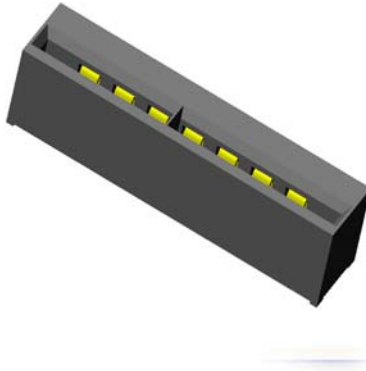




Project Number: NA		Tracking Code: TC053--0596	
Requested by: Gary Lewis		Date: 1/12/2005	Product Rev: B
Part #: PEC-10-02-T-S-LC		Lot #: 912322	Tech: Troy Cook Eng: John Tozier
Part description: PEC			Qty to test: 50
Test Start: 05/13/2005	Test Completed: 7/8/2005		



7-Position Part Depicted

DVT Report

PART DESCRIPTION

PEC-10-02-T-S-LC

Mated with 1002219-TST-XX

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

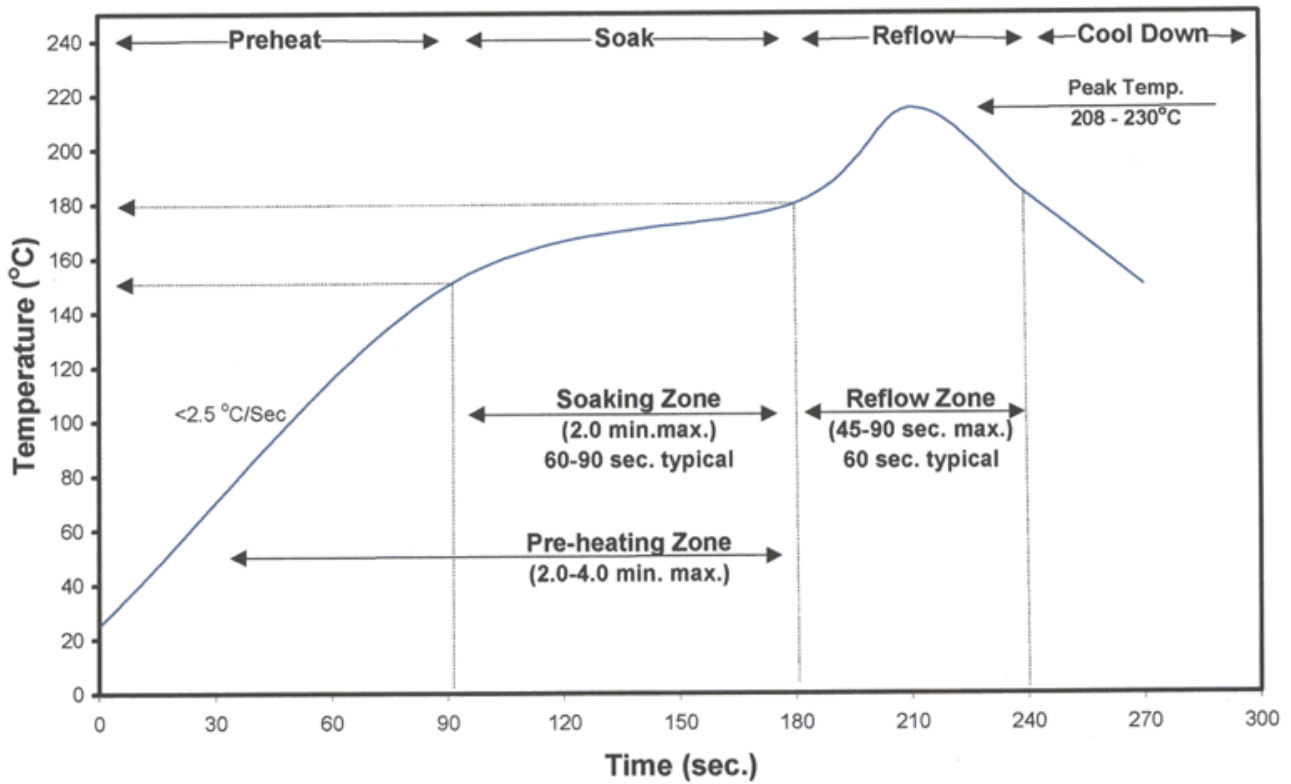
To perform the following tests: DVT

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) The ultrasonic procedure can be used with either aqueous or non-aqueous soldering components and follows:
 - a. Sample test boards are to be ultrasonically cleaned after test lead attachment, preparation and/or soldering.
 - b. Sample test boards are immersed into Branson 3510 cleaner containing Kyzen Ionox HC1 (or equivalent) with the following conditions:
 - i. Temperature: -----55° C +/- 5° C
 - ii. Frequency:-----40 KHz
 - iii. Immersion Time: ---5 to 10 Minutes
 - c. Sample test boards are removed and placed into the Branson 3510 cleaner containing deionized water with the following conditions:
 - i. Temperature: -----55° C +/- 5° C
 - ii. Frequency:-----40 KHz
 - iii. Immersion Time: ---5 to 10 Minutes
 - d. Sample test boards are removed and placed in a beaker positioned on a hot plate with a magnetic stirrer containing deionized water warmed to 55° C +/- 5° C for 1/2 to 1 minute.
 - e. Upon removal, the sample boards are rinsed for 1/2 to 1 minute at room temperature with free flowing deionized water.
 - f. After the final rinse, the sample test boards are dried in an air-circulating oven for 10 to 15 minutes at 50° C +/- 5° C.
 - g. Sample test boards are then allowed to set and recover to room ambient condition prior to testing.
- 7) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 8) Any additional preparation will be noted in the individual test sequences.
- 9) Solder Information: Sn63Pb37
- 10) Re-Flow Time/Temp: See accompanying profile.
- 11) Internal Test PCBs used: 1002219-TST-XX

OVEN PROFILE (Soldering Parts to Test Boards)**Standard Solder Paste Reflow Profile
for Kester Paste Containing
Alloys: Sn63Pb37 or Sn62Pb36Ag02**

FLOWCHARTS

TEST STEP	GROUP A
	1 board min 6 Contacts in series, clustered if possible
01	CCC

Tabulate calculated current at RT, 65° C, 75° C and 95° C
after derating 20% and based on 105° C

CCC, Temp rise = EIA-364-70

TEST STEP	GROUP A	GROUP B1 Individual Contacts (30) min	GROUP B2 Individual Contacts (30) min
01	Contact Gaps	Setup Approve	Setup Approve
02	Mating / Unmating	Normal Force	Thermal Aging (Mated)
03	Data Review	Data Review	Normal Force
04	25 Cycles		
05	Mating / Unmating		
06	Contact Gaps		
07	Data Review		
08	100 Cycles		
09	Mating / Unmating		
10	Contact Gaps		
11	Data Review		
12	Thermal Aging (Mated)		
13	Mating / Unmating		
14	Contact Gaps		
15	Data Review		
16	Humidity (Mated)		
17	Mating / Unmating		
18	Contact Gaps		

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

Mating/Un-Mating Forces = EIA-364-13

Normal Force = EIA-364-04

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

FLOWCHARTS Continued

TEST STEP	GROUP A 2 Boards Ambient	GROUP B1 2 Boards Ambient	GROUP B2 2 Boards Thermal	GROUP B3 2 Boards Humidity
01	IR	DWV/Working Voltage	Thermal Aging	Humidity
02	Data Review		DWV/Working Voltage	DWV/Working Voltage
03	Thermal Aging			
04	IR			
05	Data Review			
06	Humidity			
07	IR			

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

IR = EIA-364-21

DWV = EIA-364-20

TEST STEP	GROUP A 200 Points 100 Cycles
01	LLCR-1
02	Data Review
03	100 Cycles
04	LLCR-2
05	Data Review
06	Thermal Age
07	LLCR-3
08	Data Review
09	Cyclic Humidity
10	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

FLOWCHARTS Continued

TEST STEP	GROUP A 200 Points 25 Cycles
01	LLCR-1
02	Data Review
03	25 Cycles
04	LLCR-2
05	Data Review
06	Thermal Age
07	LLCR-3
08	Data Review
09	Cyclic Humidity
10	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

TEST STEP	GROUP A 200 Points 3000 Cycles
01	LLCR-1
02	Data Review
03	100 Cycles
04	LLCR-2
05	Data Review
06	400 Cycles
07	LLCR-3
08	Data Review
09	500 Cycles
10	LLCR4
11	500 Cycles
12	LLCR5
13	750 Cycles
14	LLCR6
15	750 Cycles
16	LLCR7

LLCR = EIA-364-23, LLCR

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

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) Connectors are sometimes mated and all samples are pre-conditioned at ambient.

