parts to Test Boards)

FLOWCHARTS

Gas Tight

TEST STEP	GROUP A 200 Points (min)
01	LLCR-1
02	Gas Tight
03	LLCR-2

Gas Tight = EIA-364-36A

LLCR = EIA-364-23, LLCR

Mating/Unmating/Gaps/Normal Force/Deflection Force

TEST STEP	GROUP A 10 Boards (each position submitted)	GROUP B1 Individual Contacts (8-10 min)	GROUP B2 Individual Contacts (8-10 min)
01	Contact Gaps	Setup Approve	Setup Approve
02	Mating / Unmating	Normal Force	Thermal Aging (Mated)
03	25 Cycles		Normal Force
04	Clean w/Compressed Air		
05	Mating / Unmating		
06	25 Cycles (50 Total)		
07	Clean w/Compressed Air		
08	Mating / Unmating		
09	25 Cycles (75 Total)		
10	Clean w/Compressed Air		
11	Mating / Unmating		
12	25 Cycles (100 Total)		
13	Clean w/Compressed Air		
14	Mating / Unmating		
15	Contact Gaps		
16	Thermal Aging (Mated)		
17	Mating / Unmating		
18	Contact Gaps		
19	Cyclic Humidity (Mated)		
20	Mating / Unmating		
21	Contact Gaps		

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

Time Condition 'B' (250 hours)

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/Un-Mating Forces = EIA-364-13

Normal Force = EIA-364-04

(Perpendicular) displacement Force = 12.7 mm/min +/- 6 mm/min

Spec is 50 N @ 1 mm displacement

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

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 B 2 Mated Sets Pin to Pin
01	DWV/Break Down Voltage	DWV/Break Down Voltage	IR & DWV at test voltage (on both mated sets and on each connector unmated)
02			Thermal Aging (both sets unmated)
03			IR & DWV at test voltage (on both mated sets and on each connector unmated)
04			Cyclic Humidity (both sets unmated)
05			IR & DWV at test voltage (on both mated sets and on each connector unmated)

* - DWV on group B to be performed at Test Voltage

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

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

Time Condition 'B' (250 hours)

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

Durability/Thermal Age/Cyclic Humidity

TEST STEP	GROUP A 200 Points 100 Cycles
01	LLCR-1
02	100 Cycles
03	Clean Mating Interface
04	LLCR-2
05	Thermal Age (Mated and undisturbed)
06	LLCR-3
07	Cyclic Humidity (Mated and undisturbed)
08	LLCR-4

Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;

Time Condition 'B' (250 hours)

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

use Keithley 580 in the dry circuit mode, 10 mA Max

Current Carrying Capacity

TEST STEP	GROUP A 3 Mated Assemblies 2 CONTACT POWERED	GROUP B 3 Mated Assemblies 4 CONTACTS POWERED	GROUP C 3 Mated Assemblies 6 CONTACTS POWERED	GROUP D 3 Mated Assemblies 8 CONTACTS POWERED	GROUP E 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

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

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.

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.

NORMAL FORCE (FOR CONTACTS TESTED IN THE HOUSING):

- 1) Reference document: EIA-364-04, *Normal Force Test Procedure for Electrical Connectors*.
- 2) The contacts shall be tested in the connector housing.
- 3) If necessary, a "window" shall be made in the connector body to allow a probe to engage and deflect the contact at the same attitude and distance (plus 0.05 mm [0.002"]) as would occur in actual use.
- 4) The connector housing shall be placed in a holding fixture that does not interfere with or otherwise influence the contact force or deflection.
- 5) 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 5.0 µm (0.0002").
- 6) The nominal deflection rate shall be 5 mm (0.2")/minute.
- 7) Unless otherwise noted a minimum of five contacts shall be tested.
- 8) The force/deflection characteristic to load and unload each contact shall be repeated five times.
- 9) The system shall utilize the TC² software in order to acquire and record the test data.
- 10) The permanent set of each contact shall be measured within the TC² software.
- 11) 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.

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

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-----1.5A per contact with 2 adjacent contacts powered
- CCC for a 30°C Temperature Rise-----1.3A per contact with 4 adjacent contacts powered
- CCC for a 30°C Temperature Rise-----1.1A per contact with 6 adjacent contacts powered
- CCC for a 30°C Temperature Rise-----1.0A per contact with 8 adjacent contacts powered
- CCC for a 30°C Temperature Rise-----0.4A per contact with all adjacent contacts powered

Contact Gaps

- Initial
 - Min-----1.78mm
 - Max -----1.87mm
- After 100 Cycles
 - Min-----1.80mm
 - Max -----1.92mm
- Thermal
 - Min-----1.90mm
 - Max -----1.98mm
- Humidity
 - Min-----1.90mm
 - Max -----1.98mm

Mating – Unmating Forces

- **Initial**
 - **Mating**
 - **Min** ----- 3.53 Lbs
 - **Max** ----- 3.95 Lbs
 - **Unmating**
 - **Min** ----- 1.38 Lbs
 - **Max** ----- 1.86 Lbs
- **After 25 Cycles**
 - **Mating**
 - **Min** ----- 3.67 Lbs
 - **Max** ----- 4.28 Lbs
 - **Unmating**
 - **Min** ----- 1.36 Lbs
 - **Max** ----- 2.28 Lbs
- **After 50 Cycles**
 - **Mating**
 - **Min** ----- 3.32 Lbs
 - **Max** ----- 4.47 Lbs
 - **Unmating**
 - **Min** ----- 1.56 Lbs
 - **Max** ----- 2.47 Lbs
- **After 75 Cycles**
 - **Mating**
 - **Min** ----- 3.49 Lbs
 - **Max** ----- 4.56 Lbs
 - **Unmating**
 - **Min** ----- 1.58 Lbs
 - **Max** ----- 2.58 Lbs
- **After 100 Cycles**
 - **Mating**
 - **Min** ----- 3.61 Lbs
 - **Max** ----- 4.63 Lbs
 - **Unmating**
 - **Min** ----- 1.75 Lbs
 - **Max** ----- 2.52 Lbs
- **Thermal**
 - **Mating**
 - **Min** ----- 2.72 Lbs
 - **Max** ----- 3.72 Lbs
 - **Unmating**
 - **Min** ----- 1.10 Lbs
 - **Max** ----- 2.03 Lbs
- **Humidity**
 - **Mating**
 - **Min** ----- 3.16 Lbs
 - **Max** ----- 3.64 Lbs
 - **Unmating**
 - **Min** ----- 1.36 Lbs
 - **Max** ----- 1.91 Lbs

Normal Force at .012" deflection

- **Initial**
 - **Min**-----**32.40 g** **Set ---- 0.0002"**
 - **Max**-----**35.70 g** **Set ---- 0.0005"**
- **Thermal**
 - **Min**-----**35.40 g**
 - **Max**-----**38.20 g**

Insulation Resistance minimums, IR

- **Initial**
 - **Mated**-----**100,000 Meg Ω** -----**Pass**
 - **Unmated**-----**100,000 Meg Ω** -----**Pass**
- **Thermal**
 - **Mated**-----**100,000 Meg Ω** -----**Pass**
 - **Unmated**-----**100,000 Meg Ω** -----**Pass**
- **Humidity**
 - **Mated**-----**100,000 Meg Ω** -----**Pass**
 - **Unmated**-----**100,000 Meg Ω** -----**Pass**

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
 - **Breakdown Voltage**-----**770 VAC**
 - **Test Voltage**-----**578 VAC**
 - **Working Voltage**-----**193 VAC**
- **Initial DWV**-----**Passed**
- **Thermal DWV**-----**Passed**
- **Humidity DWV**-----**Passed**

LLCR Durability (200 LLCR test points)

- **Initial**----- 24.6 mOhms Max
- **Durability, 100 Cycles**
 - o <= +5.0 mOhms ----- 200 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 ----- 200 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 ----- 200 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

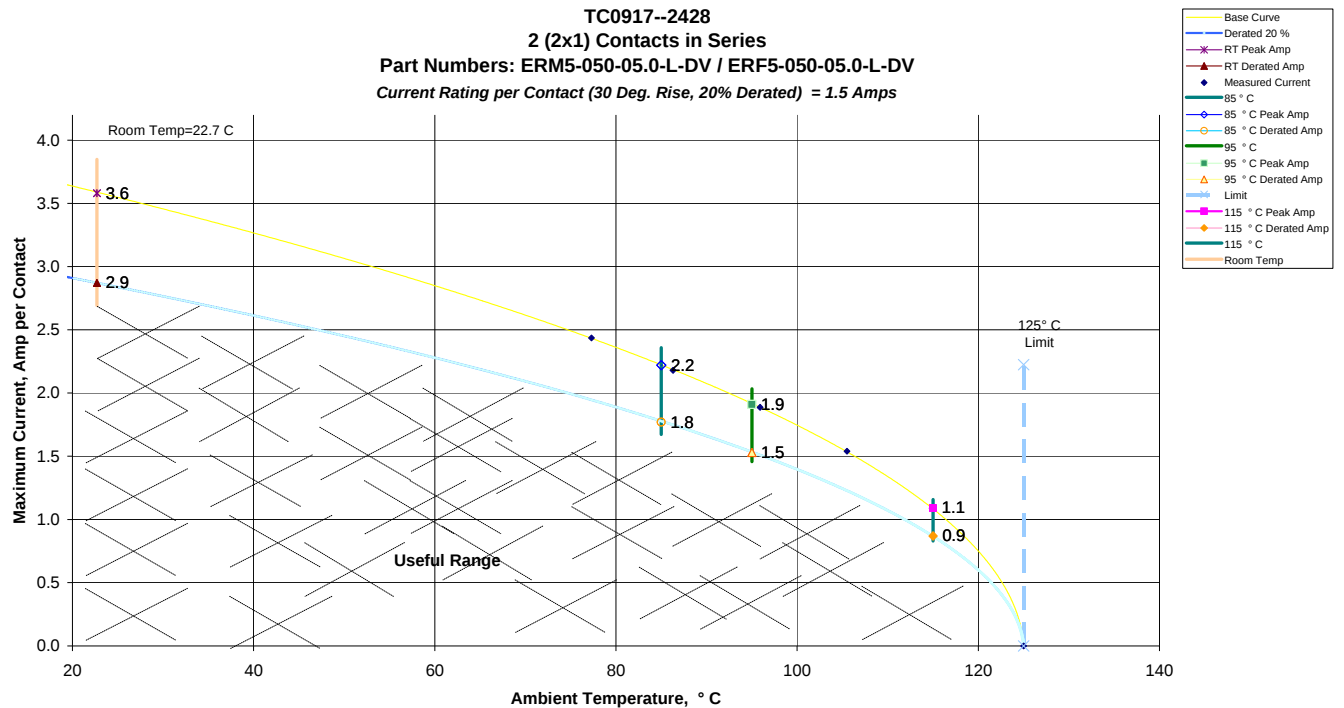
LLCR Gas Tight (200 LLCR test points)