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) Connectors are sometimes mated and all samples are pre-conditioned at ambient.

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. 65° C
 - c. 75° C
 - d. 95° 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 between mating surfaces were measured before and after stressing the contacts (e.g. thermal aging, mechanical cycling, etc.).
- 2) Typically, all contacts on the connector are measured.

ATTRIBUTE DEFINITIONS Continued**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:

- 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. Rate of Application 500 V/Sec
 - iii. 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

RESULTS**Temperature Rise, CCC at a 20% de-rating**

- CCC for a 30°C Temperature Rise -----2.4 A per contact with 6 adjacent contacts powered

Contact Gaps

- **Initial**
 - **Min**-----0.0158 in.
 - **Max**-----0.0214 in.
- **After 25 Cycles**
 - **Min**-----0.0162 in.
 - **Max**-----0.0221 in.
- **After 100 Cycles**
 - **Min**-----0.0161 in.
 - **Max**-----0.0233 in.
- **After Thermal**
 - **Min**-----0.0191 in.
 - **Max**-----0.0236 in.
- **After Humidity**
 - **Min**-----0.0195 in.
 - **Max**-----0.0237 in.

Mating – Unmating Forces

- **Initial**
 - **Mating**
 - **Min**-----4.7 lbs
 - **Max**-----6.0 lbs
 - **Unmating**
 - **Min**-----3.3 lbs
 - **Max**-----9.4 lbs
- **After 25 Cycles**
 - **Mating**
 - **Min**-----4.3 lbs
 - **Max**-----6.5 lbs
 - **Unmating**
 - **Min**-----3.6 lbs
 - **Max**-----7.8 lbs
- **After 100 Cycles**
 - **Mating**
 - **Min**-----3.2 lbs
 - **Max**-----4.8 lbs
 - **Unmating**
 - **Min**-----3.2 lbs
 - **Max**-----6.0 lbs
- **Thermal**
 - **Mating**
 - **Min**-----3.5 lbs
 - **Max**-----5.0 lbs
 - **Unmating**
 - **Min**-----4.4 lbs
 - **Max**-----7.7 lbs
- **Humidity**
 - **Mating**
 - **Min**-----3.5 lbs
 - **Max**-----3.9 lbs
 - **Unmating**
 - **Min**-----4.3 lbs
 - **Max**-----5.4 lbs

RESULTS Continued**Normal Force at 0.020" deflection**

- **Initial**
 - **Min**-----399.1 gr Set ---- 0.0002"
 - **Max**-----426.7 gr Set ---- 0.0005"
- **Thermal**
 - **Min**-----429.2 gr
 - **Max**-----466.9 gr

Insulation Resistance minimums, IR -- Unmated

- **Initial**-----100,000 Meg Ω ----- Pass
- **Thermal**-----50,000 Meg Ω
- **Humidity**-----15,000 Meg Ω

Dielectric Withstanding Voltage minimums, DWV -- Unmated

- **Initial**
 - **Breakdown**-----1500 VAC
 - **DWV**-----1125 VAC
 - **Working voltage**-----375 VAC
- **Thermal**
 - **Breakdown**-----1700 VAC
 - **DWV**-----1275 VAC
 - **Working voltage**-----425 VAC
- **Humidity**
 - **Breakdown**-----1400 VAC
 - **DWV**-----1050 VAC
 - **Working voltage**-----350 VAC

LLCR Durability (160 LLCR test points)

- **Initial**-----9.6 mOhms Max
- **Durability, 100 Cycles**
 - **<= +5.0 mOhms**-----160 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----0 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Thermal**
 - **<= +5.0 mOhms**-----160 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----0 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
 -
- **Humidity**
 - **<= +5.0 mOhms**-----160 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----0 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure

RESULTS Continued**LLCR Durability (160 LLCR test points)**

- **Initial** -----9.6 mOhms Max
- **Durability, 100 Cycles**
 - **<= +5.0 mOhms** -----155 Points ----- Stable
 - **+5.1 to +10.0 mOhms** -----5 Points ----- Minor
 - **+10.1 to +15.0 mOhms** -----0 Points ----- Acceptable
 - **+15.1 to +50.0 mOhms** -----0 Points ----- Marginal
 - **+50.1 to +2000 mOhms** -----0 Points ----- Unstable
 - **>+2000 mOhms** -----0 Points ----- Open Failure
- **Thermal**
 - **<= +5.0 mOhms** -----148 Points ----- Stable
 - **+5.1 to +10.0 mOhms** -----12 Points ----- Minor
 - **+10.1 to +15.0 mOhms** -----0 Points ----- Acceptable
 - **+15.1 to +50.0 mOhms** -----0 Points ----- Marginal
 - **+50.1 to +2000 mOhms** -----0 Points ----- Unstable
 - **>+2000 mOhms** -----0 Points ----- Open Failure
 -
- **Humidity**
 - **<= +5.0 mOhms** -----127 Points ----- Stable
 - **+5.1 to +10.0 mOhms** -----31 Points ----- Minor
 - **+10.1 to +15.0 mOhms** -----2 Points ----- Acceptable
 - **+15.1 to +50.0 mOhms** -----0 Points ----- Marginal
 - **+50.1 to +2000 mOhms** -----0 Points ----- Unstable
 - **>+2000 mOhms** -----0 Points ----- Open Failure