- **Initial**----- 30.3 mOhms Max
- **Gas-Tight**
 - o <= +5.0 mOhms ----- 198 Points ----- Stable
 - o +5.1 to +10.0 mOhms ----- 2 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

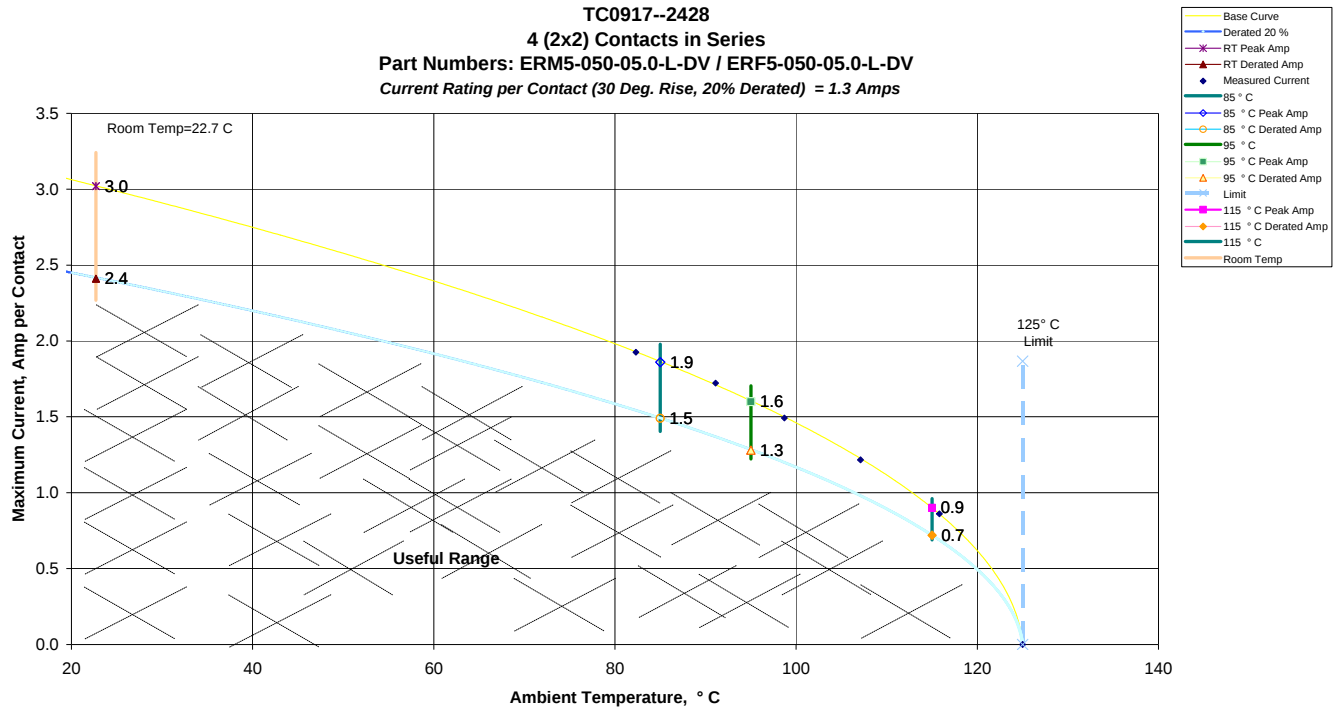
DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

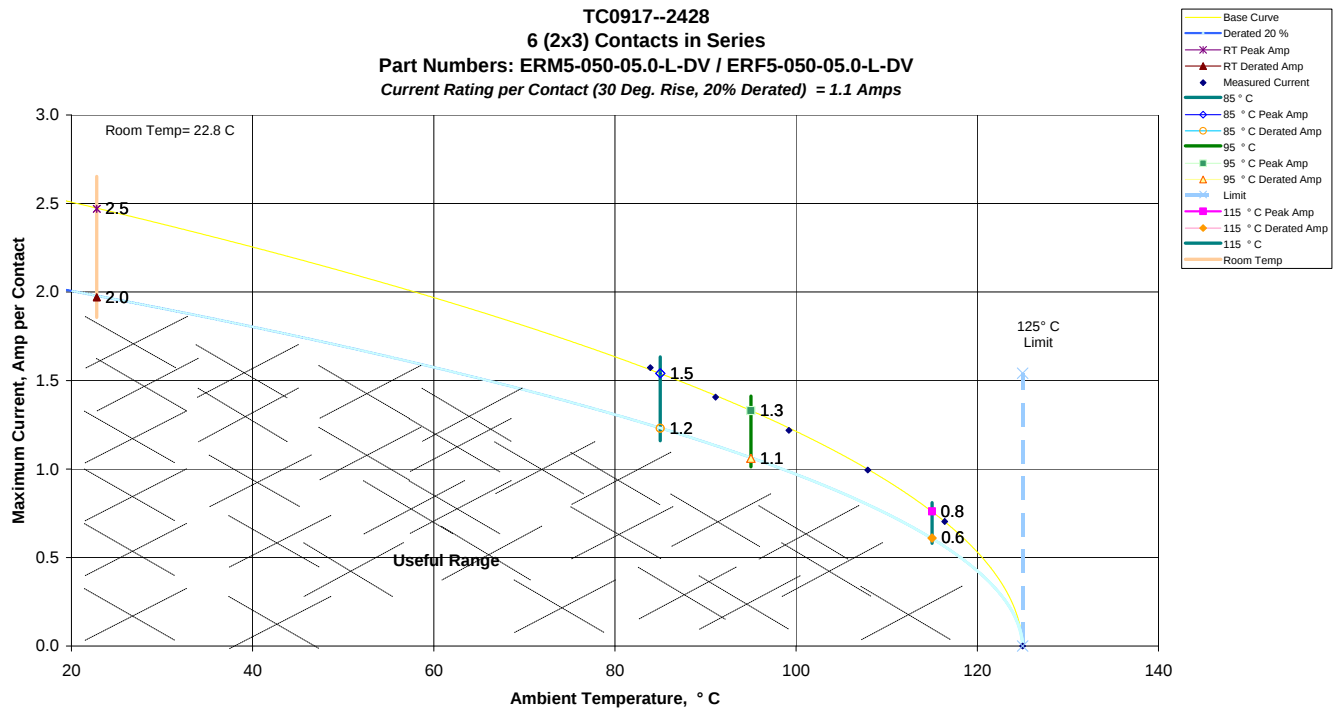
- 1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
- 2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
- 3) Temperature readings recorded are those for which three successive readings, 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



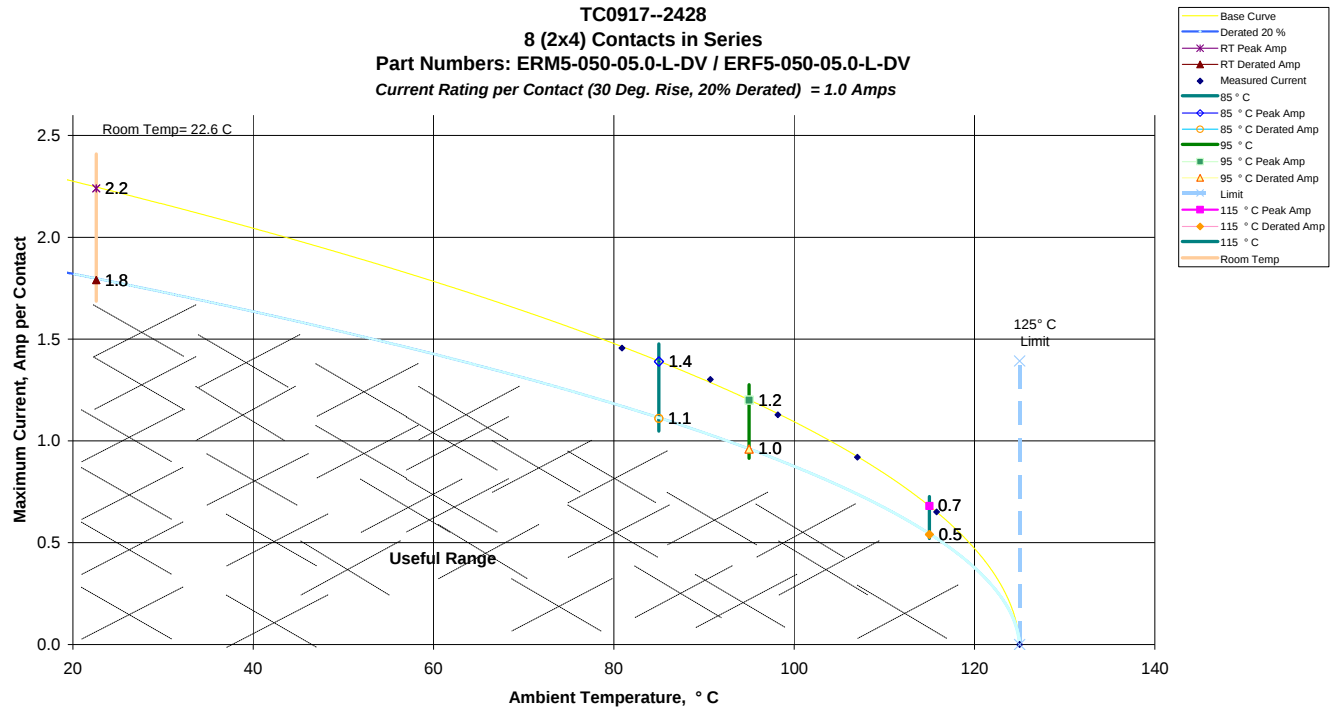
b. Linear configuration with 4 adjacent conductors/contacts powered



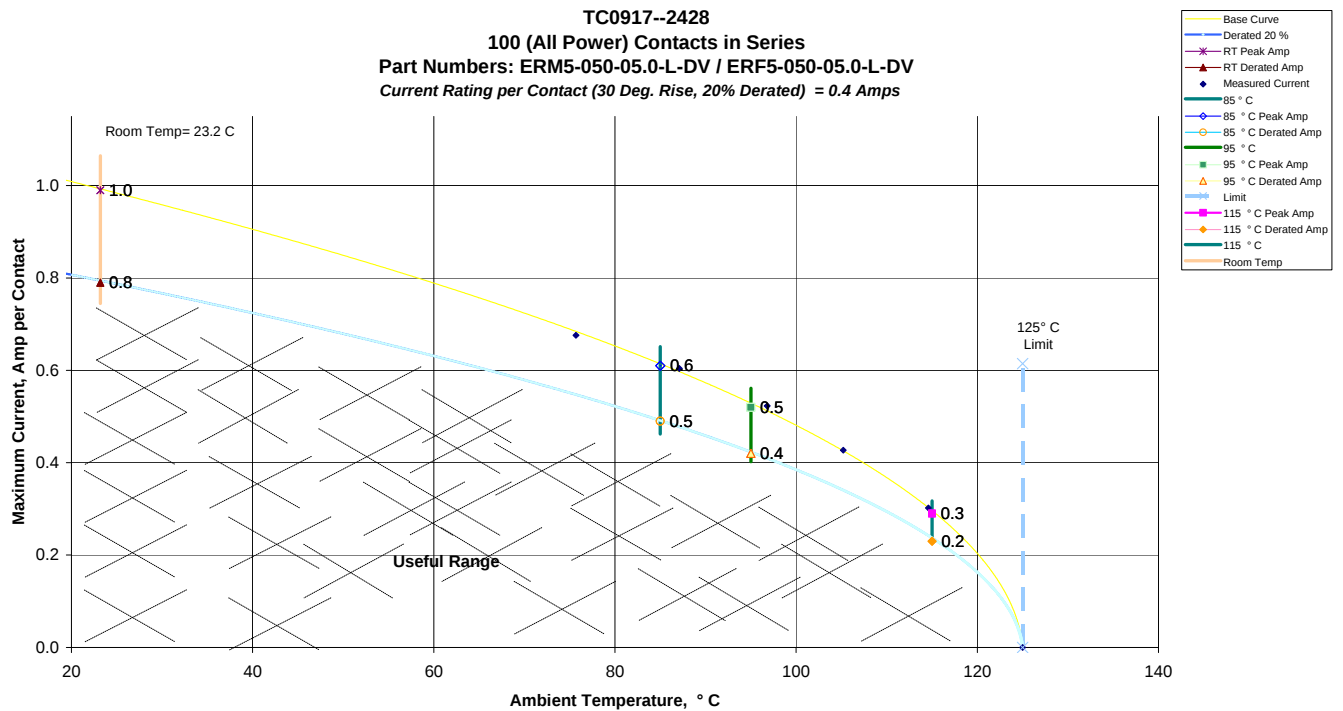
c. Linear configuration with 6 adjacent conductors/contacts powered



d. Linear configuration with 8 adjacent conductors/contacts powered



e. Linear configuration with all adjacent conductors/contacts powered



CONTACT GAPS:

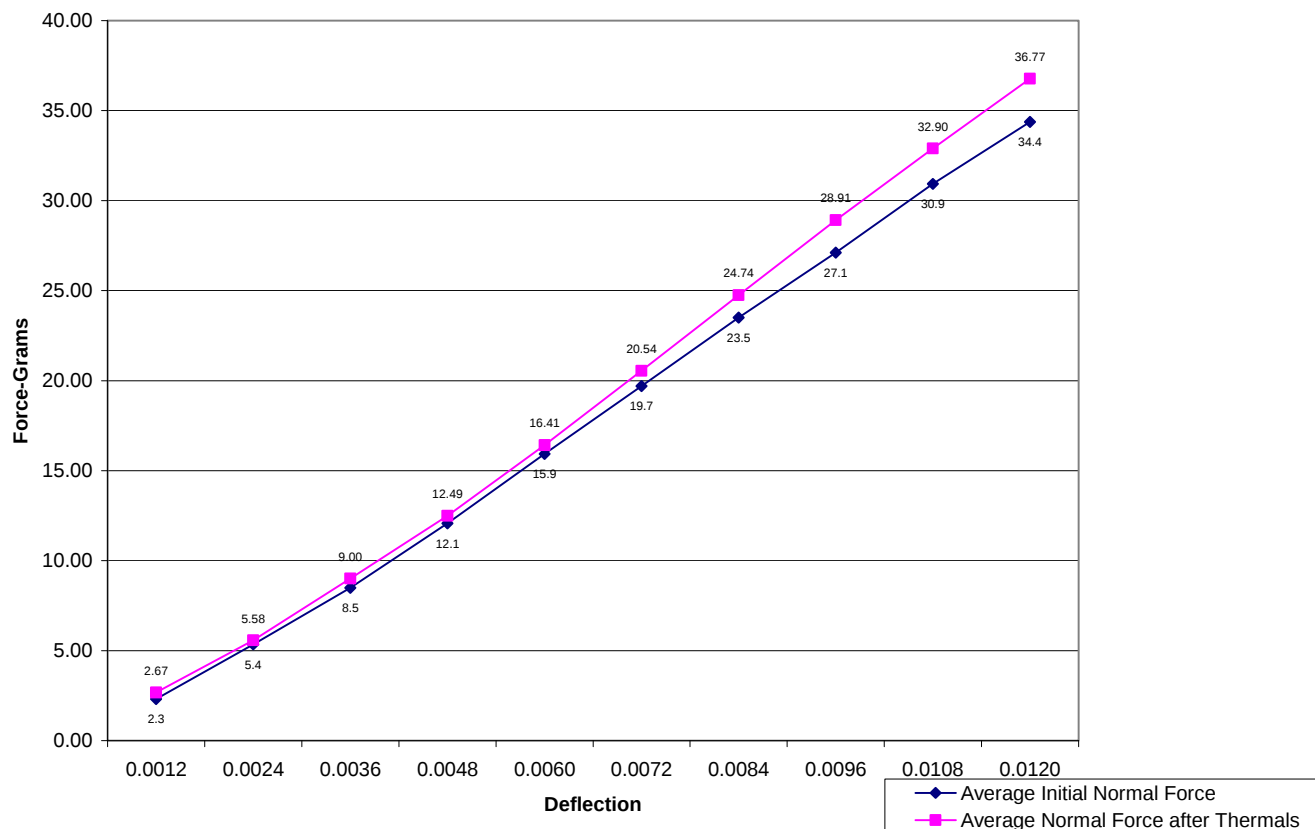
Initial		After 100 Cycles		After Thermal		After Humidity	
Units:	mm	Units:	mm	Units:	mm	Units:	mm
<i>Minimum</i>	1.7780	<i>Minimum</i>	1.8039	<i>Minimum</i>	1.8960	<i>Minimum</i>	1.8960
<i>Maximum</i>	1.8700	<i>Maximum</i>	1.9179	<i>Maximum</i>	1.9840	<i>Maximum</i>	1.9780
<i>Average</i>	1.8254	<i>Average</i>	1.8583	<i>Average</i>	1.9331	<i>Average</i>	1.9335
<i>St. Dev.</i>	0.0135	<i>St. Dev.</i>	0.0158	<i>St. Dev.</i>	0.0147	<i>St. Dev.</i>	0.0145
<i>Count</i>	500	<i>Count</i>	500	<i>Count</i>	500	<i>Count</i>	500

MATING/UNMATING:

	Initial				After 25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	56.48	3.53	22.08	1.38	58.72	3.67	21.76	1.36
Maximum	63.20	3.95	29.76	1.86	68.48	4.28	36.48	2.28
Average	60.02	3.75	24.50	1.53	62.59	3.91	29.10	1.82
	After 50 Cycles				After 75 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	53.12	3.32	24.96	1.56	55.84	3.49	25.28	1.58
Maximum	71.52	4.47	39.52	2.47	72.96	4.56	41.28	2.58
Average	63.15	3.95	30.37	1.90	64.32	4.02	32.69	2.04
	After 100 Cycles				After Thermals			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	57.76	3.61	28.00	1.75	43.52	2.72	17.60	1.10
Maximum	74.08	4.63	40.32	2.52	59.52	3.72	32.48	2.03
Average	64.38	4.02	33.33	2.08	49.31	3.08	23.41	1.46
	After Humidity							
	Mating		Unmating					
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)				
Minimum	50.56	3.16	21.76	1.36				
Maximum	58.24	3.64	30.56	1.91				
Average	55.55	3.47	25.71	1.61				

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.