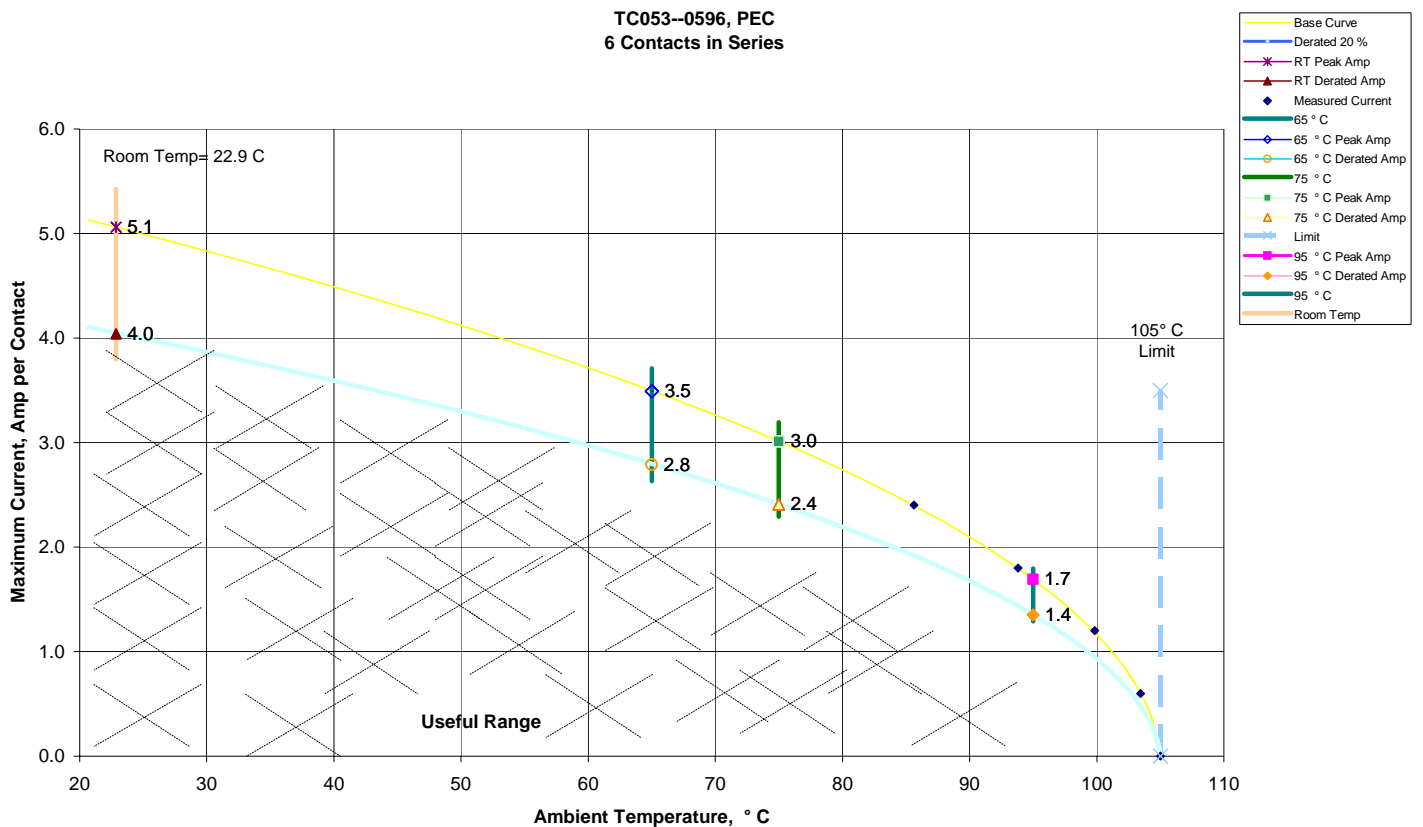
RESULTS Continued**LLCR Durability (160 LLCR test points)**

- **Initial**-----9.7 mOhms Max
- **Durability, 100 Cycles**
 - **<= +5.0 mOhms**-----159 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----1 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Durability, 500 Cycles**
 - **<= +5.0 mOhms**-----146 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----12 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----2 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Durability, 1000 Cycles**
 - **<= +5.0 mOhms**-----160 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----0 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Durability, 1500 Cycles**
 - **<= +5.0 mOhms**-----160 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----0 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Durability, 2250 Cycles**
 - **<= +5.0 mOhms**-----159 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----1 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+2000 mOhms**-----0 Points-----Open Failure
- **Durability, 3000 Cycles**
 - **<= +5.0 mOhms**-----159 Points-----Stable
 - **+5.1 to +10.0 mOhms**-----1 Points-----Minor
 - **+10.1 to +15.0 mOhms**-----0 Points-----Acceptable
 - **+15.1 to +50.0 mOhms**-----0 Points-----Marginal
 - **+50.1 to +2000 mOhms**-----0 Points-----Unstable
 - **>+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 six adjacent conductors/contacts powered



DATA SUMMARIES Continued**CONTACT GAPS:**

Measurements in inches					
	Initial	Mating 25	Mating 100	Thermal	Humidity
Minimum	0.0158	0.0162	0.0161	0.0191	0.0195
Maximum	0.0214	0.0221	0.0233	0.0236	0.0237
Average	0.0183	0.0186	0.0186	0.0207	0.0209
St. Dev.	0.0009	0.0010	0.0010	0.0005	0.0004
Count	100	100	100	100	100

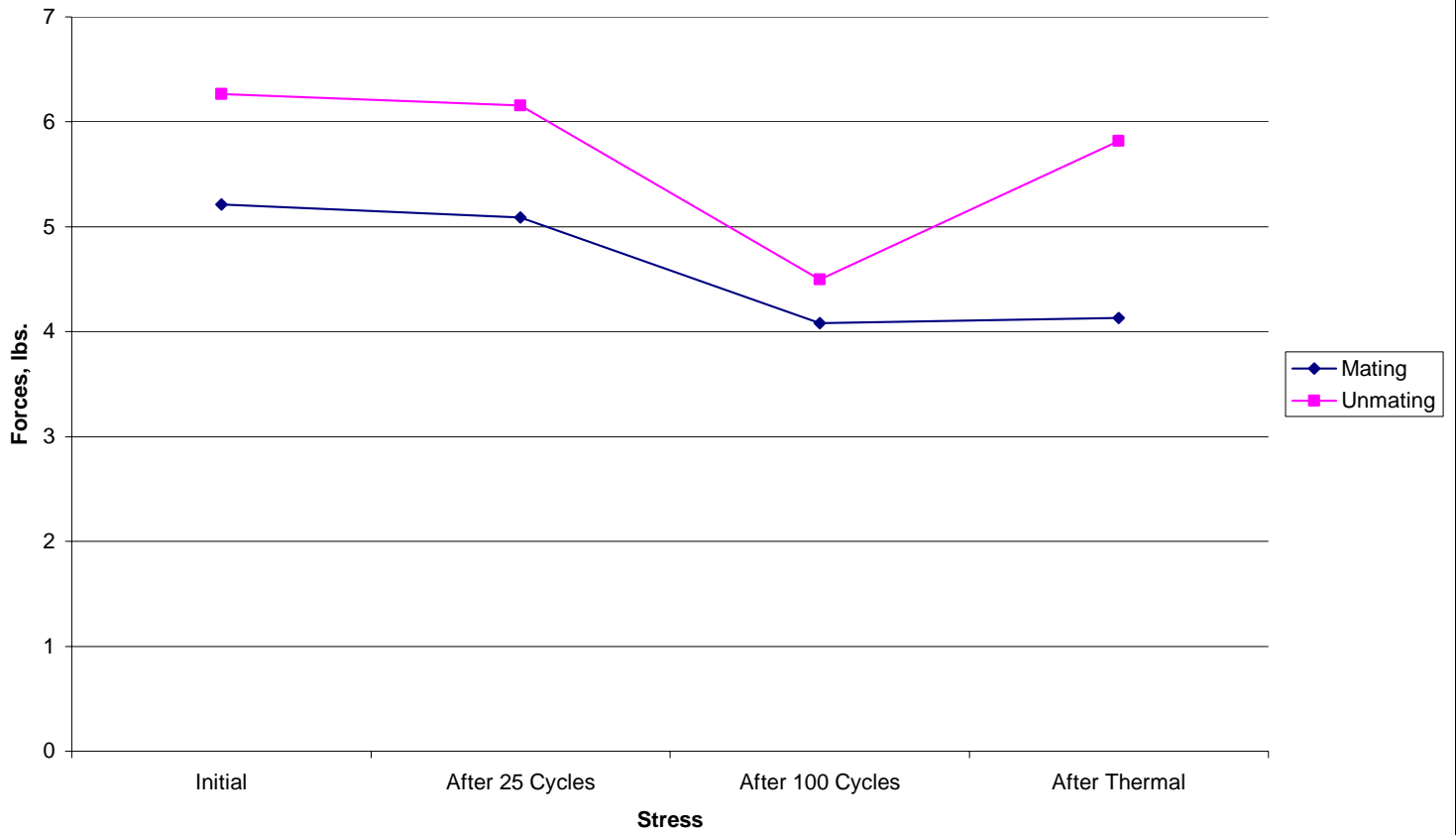
MATING/UNMATING:

	Initial				After 25 Cycles			
	Mating		Unmating		Mating		Unmating	
	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>
Minimum	74.9	4.7	52.8	3.3	68.9	4.3	58.0	3.6
Maximum	95.3	6.0	149.8	9.4	103.8	6.5	124.9	7.8
Average	83.4	5.2	100.2	6.3	81.4	5.1	98.5	6.2
	After 100 Cycles				After Thermal			
	Mating		Unmating		Mating		Unmating	
	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>
Minimum	50.7	3.2	50.8	3.2	56.7	3.5	70.0	4.4
Maximum	77.4	4.8	96.7	6.0	80.1	5.0	123.6	7.7
Average	65.3	4.1	71.9	4.5	66.1	4.1	93.1	5.8
	After Humidity							
	Mating		Unmating					
	<u>Force (Oz)</u>	<u>Force (Lbs)</u>	<u>Force (Oz)</u>	<u>Force (Lbs)</u>				
Minimum	56.0	3.5	68.0	4.3				
Maximum	62.8	3.9	86.6	5.4				
Average	58.9	3.7	78.0	4.9				

DATA SUMMARIES Continued

MATING/UNMATING:

Mating/Unmating
TC053--0596, PEC



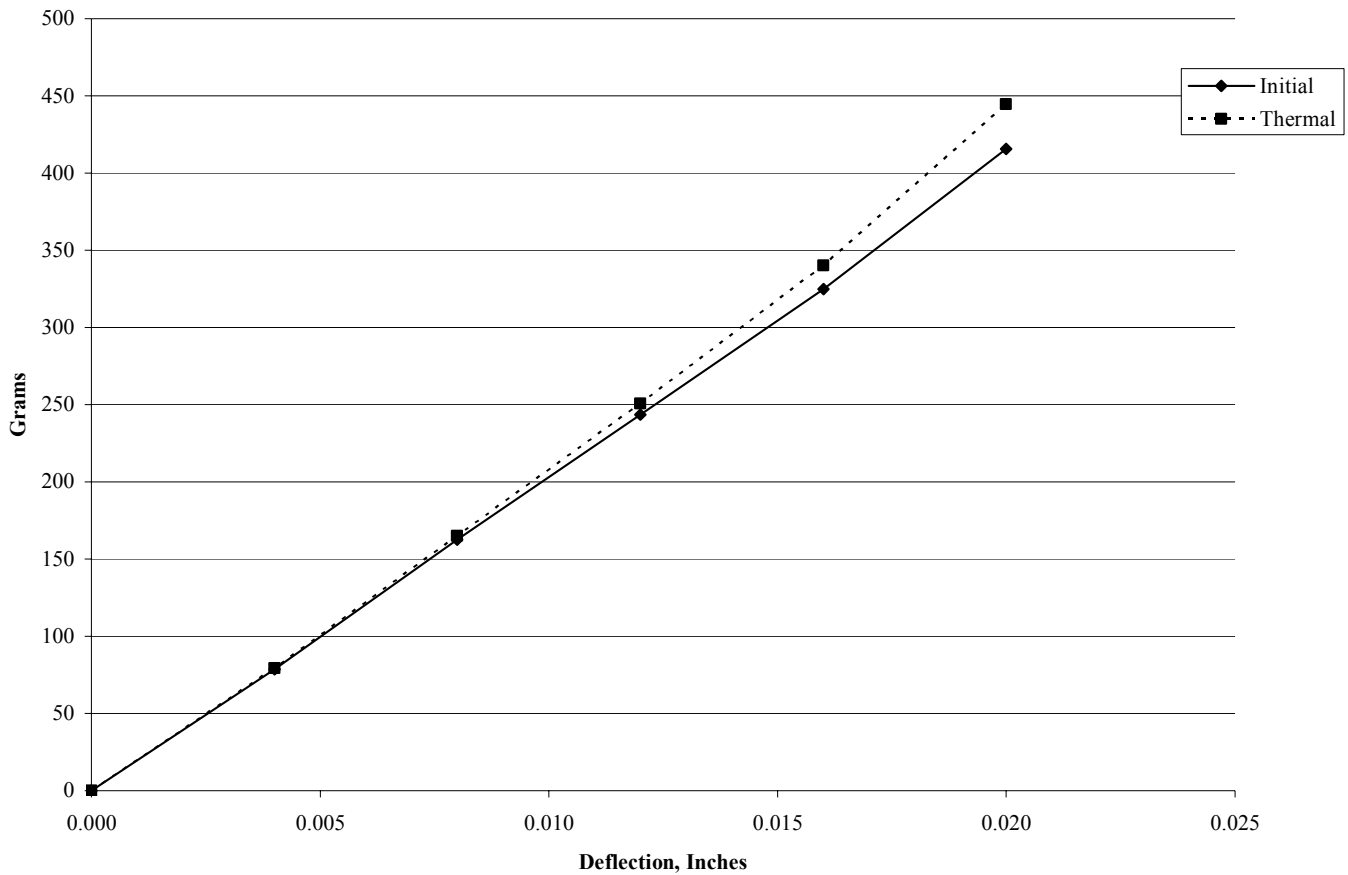
DATA SUMMARIES Continued**NORMAL FORCE:**

- 1) Calibrated force gauges are used along with computer controlled positioning equipment.
- 2) Typically, 8-10 readings are taken and the averages reported.

Initial	Deflections in inches Forces in Grams					
	<u>0.004</u>	<u>0.008</u>	<u>0.012</u>	<u>0.016</u>	<u>0.020</u>	<u>SET</u>
Averages	78.5	162.6	243.7	324.8	415.6	0.0004
Min	75.3	156.9	234.7	312.5	399.1	0.0002
Max	79.1	164.4	247.2	331.3	426.7	0.0005

Thermal	Deflections in inches, Forces in Grams				
	<u>0.004</u>	<u>0.008</u>	<u>0.012</u>	<u>0.016</u>	<u>0.020</u>
Averages	79.3	164.8	250.6	340.1	444.5
Min	76.6	161.9	243.5	328.8	429.2
Max	82.8	169.4	258.5	356.4	466.9

Normal Force
TC053--0596, PEC



DATA SUMMARIES Continued**INSULATION RESISTANCE (IR):**

Electrification Time <i>Two (2) minutes</i>			
	Initial	Thermal	Humidity
	Unmated	Unmated	Unmated
	<u>Insulation Resistance</u>	<u>Insulation Resistance</u>	<u>Insulation Resistance</u>
Average	100000	75000	57500
Min	100000	50000	15000
Max	100000	100000	100000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