Normal Force - Average Initial vs Average Thermal

Initial	Deflections in inches Forces in Grams											
Averages	<u>0.0012</u>	<u>0.0024</u>	<u>0.0036</u>	<u>0.0048</u>	<u>0.0060</u>	<u>0.0072</u>	<u>0.0084</u>	<u>0.0096</u>	<u>0.0108</u>	<u>0.0120</u>	<i>SET</i>	
	2.31	5.35	8.49	12.07	15.93	19.69	23.50	27.11	30.93	34.37	0.0004	
	Min	1.80	4.60	7.20	10.40	13.90	18.00	21.70	25.30	29.00	32.40	0.0002
	Max	2.90	6.10	9.60	13.30	17.40	21.20	25.10	28.70	32.40	35.70	0.0005
	St. Dev	0.300	0.532	0.709	0.873	0.996	0.995	0.999	1.012	1.060	1.076	0.0001
Count	10	10	10	10	10	10	10	10	10	10	10	

After Thermals	Deflections in inches Forces in Grams										
	<u>0.0012</u>	<u>0.0024</u>	<u>0.0036</u>	<u>0.0048</u>	<u>0.0060</u>	<u>0.0072</u>	<u>0.0084</u>	<u>0.0096</u>	<u>0.0108</u>	<u>0.0120</u>	<i>SET</i>
Averages	2.67	5.58	9.00	12.49	16.41	20.54	24.74	28.91	32.90	36.77	0.0004
Min	2.10	4.50	7.90	11.30	15.40	19.40	23.20	27.50	31.30	35.40	0.0001
Max	3.30	6.40	9.80	13.60	17.40	21.70	26.10	30.20	34.50	38.20	0.0007
St. Dev	0.347	0.730	0.744	0.745	0.796	0.800	1.019	1.026	1.123	1.015	0.0002
Count	10	10	10	10	10	10	10	10	10	10	10

INSULATION RESISTANCE (IR):

	Pin to Pin		
	Mated	Unmated	Unmated
Minimum	ERM5/ERF5	ERM5	ERF5
Initial	100000	100000	Not Tested
Thermal	100000	100000	Not Tested
Humidity	100000	100000	Not Tested

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	ERM5/ERF5
Break Down Voltage	770
Test Voltage	578
Working Voltage	193

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

LLCR:

- 1) A total of 200 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	Jul. 13 2009	Jul. 14 2009	Jul. 27 2009	Aug. 10 2009
Room Temp C	24	23.3	22	24
RH	50%	48%	53%	44%
Name	Lomax	Troy Cook	RILEY	Troy Cook
mOhm values	Actual Initial	Delta 100 Cycles	Delta Thermal	Delta Humidity
Average	22.4	-0.4	0.9	-0.5
St. Dev.	1.0	0.6	1.2	0.7
Min	20.5	-1.9	-1.8	-2.3
Max	24.6	2.0	4.7	3.6
Count	200	200	200	200

GAS TIGHT:

- 1) A total of 200 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	Apr. 23 2009	Apr. 23 2009
Room Temp C	24	25
RH	26%	26%
Name	Lomax	RILEY
mOhm values	Actual Initial	Delta Gas Tight
Average	22.5	0.4
St. Dev.	1.5	1.2
Min	19.5	-1.6
Max	30.3	8.2
Count	200	200

DATA

CONTACT GAPS:

Initial										
Units: mm										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.860	1.846	1.846	1.868	1.852	1.864	1.870	1.842	1.864	1.852
2	1.870	1.848	1.858	1.854	1.852	1.856	1.852	1.864	1.862	1.838
3	1.854	1.830	1.832	1.848	1.842	1.866	1.852	1.838	1.854	1.828
4	1.860	1.832	1.844	1.834	1.842	1.836	1.834	1.844	1.838	1.828
5	1.834	1.818	1.826	1.836	1.826	1.820	1.828	1.810	1.832	1.804
6	1.860	1.830	1.844	1.844	1.848	1.838	1.834	1.840	1.840	1.834
7	1.830	1.820	1.814	1.840	1.830	1.826	1.828	1.792	1.816	1.826
8	1.836	1.820	1.818	1.822	1.840	1.830	1.840	1.838	1.814	1.830
9	1.828	1.818	1.816	1.830	1.836	1.822	1.828	1.806	1.816	1.820
10	1.842	1.822	1.834	1.814	1.832	1.824	1.826	1.848	1.836	1.836
11	1.836	1.820	1.828	1.832	1.840	1.820	1.838	1.812	1.822	1.828
12	1.848	1.826	1.828	1.802	1.842	1.816	1.836	1.832	1.830	1.834
13	1.846	1.820	1.822	1.830	1.838	1.834	1.840	1.834	1.830	1.812
14	1.814	1.808	1.812	1.816	1.812	1.814	1.822	1.816	1.820	1.814
15	1.822	1.828	1.824	1.836	1.828	1.838	1.830	1.826	1.822	1.822
16	1.810	1.816	1.814	1.812	1.820	1.814	1.826	1.814	1.802	1.806
17	1.824	1.822	1.812	1.820	1.824	1.822	1.832	1.824	1.810	1.812
18	1.818	1.832	1.828	1.832	1.828	1.810	1.836	1.828	1.820	1.826
19	1.826	1.816	1.824	1.840	1.842	1.826	1.840	1.812	1.830	1.822
20	1.824	1.818	1.838	1.826	1.834	1.826	1.836	1.826	1.824	1.818
21	1.824	1.810	1.804	1.818	1.828	1.824	1.832	1.814	1.822	1.812
22	1.822	1.810	1.824	1.812	1.818	1.840	1.828	1.824	1.822	1.810
23	1.826	1.814	1.814	1.838	1.826	1.822	1.828	1.812	1.836	1.806
24	1.832	1.820	1.822	1.818	1.828	1.820	1.830	1.828	1.830	1.798
25	1.838	1.818	1.820	1.834	1.822	1.818	1.838	1.828	1.818	1.810
26	1.834	1.826	1.814	1.840	1.832	1.812	1.852	1.840	1.832	1.812
27	1.812	1.818	1.820	1.828	1.818	1.828	1.830	1.806	1.808	1.800
28	1.832	1.818	1.818	1.818	1.828	1.808	1.842	1.826	1.818	1.814
29	1.816	1.816	1.808	1.828	1.830	1.820	1.836	1.818	1.808	1.802
30	1.824	1.828	1.836	1.830	1.830	1.820	1.836	1.834	1.830	1.814
31	1.828	1.816	1.816	1.822	1.814	1.818	1.830	1.796	1.824	1.802
32	1.832	1.828	1.832	1.830	1.826	1.818	1.832	1.824	1.818	1.814
33	1.830	1.808	1.824	1.822	1.822	1.822	1.844	1.808	1.812	1.812
34	1.828	1.832	1.842	1.832	1.826	1.818	1.842	1.834	1.812	1.804
35	1.834	1.830	1.830	1.840	1.832	1.822	1.842	1.830	1.836	1.814
36	1.832	1.820	1.822	1.822	1.824	1.808	1.832	1.824	1.828	1.804
37	1.830	1.822	1.832	1.820	1.830	1.816	1.830	1.818	1.824	1.802
38	1.834	1.822	1.834	1.822	1.830	1.814	1.826	1.832	1.808	1.808
39	1.846	1.822	1.848	1.828	1.824	1.836	1.844	1.838	1.824	1.806
40	1.832	1.824	1.844	1.826	1.824	1.816	1.818	1.826	1.826	1.818
41	1.822	1.832	1.828	1.828	1.816	1.824	1.828	1.836	1.820	1.816
42	1.816	1.832	1.820	1.820	1.826	1.814	1.838	1.836	1.822	1.824
43	1.840	1.836	1.826	1.852	1.840	1.832	1.846	1.824	1.848	1.822
44	1.788	1.824	1.814	1.814	1.808	1.800	1.812	1.802	1.808	1.792
45	1.814	1.824	1.824	1.826	1.828	1.808	1.838	1.826	1.824	1.814
46	1.808	1.824	1.816	1.820	1.808	1.812	1.824	1.814	1.814	1.810
47	1.822	1.818	1.818	1.814	1.818	1.820	1.832	1.812	1.802	1.812
48	1.812	1.808	1.826	1.816	1.816	1.804	1.810	1.814	1.780	1.814
49	1.840	1.834	1.840	1.826	1.846	1.820	1.822	1.812	1.826	1.822
50	1.824	1.822	1.830	1.796	1.812	1.778	1.800	1.804	1.796	1.804

After 100 Cycles										
Units: mm										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.886	1.866	1.866	1.878	1.886	1.900	1.902	1.884	1.876	1.876
2	1.898	1.888	1.884	1.896	1.888	1.904	1.906	1.908	1.886	1.868
3	1.888	1.872	1.892	1.884	1.886	1.908	1.918	1.896	1.884	1.854
4	1.888	1.866	1.890	1.880	1.888	1.884	1.902	1.882	1.876	1.854
5	1.842	1.856	1.856	1.864	1.864	1.874	1.882	1.852	1.860	1.844
6	1.870	1.860	1.878	1.882	1.880	1.890	1.894	1.878	1.870	1.862
7	1.858	1.858	1.858	1.872	1.862	1.880	1.886	1.870	1.864	1.858
8	1.868	1.862	1.852	1.860	1.882	1.872	1.894	1.886	1.852	1.874
9	1.832	1.844	1.836	1.862	1.856	1.862	1.876	1.854	1.846	1.852
10	1.846	1.862	1.882	1.862	1.866	1.866	1.880	1.884	1.858	1.870
11	1.854	1.860	1.860	1.850	1.872	1.866	1.884	1.846	1.850	1.844
12	1.864	1.864	1.868	1.860	1.868	1.858	1.862	1.876	1.866	1.870
13	1.852	1.856	1.850	1.852	1.864	1.862	1.872	1.826	1.804	1.838
14	1.832	1.840	1.848	1.850	1.842	1.848	1.850	1.848	1.856	1.858
15	1.852	1.844	1.856	1.866	1.866	1.860	1.876	1.858	1.856	1.818
16	1.850	1.840	1.854	1.848	1.846	1.854	1.862	1.844	1.840	1.846
17	1.850	1.850	1.822	1.846	1.854	1.864	1.868	1.848	1.844	1.818
18	1.850	1.864	1.864	1.866	1.860	1.858	1.882	1.870	1.856	1.862
19	1.856	1.856	1.862	1.866	1.872	1.860	1.882	1.838	1.858	1.850
20	1.854	1.858	1.870	1.858	1.860	1.858	1.880	1.860	1.850	1.854
21	1.844	1.844	1.834	1.840	1.848	1.852	1.846	1.840	1.856	1.840
22	1.850	1.852	1.854	1.846	1.846	1.872	1.862	1.858	1.858	1.850
23	1.858	1.842	1.840	1.860	1.856	1.846	1.852	1.814	1.864	1.844
24	1.858	1.846	1.856	1.850	1.860	1.848	1.864	1.860	1.850	1.840
25	1.848	1.846	1.858	1.854	1.850	1.852	1.872	1.850	1.850	1.848
26	1.858	1.860	1.848	1.874	1.858	1.850	1.874	1.856	1.856	1.848
27	1.844	1.854	1.858	1.856	1.846	1.868	1.862	1.838	1.846	1.836
28	1.860	1.846	1.854	1.854	1.852	1.848	1.864	1.860	1.862	1.840
29	1.840	1.846	1.832	1.846	1.838	1.840	1.860	1.846	1.848	1.830
30	1.850	1.856	1.866	1.858	1.852	1.850	1.862	1.858	1.858	1.852
31	1.858	1.844	1.844	1.838	1.840	1.846	1.858	1.836	1.848	1.840
32	1.864	1.854	1.872	1.870	1.862	1.860	1.856	1.848	1.852	1.862
33	1.854	1.850	1.856	1.854	1.860	1.854	1.866	1.858	1.838	1.840
34	1.856	1.862	1.874	1.866	1.850	1.854	1.876	1.868	1.842	1.842
35	1.868	1.860	1.870	1.864	1.856	1.852	1.874	1.876	1.864	1.848
36	1.864	1.856	1.864	1.812	1.858	1.844	1.862	1.852	1.852	1.836
37	1.862	1.852	1.866	1.848	1.870	1.856	1.860	1.858	1.850	1.834
38	1.858	1.852	1.868	1.854	1.868	1.842	1.866	1.868	1.838	1.834
39	1.874	1.864	1.872	1.864	1.864	1.876	1.866	1.880	1.860	1.850
40	1.870	1.854	1.888	1.852	1.860	1.852	1.872	1.872	1.846	1.856
41	1.812	1.866	1.852	1.856	1.858	1.858	1.872	1.874	1.844	1.850
42	1.842	1.866	1.852	1.852	1.856	1.860	1.868	1.882	1.842	1.866
43	1.858	1.880	1.864	1.882	1.874	1.872	1.872	1.870	1.844	1.860
44	1.818	1.856	1.840	1.848	1.848	1.838	1.840	1.840	1.838	1.830
45	1.834	1.856	1.852	1.844	1.872	1.856	1.866	1.862	1.828	1.850
46	1.836	1.852	1.848	1.862	1.848	1.866	1.858	1.844	1.842	1.848
47	1.856	1.848	1.846	1.854	1.850	1.860	1.862	1.858	1.832	1.856
48	1.844	1.846	1.858	1.854	1.854	1.836	1.850	1.852	1.824	1.846
49	1.866	1.888	1.876	1.870	1.894	1.880	1.870	1.870	1.866	1.868
50	1.840	1.862	1.870	1.842	1.854	1.854	1.848	1.864	1.836	1.856