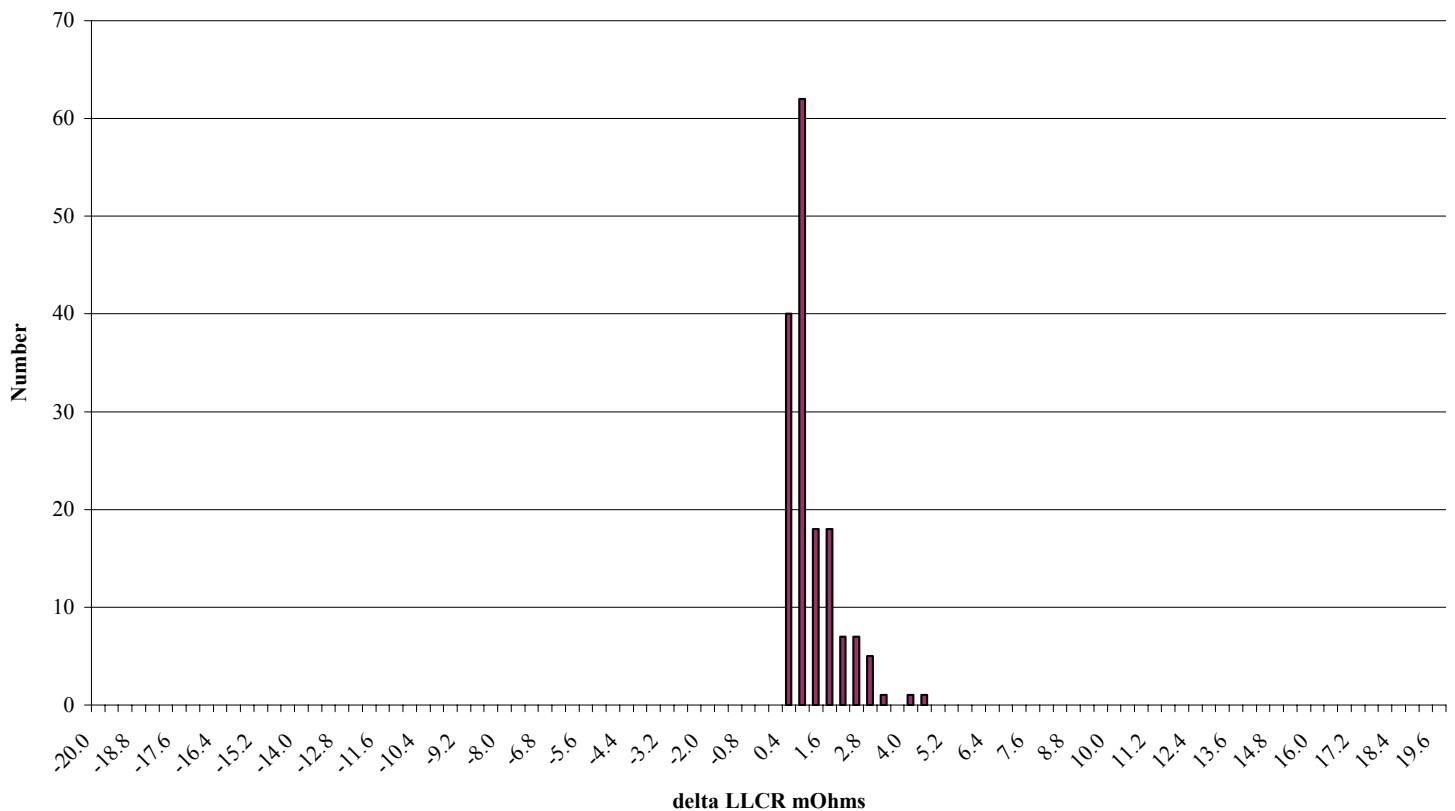
Voltage Rate 500 VAC Per Sec.									
Test Voltage <i>Until Breakdown Occurs</i>									
	Initial, VAC Unmated			Thermal, VAC Unmated			Humidity, VAC Unmated		
	<u>Breakdown Voltage</u>	<u>DWV</u>	<u>Working Voltage</u>	<u>Breakdown Voltage</u>	<u>DWV</u>	<u>Working Voltage</u>	<u>Breakdown Voltage</u>	<u>DWV</u>	<u>Working Voltage</u>
Average	1750	1313	438	1700	1275	425	1400	1050	350
Min	1500	1125	375	1700	1275	425	1400	1050	350
Max	2000	1500	500	1700	1275	425	1400	1050	350

DATA SUMMARIES Continued**LLCR, 25 Cycle Group:**

- 1) A total of 160 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

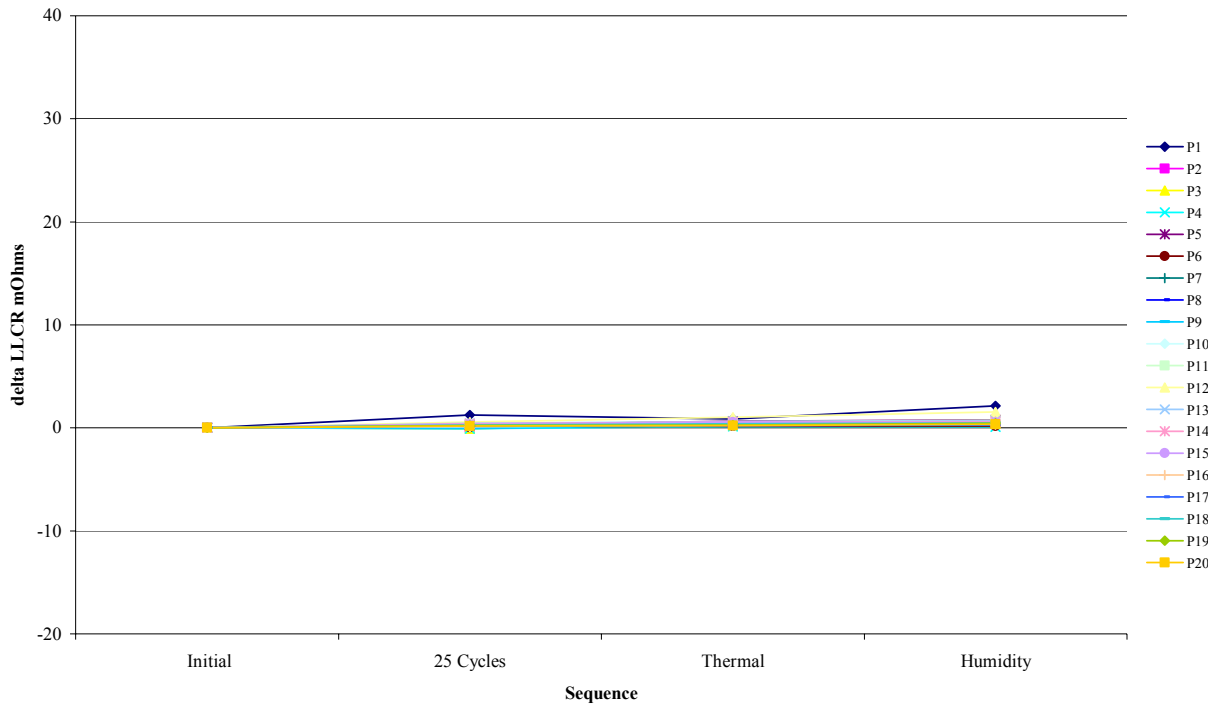
mOhm values	Actual Initial	Delta 25 Cycles	Delta Thermal	Delta Humidity
Average	9.0	0.4	0.7	0.9
St. Dev.	0.3	0.4	0.7	0.7
Min	8.3	-0.1	0.1	0.1
Max	9.6	4.3	5.0	4.3
Count	160	160	160	160