After Thermal										
Units: mm										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.950	1.940	1.942	1.950	1.952	1.960	1.964	1.938	1.950	1.948
2	1.962	1.960	1.976	1.962	1.956	1.968	1.978	1.966	1.972	1.954
3	1.954	1.950	1.970	1.960	1.954	1.984	1.974	1.964	1.966	1.946
4	1.960	1.960	1.974	1.954	1.964	1.968	1.980	1.964	1.956	1.948
5	1.932	1.940	1.944	1.936	1.934	1.946	1.962	1.934	1.942	1.930
6	1.946	1.952	1.972	1.956	1.956	1.960	1.962	1.958	1.956	1.944
7	1.930	1.936	1.944	1.948	1.934	1.956	1.954	1.938	1.952	1.938
8	1.936	1.944	1.944	1.936	1.956	1.956	1.966	1.960	1.928	1.952
9	1.914	1.928	1.922	1.930	1.936	1.924	1.946	1.926	1.930	1.928
10	1.924	1.938	1.960	1.932	1.942	1.942	1.942	1.954	1.946	1.952
11	1.928	1.932	1.940	1.926	1.944	1.944	1.952	1.916	1.932	1.932
12	1.940	1.946	1.958	1.944	1.942	1.944	1.950	1.942	1.942	1.946
13	1.916	1.928	1.918	1.916	1.932	1.924	1.942	1.926	1.932	1.912
14	1.910	1.922	1.914	1.934	1.914	1.922	1.922	1.920	1.932	1.928
15	1.920	1.928	1.938	1.940	1.924	1.936	1.940	1.940	1.934	1.928
16	1.928	1.924	1.920	1.920	1.924	1.924	1.936	1.922	1.922	1.920
17	1.924	1.926	1.908	1.918	1.922	1.916	1.938	1.912	1.922	1.912
18	1.926	1.936	1.942	1.938	1.928	1.934	1.946	1.932	1.930	1.928
19	1.926	1.938	1.934	1.942	1.936	1.932	1.944	1.928	1.932	1.930
20	1.922	1.932	1.950	1.936	1.934	1.932	1.944	1.934	1.934	1.932
21	1.910	1.914	1.910	1.904	1.914	1.912	1.926	1.910	1.916	1.902
22	1.926	1.928	1.930	1.922	1.920	1.942	1.934	1.932	1.930	1.924
23	1.926	1.912	1.930	1.938	1.926	1.934	1.928	1.914	1.936	1.916
24	1.934	1.930	1.936	1.928	1.936	1.930	1.936	1.940	1.934	1.920
25	1.918	1.914	1.924	1.922	1.918	1.908	1.932	1.916	1.920	1.920
26	1.934	1.936	1.924	1.948	1.930	1.924	1.944	1.934	1.942	1.922
27	1.910	1.930	1.928	1.920	1.920	1.932	1.936	1.912	1.914	1.906
28	1.928	1.926	1.928	1.930	1.924	1.922	1.934	1.932	1.928	1.920
29	1.910	1.916	1.900	1.920	1.914	1.912	1.928	1.914	1.920	1.896
30	1.924	1.938	1.952	1.940	1.938	1.924	1.936	1.928	1.940	1.928
31	1.928	1.918	1.922	1.918	1.920	1.930	1.920	1.906	1.932	1.914
32	1.946	1.932	1.938	1.944	1.942	1.938	1.940	1.928	1.936	1.932
33	1.924	1.922	1.926	1.928	1.932	1.924	1.936	1.928	1.918	1.918
34	1.934	1.936	1.946	1.928	1.936	1.924	1.948	1.936	1.918	1.920
35	1.944	1.942	1.940	1.944	1.934	1.922	1.952	1.952	1.946	1.928
36	1.942	1.934	1.930	1.926	1.930	1.920	1.932	1.932	1.936	1.918
37	1.930	1.928	1.946	1.924	1.938	1.924	1.936	1.934	1.932	1.916
38	1.924	1.928	1.936	1.934	1.942	1.918	1.928	1.932	1.918	1.920
39	1.946	1.936	1.950	1.934	1.932	1.928	1.944	1.960	1.932	1.928
40	1.942	1.942	1.948	1.938	1.938	1.922	1.936	1.942	1.924	1.930
41	1.918	1.936	1.926	1.930	1.930	1.916	1.936	1.952	1.926	1.918
42	1.918	1.940	1.922	1.926	1.940	1.924	1.946	1.954	1.918	1.942
43	1.938	1.948	1.948	1.954	1.946	1.940	1.948	1.952	1.948	1.944
44	1.904	1.928	1.916	1.918	1.916	1.908	1.918	1.914	1.910	1.908
45	1.910	1.930	1.918	1.918	1.938	1.910	1.932	1.942	1.930	1.920
46	1.916	1.932	1.926	1.930	1.926	1.930	1.926	1.924	1.930	1.926
47	1.924	1.936	1.926	1.916	1.930	1.918	1.930	1.924	1.922	1.924
48	1.912	1.910	1.930	1.926	1.918	1.910	1.918	1.912	1.910	1.912
49	1.942	1.956	1.944	1.948	1.948	1.944	1.940	1.948	1.944	1.942
50	1.916	1.926	1.940	1.906	1.922	1.920	1.916	1.942	1.920	1.928