**Count, TC053--0596, PEC
25 Cycle Group
Humidity**

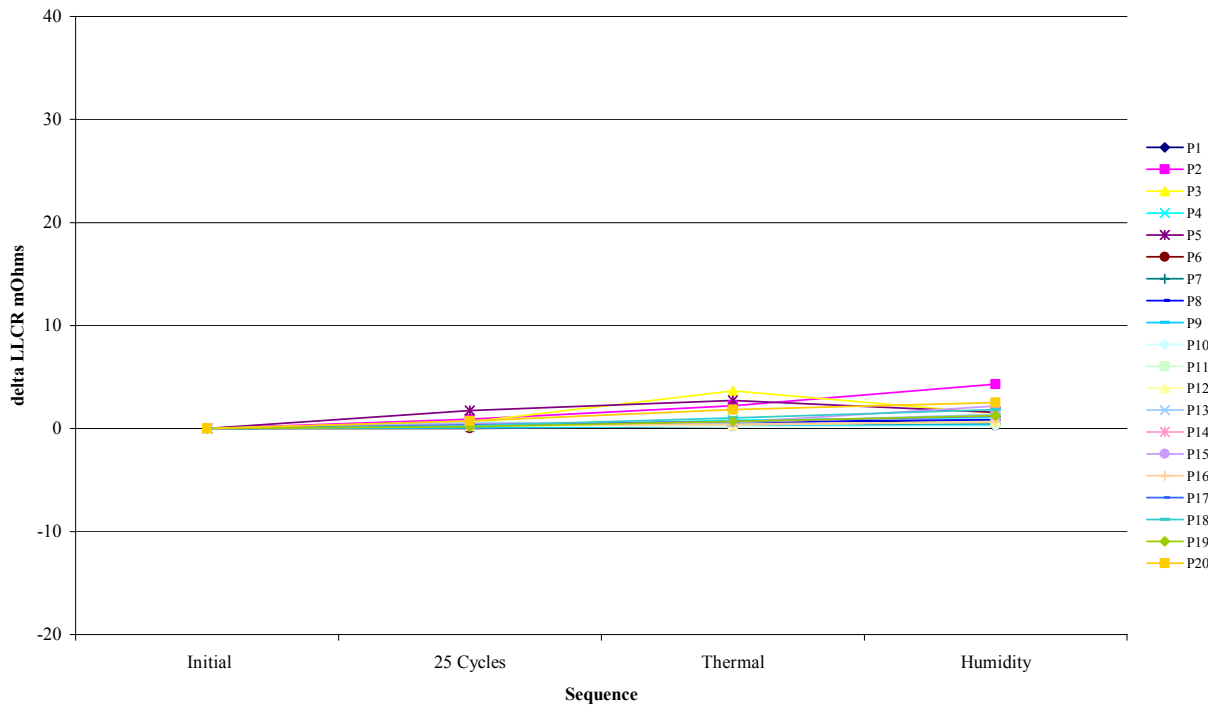


DATA SUMMARIES Continued

TC053--0596, PEC
25 Cycle Set #3



TC053--0596, PEC
25 Cycle Set #4

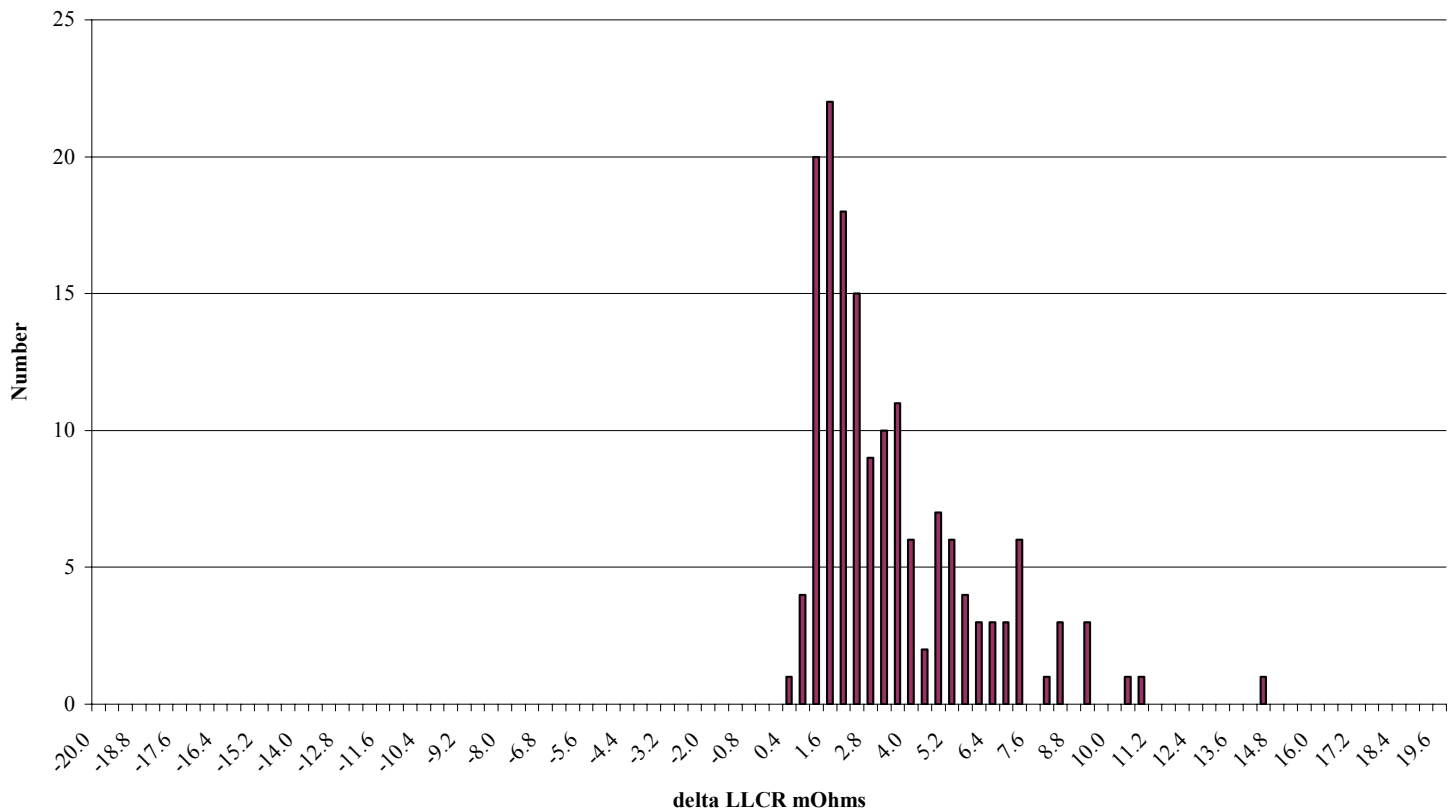


DATA SUMMARIES Continued**LLCR, 100 Cycle Group:**

- 1) A total of 160 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

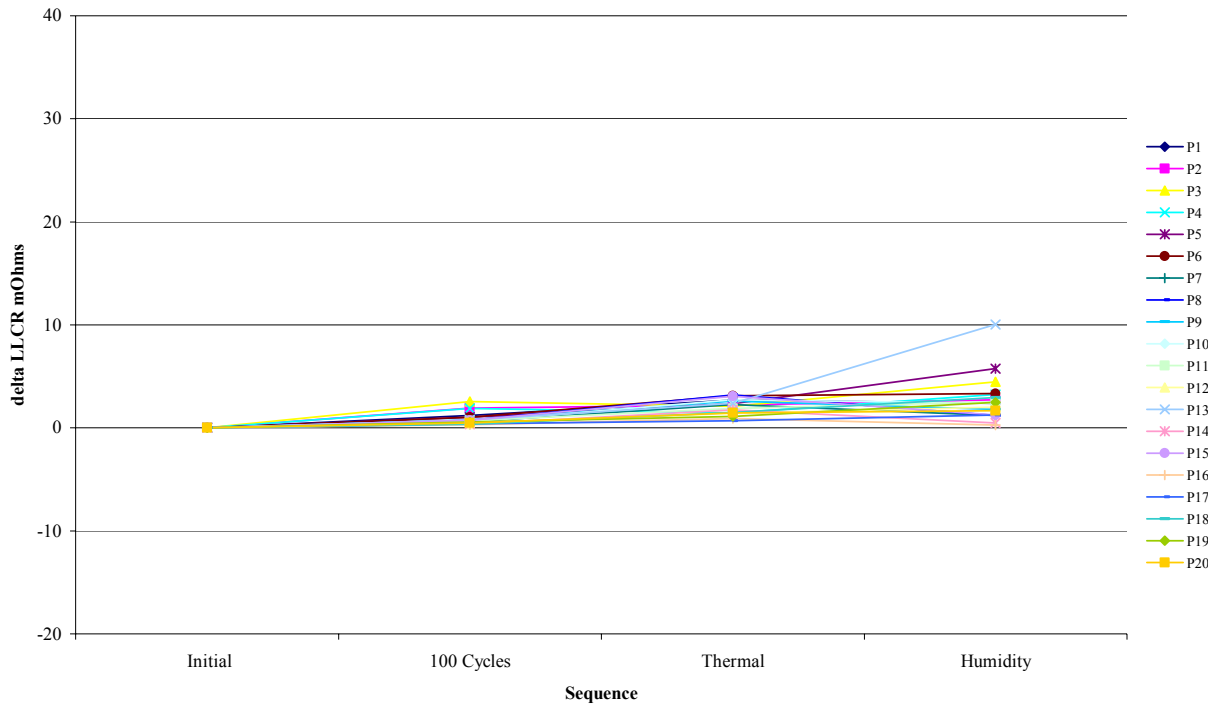
mOhm values	Actual	Delta	Delta	Delta
	Initial	100 Cycles	Thermal	Humidity
Average	8.9	1.1	2.2	3.2
St. Dev.	0.2	1.2	1.7	2.4
Min	8.5	0.1	0.3	0.3
Max	9.6	7.1	8.7	14.0
Count	160	160	160	160

**Count, TC053--0596, PEC
100 Cycle Group
Humidity**

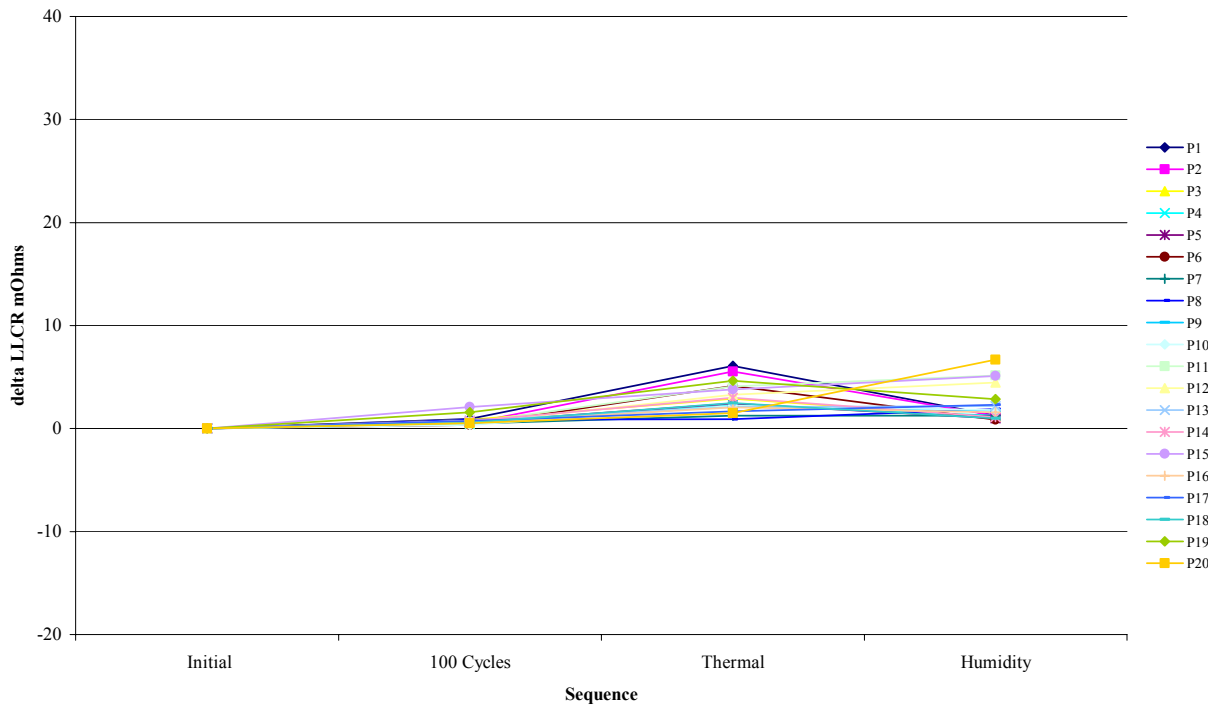


DATA SUMMARIES Continued

TC053--0596, PEC
100 Cycle Set #1

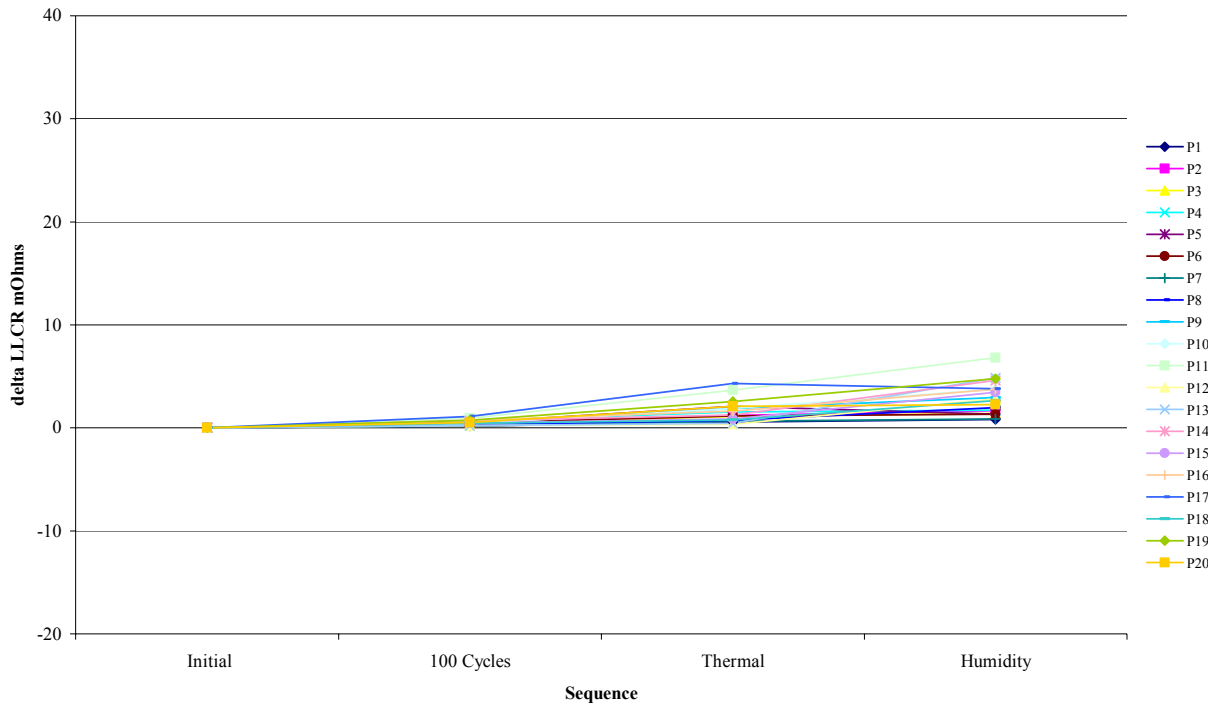


TC053--0596, PEC
100 Cycle Set #2

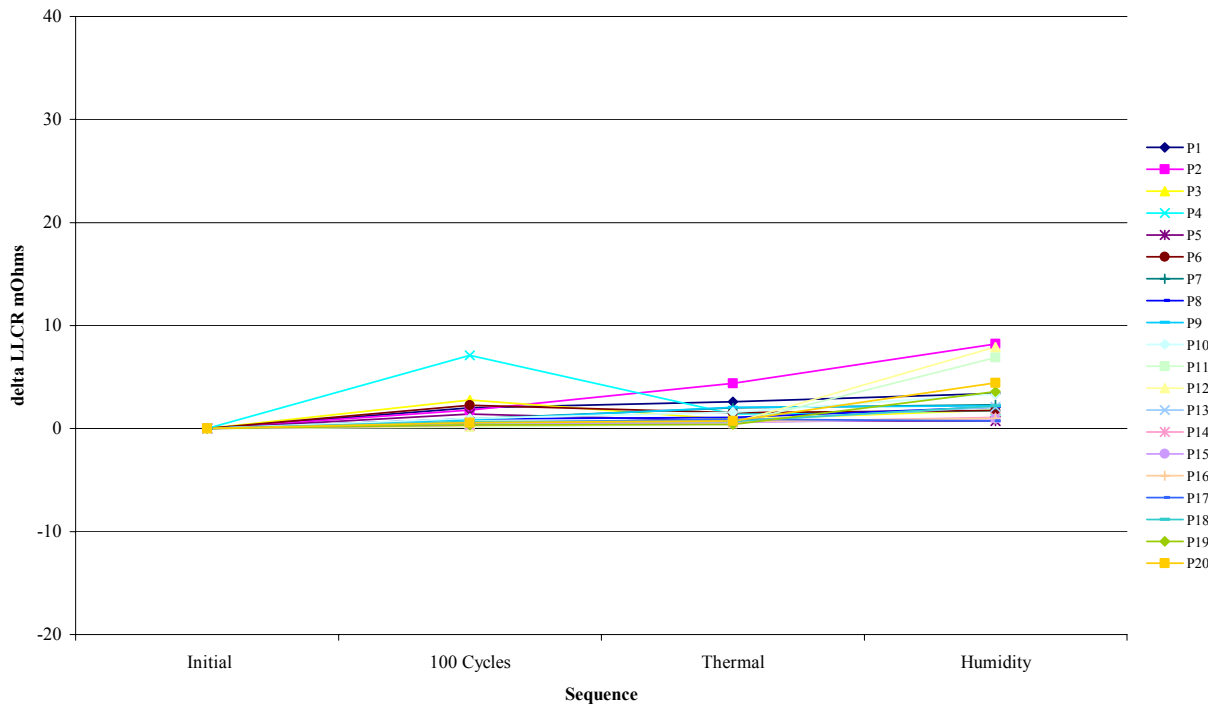