After Humidity										
Units: mm										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.886	1.866	1.866	1.878	1.886	1.900	1.902	1.884	1.876	1.876
2	1.898	1.888	1.884	1.896	1.888	1.904	1.906	1.908	1.886	1.868
3	1.888	1.872	1.892	1.884	1.886	1.908	1.918	1.896	1.884	1.854
4	1.888	1.866	1.890	1.880	1.888	1.884	1.902	1.882	1.876	1.854
5	1.842	1.856	1.856	1.864	1.864	1.874	1.882	1.852	1.860	1.844
6	1.870	1.860	1.878	1.882	1.880	1.890	1.894	1.878	1.870	1.862
7	1.858	1.858	1.858	1.872	1.862	1.880	1.886	1.870	1.864	1.858
8	1.868	1.862	1.852	1.860	1.882	1.872	1.894	1.886	1.852	1.874
9	1.832	1.844	1.836	1.862	1.856	1.862	1.876	1.854	1.846	1.852
10	1.846	1.862	1.882	1.862	1.866	1.866	1.880	1.884	1.858	1.870
11	1.854	1.860	1.860	1.850	1.872	1.866	1.884	1.846	1.850	1.844
12	1.864	1.864	1.868	1.860	1.868	1.858	1.862	1.876	1.866	1.870
13	1.852	1.856	1.850	1.852	1.864	1.862	1.872	1.826	1.804	1.838
14	1.832	1.840	1.848	1.850	1.842	1.848	1.850	1.848	1.856	1.858
15	1.852	1.844	1.856	1.866	1.866	1.860	1.876	1.858	1.856	1.818
16	1.850	1.840	1.854	1.848	1.846	1.854	1.862	1.844	1.840	1.846
17	1.850	1.850	1.822	1.846	1.854	1.864	1.868	1.848	1.844	1.818
18	1.850	1.864	1.864	1.866	1.860	1.858	1.882	1.870	1.856	1.862
19	1.856	1.856	1.862	1.866	1.872	1.860	1.882	1.838	1.858	1.850
20	1.854	1.858	1.870	1.858	1.860	1.858	1.880	1.860	1.850	1.854
21	1.844	1.844	1.834	1.840	1.848	1.852	1.846	1.840	1.856	1.840
22	1.850	1.852	1.854	1.846	1.846	1.872	1.862	1.858	1.858	1.850
23	1.858	1.842	1.840	1.860	1.856	1.846	1.852	1.814	1.864	1.844
24	1.858	1.846	1.856	1.850	1.860	1.848	1.864	1.860	1.850	1.840
25	1.848	1.846	1.858	1.854	1.850	1.852	1.872	1.850	1.850	1.848
26	1.858	1.860	1.848	1.874	1.858	1.850	1.874	1.856	1.856	1.848
27	1.844	1.854	1.858	1.856	1.846	1.868	1.862	1.838	1.846	1.836
28	1.860	1.846	1.854	1.854	1.852	1.848	1.864	1.860	1.862	1.840
29	1.840	1.846	1.832	1.846	1.838	1.840	1.860	1.846	1.848	1.830
30	1.850	1.856	1.866	1.858	1.852	1.850	1.862	1.858	1.858	1.852
31	1.858	1.844	1.844	1.838	1.840	1.846	1.858	1.836	1.848	1.840
32	1.864	1.854	1.872	1.870	1.862	1.860	1.856	1.848	1.852	1.862
33	1.854	1.850	1.856	1.854	1.860	1.854	1.866	1.858	1.838	1.840
34	1.856	1.862	1.874	1.866	1.850	1.854	1.876	1.868	1.842	1.842
35	1.868	1.860	1.870	1.864	1.856	1.852	1.874	1.876	1.864	1.848
36	1.864	1.856	1.864	1.812	1.858	1.844	1.862	1.852	1.852	1.836
37	1.862	1.852	1.866	1.848	1.870	1.856	1.860	1.858	1.850	1.834
38	1.858	1.852	1.868	1.854	1.868	1.842	1.866	1.868	1.838	1.834
39	1.874	1.864	1.872	1.864	1.864	1.876	1.866	1.880	1.860	1.850
40	1.870	1.854	1.888	1.852	1.860	1.852	1.872	1.872	1.846	1.856
41	1.812	1.866	1.852	1.856	1.858	1.858	1.872	1.874	1.844	1.850
42	1.842	1.866	1.852	1.852	1.856	1.860	1.868	1.882	1.842	1.866
43	1.858	1.880	1.864	1.882	1.874	1.872	1.872	1.870	1.844	1.860
44	1.818	1.856	1.840	1.848	1.848	1.838	1.840	1.840	1.838	1.830
45	1.834	1.856	1.852	1.844	1.872	1.856	1.866	1.862	1.828	1.850
46	1.836	1.852	1.848	1.862	1.848	1.866	1.858	1.844	1.842	1.848
47	1.856	1.848	1.846	1.854	1.850	1.860	1.862	1.858	1.832	1.856
48	1.844	1.846	1.858	1.854	1.854	1.836	1.850	1.852	1.824	1.846
49	1.866	1.888	1.876	1.870	1.894	1.880	1.870	1.870	1.866	1.868
50	1.840	1.862	1.870	1.842	1.854	1.854	1.848	1.864	1.836	1.856

MATING/UNMATING:

Sample#	Initial		After 25 Cycles		After 50 Cycles		After 75 Cycles		After 100 Cycles		After Thermals		After Humidity	
	Mating	Unmating	Mating	Unmating	Mating	Unmating	Mating	Unmating	Mating	Unmating	Mating	Unmating	Mating	Unmating
1	3.62	1.86	3.88	2.28	4.06	2.47	4.07	2.58	3.61	1.98	2.72	1.23	3.64	1.78
2	3.88	1.38	3.67	1.36	3.83	1.75	3.89	1.83	3.95	1.82	3.72	2.03	3.56	1.91
3	3.71	1.45	3.71	1.58	3.82	1.89	3.89	2.11	3.97	2.32	2.77	1.21	3.50	1.60
4	3.72	1.46	3.82	1.88	3.92	2.04	3.96	2.28	4.01	2.30	2.82	1.19	3.52	1.49
5	3.84	1.55	4.28	2.11	4.47	2.12	4.56	2.39	4.63	2.52	3.72	1.87	3.58	1.36
6	3.74	1.47	4.08	1.83	3.85	1.61	3.92	1.67	4.00	1.83	3.26	1.74	3.57	1.61
7	3.64	1.56	3.91	1.89	3.86	1.82	3.94	1.90	4.05	2.11	2.78	1.10	3.16	1.47
8	3.53	1.53	3.79	1.84	3.32	1.56	3.49	1.58	3.66	1.75	2.84	1.27	3.46	1.57
9	3.88	1.56	4.22	1.91	4.42	2.02	4.51	2.28	4.36	2.31	2.84	1.27	3.57	1.66
10	3.95	1.49	3.76	1.51	3.92	1.70	3.97	1.81	4.00	1.89	3.35	1.72	3.16	1.62

NORMAL FORCE (FOR CONTACTS TESTED IN THE HOUSING):

Initial	Deflections in inches, Forces in Grams										
Sample #	0.0012	0.0024	0.0036	0.0048	0.0060	0.0072	0.0084	0.0096	0.0108	0.0120	SET
1	2.9	6.1	9.1	12.6	16.5	20.2	23.9	27.6	31.7	35.0	0.0004
2	2.1	5.1	8.4	12.2	16.3	20.0	23.7	27.2	31.2	34.7	0.0004
3	2.4	4.6	7.8	11.2	15.3	18.8	22.6	26.3	30.3	34.0	0.0003
4	2.6	5.9	8.8	12.7	16.8	20.7	24.4	27.7	31.5	35.0	0.0004
5	1.8	4.6	7.2	10.4	13.9	18.0	21.7	25.3	29.0	32.4	0.0004
6	2.3	5.6	8.8	12.6	16.2	19.8	23.9	27.8	31.9	35.4	0.0002
7	2.1	5.0	8.0	11.6	15.4	19.2	23.3	26.8	30.6	33.8	0.0005
8	2.4	5.4	9.0	12.6	16.3	20.3	23.9	27.7	31.1	34.8	0.0004
9	2.3	5.3	8.2	11.5	15.2	18.7	22.5	26.0	29.6	32.9	0.0005
10	2.2	5.9	9.6	13.3	17.4	21.2	25.1	28.7	32.4	35.7	0.0005

After Thermals		Deflections in inches, Forces in Grams									
Sample #	0.0012	0.0024	0.0036	0.0048	0.0060	0.0072	0.0084	0.0096	0.0108	0.0120	SET
1	2.4	4.8	8.1	11.6	15.5	19.9	23.7	27.9	31.6	35.8	0.0004
2	2.4	4.5	8.0	11.3	15.4	19.4	23.8	27.7	31.9	35.6	0.0005
3	2.6	5.3	8.9	12.2	15.6	19.6	23.2	27.5	31.3	35.4	0.0001
4	2.5	5.5	9.1	12.5	16.6	20.5	24.7	28.5	32.5	36.3	0.0005
5	3.0	6.2	9.7	13.0	17.4	21.7	26.1	30.2	34.5	38.2	0.0004
6	2.1	4.7	7.9	11.8	15.6	20.0	23.9	28.4	32.3	36.4	0.0004
7	3.3	6.4	9.8	12.8	16.8	20.8	25.5	29.8	34.0	37.9	0.0001
8	2.9	6.2	9.4	13.1	16.9	21.0	25.4	29.5	33.4	36.9	0.0006
9	2.7	6.4	9.4	13.6	17.3	21.6	25.8	30.1	34.0	37.7	0.0003
10	2.8	5.8	9.7	13.0	17.0	20.9	25.3	29.5	33.5	37.5	0.0007

INSULATION RESISTANCE (IR):

Initial Insulation Resistance			
Measured In Meg Ohms			
Pin to Pin			
Mated		Unmated	
x		x	
Sample#	ERM5/ERF5	ERM5	ERF5
1	100,000	100,000	
2	100,000	100,000	

Thermal Insulation Resistance			
Measured In Meg Ohms			
Pin to Pin			
Mated		Unmated	
x		x	
Sample#	ERM5/ERF5	ERM5	ERF5
1	100,000	100,000	
2	100,000	100,000	

Humidity Insulation Resistance			
Measured In Meg Ohms			
Pin to Pin			
Mated		Unmated	
x		x	
Sample#	ERM5/ERF5	ERM5	ERF5
1	100,000	100,000	
2	100,000	100,000	

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Initial DWV	
Test Voltage= 578	

Pin to Pin			
Mated		Unmated	
Sample#	ERM5/ERF5	ERM5	ERF5
1	578	578	
2	578	578	

Thermal Test Voltage	
Test Voltage= 578	

Pin to Pin			
Mated		Unmated	
Sample#	ERM5/ERF5	ERM5	ERF5
1	578	578	
2	578	578	

Humidity Test Voltage	
Test Voltage= 578	

Pin to Pin			
Mated		Unmated	
Sample#	ERM5/ERF5	ERM5	ERF5
1	578	578	
2	578	578	

LLCR:

	mOhm values	Actual	Delta	Delta	Delta
Board	Position	Initial	100 Cycles	Thermal	Humidity
1	P1	23.9	-1.2	-0.6	-1.5
1	P2	23.5	-1.2	-0.3	-1.0
1	P3	23.7	-0.5	-0.1	-0.5
1	P4	23.3	0.2	0.7	0.6
1	P5	22.8	0.6	1.7	1.1
1	P6	21.6	-1.2	0.3	-0.8
1	P7	22.6	-1.0	0.5	-0.8
1	P8	22.0	-0.9	2.2	-0.3
1	P9	23.4	-0.4	4.2	0.5
1	P10	23.3	0.1	2.0	0.5
1	P11	23.4	0.0	2.7	0.8
1	P12	23.0	-0.1	1.5	0.0
1	P13	22.2	-0.4	3.2	3.6
1	P14	22.0	-0.6	0.9	0.2
1	P15	21.9	-1.0	0.2	-0.4
1	P16	22.5	-0.1	0.6	0.4
1	P17	21.5	-0.1	2.7	1.6
1	P18	22.5	-0.9	-0.1	-0.5
1	P19	21.6	-0.4	-0.2	-0.1
1	P20	21.4	-0.4	0.2	-0.2
1	P21	24.0	-0.2	-0.2	-0.8
1	P22	24.3	-1.9	-1.7	-1.8
1	P23	23.4	-0.2	-0.5	-0.8
1	P24	23.5	-0.6	-0.7	-0.5
1	P25	22.7	0.7	0.8	0.4
2	P1	24.1	-0.8	-0.2	-1.1
2	P2	24.0	-1.8	-0.4	-1.7
2	P3	23.4	-0.7	0.6	-0.5
2	P4	23.1	0.1	1.6	-0.3
2	P5	23.2	-0.3	0.6	-0.5
2	P6	21.8	-0.9	-0.7	-1.0
2	P7	20.8	0.1	0.4	-0.2
2	P8	21.5	-0.4	-0.1	-0.3
2	P9	22.7	0.2	0.7	0.1
2	P10	23.2	0.1	0.8	-0.1
2	P11	23.2	-0.6	-0.1	-0.6
2	P12	22.4	0.3	2.4	0.7
2	P13	20.7	-0.2	1.5	0.0
2	P14	21.3	0.1	1.8	0.2
2	P15	21.5	0.2	1.2	0.0
2	P16	21.2	-0.8	0.8	-0.6
2	P17	21.6	-0.8	3.2	-1.1
2	P18	21.2	0.0	3.1	-0.9

2	P19	21.7	-0.8	1.7	-1.1
2	P20	21.5	-0.5	0.1	-0.9
2	P21	24.2	-1.3	-0.2	-1.5
2	P22	24.2	-1.5	-0.9	-1.9
2	P23	23.3	-0.3	0.5	-0.5
2	P24	23.2	-0.9	-0.4	-1.3
2	P25	22.4	-0.6	-0.4	-1.0
3	P1	24.1	0.5	0.8	0.5
3	P2	23.9	-0.9	0.1	-1.0
3	P3	24.6	-1.1	-0.7	-1.4
3	P4	23.6	0.6	2.8	0.2
3	P5	23.6	-0.1	1.9	0.1
3	P6	21.7	0.2	1.0	-0.5
3	P7	21.1	0.2	0.3	-1.1
3	P8	21.1	0.3	2.0	0.0
3	P9	22.8	-0.4	1.9	-1.1
3	P10	22.2	0.4	2.6	0.1
3	P11	22.2	-0.4	1.6	-0.8
3	P12	22.0	-0.5	0.9	-1.0
3	P13	21.0	-0.4	1.2	-0.9
3	P14	20.9	0.4	2.0	-0.9
3	P15	21.0	0.9	2.6	-0.3
3	P16	21.0	2.0	3.5	0.0
3	P17	21.1	-0.4	0.7	-0.3
3	P18	21.2	-1.2	-0.2	-0.5
3	P19	21.4	-1.0	0.4	-0.7
3	P20	20.9	-0.7	0.0	-0.8
3	P21	22.9	1.3	2.2	-0.2
3	P22	22.6	1.2	0.7	0.2
3	P23	23.9	1.4	2.0	-0.2
3	P24	23.1	0.2	0.6	-0.5
3	P25	22.9	-0.5	-0.3	-0.9
5	P1	23.8	-1.1	-0.6	-0.4
5	P2	23.4	-0.7	0.8	-0.6
5	P3	23.7	-0.4	1.0	-0.5
5	P4	23.5	-0.9	1.3	0.0
5	P5	22.9	-0.6	1.1	-0.3
5	P6	21.9	-1.2	-1.2	-1.3
5	P7	21.8	-1.3	-0.9	-0.9
5	P8	21.0	-0.4	0.1	-0.6
5	P9	22.7	-0.8	0.8	-1.0
5	P10	21.7	0.4	3.0	0.0
5	P11	22.6	-0.5	3.3	-0.5
5	P12	22.4	-0.3	4.2	0.3
5	P13	21.6	-0.3	2.2	0.0
5	P14	21.3	-0.3	3.4	-0.8
5	P15	21.1	-0.5	1.4	-0.7
5	P16	22.2	0.1	4.6	-1.4
5	P17	20.9	0.5	4.7	-1.2

5	P18	21.8	-0.3	2.9	-1.3
5	P19	20.7	-0.1	3.8	-0.6
5	P20	21.2	-0.5	0.1	-1.1
5	P21	23.1	-0.8	0.1	-1.7
5	P22	22.7	-0.7	0.2	-0.6
5	P23	22.5	-0.6	-0.6	-0.8
5	P24	22.1	0.2	0.5	-0.9
5	P25	22.0	-0.5	-1.0	-1.3
6	P1	22.8	-0.6	0.1	-0.4
6	P2	22.8	-0.9	-0.6	-0.6
6	P3	22.6	-0.5	0.5	-0.5
6	P4	23.1	-0.7	-0.6	-0.6
6	P5	23.0	0.1	0.5	0.1
6	P6	21.3	-0.8	-0.1	-1.1
6	P7	21.4	-0.3	0.4	-0.7
6	P8	21.0	0.2	0.9	-0.2
6	P9	22.1	-0.4	0.7	-0.4
6	P10	22.3	-0.4	1.3	-0.4
6	P11	22.6	-0.4	0.0	-0.9
6	P12	22.3	0.1	0.6	-0.2
6	P13	21.7	-0.1	0.9	-0.1
6	P14	21.3	-0.6	1.0	-0.7
6	P15	21.6	-0.7	-0.2	-1.0
6	P16	21.6	-0.2	1.0	-0.9
6	P17	21.1	-0.5	0.4	-0.8
6	P18	22.1	-1.1	-0.7	-0.9
6	P19	21.5	-0.7	-0.9	-0.7
6	P20	21.1	0.0	-0.6	-0.2
6	P21	22.5	0.2	0.5	0.3
6	P22	22.7	-0.5	-0.4	-0.6
6	P23	22.4	0.0	0.0	0.0
6	P24	22.8	0.0	0.8	0.3
6	P25	21.6	-0.2	0.9	0.3
8	P1	23.3	-0.7	0.3	-0.3
8	P2	23.3	-0.6	0.2	-0.4
8	P3	23.0	-0.6	1.0	-0.2
8	P4	23.3	-0.5	1.2	-0.1
8	P5	23.2	-1.0	0.7	-0.6
8	P6	21.3	-0.2	0.9	-0.4
8	P7	21.1	-0.1	1.9	-0.3
8	P8	21.9	-0.3	2.9	-0.6
8	P9	23.3	0.1	3.0	-0.5
8	P10	22.7	0.4	-1.1	0.3
8	P11	23.0	0.4	2.0	-0.4
8	P12	23.1	0.3	3.5	-0.2
8	P13	21.6	-0.3	1.4	0.0
8	P14	22.1	-0.7	0.7	-0.2
8	P15	21.6	0.0	0.4	0.1
8	P16	22.1	0.5	1.5	0.6

8	P17	22.1	0.3	2.8	0.3
8	P18	21.8	0.1	0.8	0.2
8	P19	21.8	-0.8	0.7	0.3
8	P20	21.6	-0.5	0.2	-0.3
8	P21	23.6	-0.4	1.0	0.2
8	P22	23.7	-0.2	0.6	-0.7
8	P23	23.8	-0.5	1.2	-0.4
8	P24	23.9	-1.0	0.6	-0.8
8	P25	23.5	-0.3	1.1	0.5
9	P1	23.2	-1.0	-0.5	-0.9
9	P2	22.8	-1.5	-0.8	-1.3
9	P3	22.0	-0.7	-0.2	-0.9
9	P4	22.2	-0.2	-0.2	-0.6
9	P5	22.3	-0.9	0.3	-0.7
9	P6	20.5	0.1	0.6	0.4
9	P7	21.2	0.1	1.7	0.7
9	P8	21.2	0.5	1.0	0.2
9	P9	23.2	-0.3	-0.6	-1.3
9	P10	22.5	0.0	0.5	0.1
9	P11	22.8	-0.6	0.1	-0.6
9	P12	22.9	-1.2	-0.7	-1.1
9	P13	21.7	-0.6	0.6	-0.3
9	P14	21.2	0.6	1.4	0.2
9	P15	20.6	0.3	1.5	0.3
9	P16	21.4	0.3	0.9	-0.5
9	P17	21.9	-0.6	0.2	-1.3
9	P18	21.7	0.2	0.7	0.1
9	P19	20.9	0.0	1.0	-0.4
9	P20	21.6	-0.3	0.7	-1.0
9	P21	22.5	0.4	2.1	-0.7
9	P22	23.1	-0.6	0.3	-0.9
9	P23	23.3	-0.9	-0.5	-1.6
9	P24	22.6	-0.5	0.1	-0.6
9	P25	23.8	-1.8	-1.8	-2.3
10	P1	24.5	-1.5	-0.2	-1.8
10	P2	23.9	-0.7	1.7	-0.8
10	P3	23.0	0.3	1.4	-0.1
10	P4	23.2	-0.1	2.0	-0.5
10	P5	22.8	-0.3	1.4	0.0
10	P6	21.4	-1.3	-0.9	-1.0
10	P7	22.1	-1.4	-0.4	-1.3
10	P8	20.7	-0.4	0.2	-0.2
10	P9	22.6	-1.4	-0.2	-1.1
10	P10	22.3	-0.8	0.1	-0.8
10	P11	22.7	-1.1	-0.4	-1.0
10	P12	22.1	0.1	1.3	0.0
10	P13	21.2	-0.4	0.9	-0.4
10	P14	20.9	-1.1	0.6	-1.1
10	P15	21.1	-0.6	0.7	-1.1

10	P16	21.5	-0.5	1.4	-0.6
10	P17	21.2	-0.7	2.0	-1.1
10	P18	21.8	-0.8	0.2	-1.1
10	P19	21.3	-0.6	1.5	-0.6
10	P20	21.3	-1.1	1.1	-1.2
10	P21	23.0	0.3	2.6	-0.1
10	P22	23.7	0.2	2.5	0.3
10	P23	23.4	-0.1	1.1	0.1
10	P24	23.7	-0.6	1.4	-0.9
10	P25	22.9	-0.1	0.9	-0.4

GAS TIGHT:

	mOhm values	Actual	Delta
Board	Position	Initial	Gas Tight
1	P1	21.6	0.7
1	P2	21.3	0.5
1	P3	21.7	-0.1
1	P4	21.1	0.4
1	P5	21.6	0.3
1	P6	20.3	0.5
1	P7	22.2	0.4
1	P8	21.7	1.7
1	P9	22.9	0.5
1	P10	22.4	0.3
1	P11	23.2	0.5
1	P12	24.3	0.5
1	P13	21.9	-0.3
1	P14	21.3	0.1
1	P15	22.1	0.3
1	P16	20.7	0.6
1	P17	21.3	0.2
1	P18	21.5	-0.7
1	P19	21.3	-0.2
1	P20	21.3	-0.4
1	P21	22.8	1.3
1	P22	22.8	-0.2
1	P23	22.0	0.2
1	P24	22.4	0.2
1	P25	21.7	0.4
2	P1	23.4	0.4
2	P2	23.7	-0.4
2	P3	22.5	1.1
2	P4	23.7	-0.2
2	P5	23.3	0.2
2	P6	21.5	-0.3
2	P7	21.2	-0.4

2	P8	21.1	-0.1
2	P9	22.6	0.1
2	P10	23.1	0.0
2	P11	22.5	0.1
2	P12	22.6	0.4
2	P13	20.4	1.1
2	P14	20.9	0.4
2	P15	20.8	0.6
2	P16	20.7	0.9
2	P17	21.5	0.5
2	P18	20.4	0.6
2	P19	20.9	0.3
2	P20	20.9	0.9
2	P21	22.7	-0.2
2	P22	23.3	-0.1
2	P23	22.2	0.2
2	P24	23.1	0.3
2	P25	23.9	-1.0
3	P1	21.9	1.1
3	P2	22.5	0.2
3	P3	22.3	0.4
3	P4	23.3	-0.2
3	P5	23.3	-0.2
3	P6	20.7	0.3
3	P7	21.4	-0.4
3	P8	21.5	0.2
3	P9	22.9	0.2
3	P10	23.9	1.6
3	P11	22.6	0.3
3	P12	24.7	0.4
3	P13	22.5	-0.6
3	P14	22.9	-0.7
3	P15	23.0	-0.4
3	P16	23.0	-0.9
3	P17	22.6	-0.3
3	P18	21.4	-0.5
3	P19	22.0	-0.8
3	P20	20.1	0.2
3	P21	24.2	-0.5
3	P22	22.7	0.0
3	P23	23.6	-0.2
3	P24	22.7	0.4
3	P25	22.7	0.0
4	P1	23.2	1.2
4	P2	22.1	4.1
4	P3	22.4	2.7
4	P4	22.1	2.0
4	P5	21.6	3.8
4	P6	21.0	1.3

4	P7	20.5	0.5
4	P8	20.9	1.3
4	P9	21.3	1.3
4	P10	22.3	2.1
4	P11	21.8	8.2
4	P12	21.7	0.6
4	P13	20.7	4.0
4	P14	20.8	0.7
4	P15	21.0	3.9
4	P16	20.1	1.5
4	P17	20.7	1.9
4	P18	21.0	1.7
4	P19	20.2	6.0
4	P20	20.7	1.1
4	P21	22.5	2.2
4	P22	22.5	1.7
4	P23	22.6	0.5
4	P24	22.5	2.9
4	P25	22.4	1.8
5	P1	23.1	-0.1
5	P2	24.7	-0.2
5	P3	24.5	1.1
5	P4	24.5	-0.8
5	P5	25.3	-1.4
5	P6	20.9	0.5
5	P7	22.1	0.4
5	P8	22.0	0.6
5	P9	23.9	0.3
5	P10	23.6	0.1
5	P11	22.9	-0.3
5	P12	24.3	-0.2
5	P13	22.6	0.0
5	P14	20.8	0.5
5	P15	21.1	-0.1
5	P16	21.0	0.4
5	P17	20.4	1.1
5	P18	21.4	3.2
5	P19	21.2	0.1
5	P20	21.6	-0.3
5	P21	23.4	1.3
5	P22	23.6	0.6
5	P23	23.7	0.5
5	P24	24.0	0.8
5	P25	23.9	0.4
6	P1	24.8	-0.7
6	P2	23.4	0.6
6	P3	24.7	-0.7
6	P4	25.6	-0.9
6	P5	25.6	-0.1

6	P6	21.8	0.0
6	P7	22.3	-0.1
6	P8	22.4	0.7
6	P9	24.6	0.4
6	P10	24.7	-0.3
6	P11	24.1	0.7
6	P12	24.1	1.4
6	P13	23.9	2.0
6	P14	23.1	1.3
6	P15	22.5	-0.2
6	P16	23.5	-1.1
6	P17	22.7	-0.2
6	P18	23.5	-0.3
6	P19	22.1	-0.2
6	P20	22.3	0.5
6	P21	25.5	-1.4
6	P22	25.1	3.0
6	P23	24.9	0.6
6	P24	27.4	-0.1
6	P25	26.1	-0.3
7	P1	24.3	-1.3
7	P2	23.6	-1.1
7	P3	22.7	0.1
7	P4	23.7	-1.1
7	P5	23.3	-1.1
7	P6	21.8	-0.4
7	P7	21.3	1.0
7	P8	22.1	0.0
7	P9	22.5	0.8
7	P10	21.3	0.8
7	P11	22.1	0.0
7	P12	22.7	-0.4
7	P13	22.4	-1.6
7	P14	21.3	0.1
7	P15	20.3	-0.1
7	P16	21.7	-0.1
7	P17	20.2	0.0
7	P18	20.8	0.2
7	P19	20.1	-0.1
7	P20	19.5	0.0
7	P21	22.8	-0.1
7	P22	22.7	-0.2
7	P23	22.7	0.3
7	P24	23.2	0.0
7	P25	22.9	-0.1
8	P1	22.3	0.5
8	P2	24.3	-1.2
8	P3	24.3	1.3
8	P4	23.9	0.3

8	P5	24.7	0.2
8	P6	20.9	0.1
8	P7	20.9	-0.1
8	P8	20.5	0.2
8	P9	22.1	0.4
8	P10	22.0	0.1
8	P11	21.9	0.2
8	P12	23.1	-0.9
8	P13	20.9	-0.5
8	P14	21.7	0.5
8	P15	20.7	0.0
8	P16	21.4	0.4
8	P17	21.3	-0.4
8	P18	21.3	-0.6
8	P19	21.0	-0.9
8	P20	21.7	-1.0
8	P21	24.9	-0.3
8	P22	24.6	-0.5
8	P23	30.3	4.1
8	P24	25.2	-1.3
8	P25	24.5	-0.5

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** TCT-03**Description:** Dillon Quantrol TC2 Test Stand**Manufacturer:** Dillon Quantrol**Model:** TC2**Serial #:** 02-1033-03**Accuracy:** Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.

... Last Cal: 5/12/2009, Next Cal: 5/6/2010

Equipment #: TCT-04**Description:** Dillon Quantrol TC21 25-1000 mm/min series test stand**Manufacturer:** Dillon Quantrol**Model:** TC2 I series test stand**Serial #:** 04-1041-04**Accuracy:** Speed Accuracy: +/- 5% of indicated speed; Speed Accuracy: +/- 5% of indicated speed;

... Last Cal: 5/12/2009, Next Cal: 5/12/2010

Equipment #: TCT-05**Description:** TCT-225 Frame with TLC Console**Manufacturer:** Chatillon**Model:** TCD-225-0200**Serial #:** TC 0071**Accuracy:** See Manual See Manual

... Last Cal: 7/14/2008, Next Cal: 7/14/2009

Equipment #: TCT-06**Description:** Test Resources test stand**Manufacturer:** Test Resources**Model:****Serial #:****Accuracy:** Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.

... Last Cal: 05/07/2009, Next Cal: 05/07/2010

Equipment #: THC-01**Description:** Temperature/Humidity Chamber**Manufacturer:** Thermotron**Model:** SM-8-7800**Serial #:** 30676**Accuracy:** See Manual

... Last Cal: 04/07/2009, Next Cal: 04/07/2010

Equipment #: THC-04**Description:** Temperature/Humidity Chamber**Manufacturer:** Thermotron**Model:** SM-8-3800**Serial #:** 37782**Accuracy:** See Manual

... Last Cal: 04/07/2009, Next Cal: 04/07/2010

Equipment #: OV-03**Description:** Cascade Tek Forced Air Oven**Manufacturer:** Cascade Tek**Model:** TFO-5**Serial #:** 0500100**Accuracy:** Temp. Stability: +/- .1C/C change in ambient Temp. Stability: +/- .1C/C change in ambient
... Last Cal: 06/17/2009, Next Cal: 06/17/2010**Equipment #:** OV-5**Description:** Forced Air Oven, 5 Cu. Ft., 120 V**Manufacturer:** Sheldon Mfg.**Model:** CE5F**Serial #:** 02008008**Accuracy:** +/- 5 deg. C

... Last Cal: 02/19/2009, Next Cal: 02/19/2010

Equipment #: HPM-01**Description:** Hipot Megommeter**Manufacturer:** Hipotronics**Model:** H306B-A**Serial #:** M9905004**Accuracy:** 2 % Full Scale Accuracy

... Last Cal: 11/24/08, Next Cal: 11/24/09

Equipment #: MO-01**Description:** Micro-Ohmmeter**Manufacturer:** Keithley**Model:** 580**Serial #:** 0772740**Accuracy:** See Manual

... Last Cal: 06/16/09, Next Cal: 06/16/2010

Equipment #: MO-03**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 02-1033-03**Accuracy:** See Manual

... Last Cal: 06/16/09, Next Cal: 06/16/2010

Equipment #: MO-06**Description:** Micro-Ohmmeter**Manufacturer:** Keithley**Model:** 580**Serial #:** 1110525**Accuracy:** See Manual

... Last Cal: 06/16/2009, Next Cal: 06/16/2010

Equipment #: MO-07**Description:** Multimeter / Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 1116559**Accuracy:** See Manual

... Last Cal: 6/16/2009, Next Cal: 6/16/2010

Equipment #: MO-04**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 0798688**Accuracy:** See Manual

... Last Cal: 04/06/09, Next Cal: 04/06/2010

Equipment #: RS-09**Description:** Current Shunt**Manufacturer:** Empro**Model:** HA10050**Serial #:** HA10050-1**Accuracy:** +/- 0.25% of RDG

... Last Cal: 05/14/2009, Next Cal: 05/14/2009