DATA SUMMARIES Continued

**TC053--0596, PEC
100 Cycle Set #3**

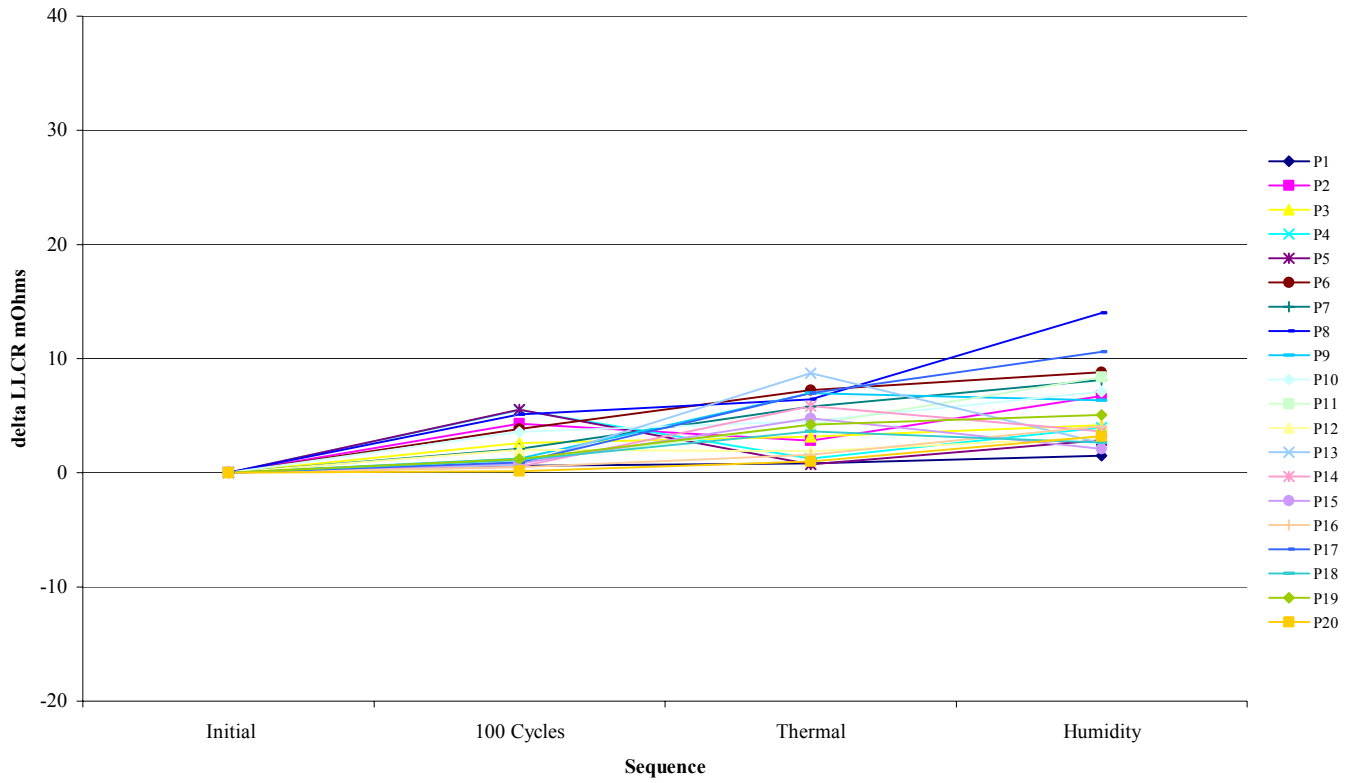


**TC053--0596, PEC
100 Cycle Set #4**

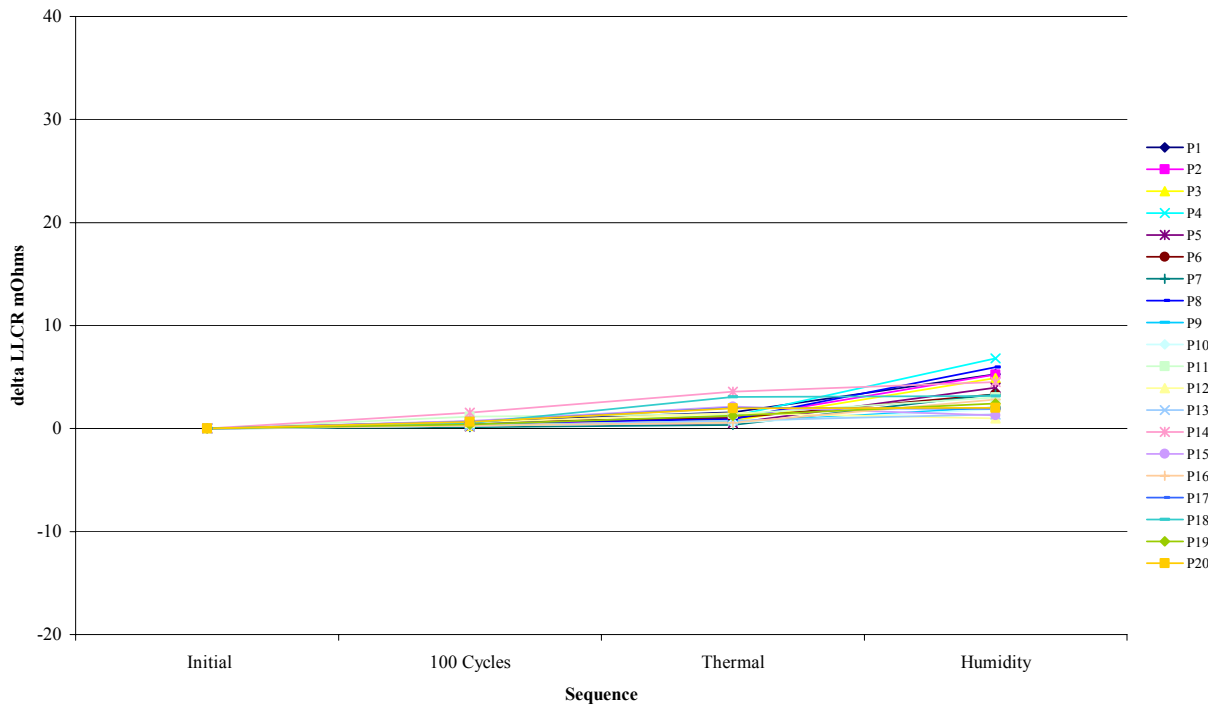


DATA SUMMARIES Continued

TC053--0596, PEC
100 Cycle Set #5

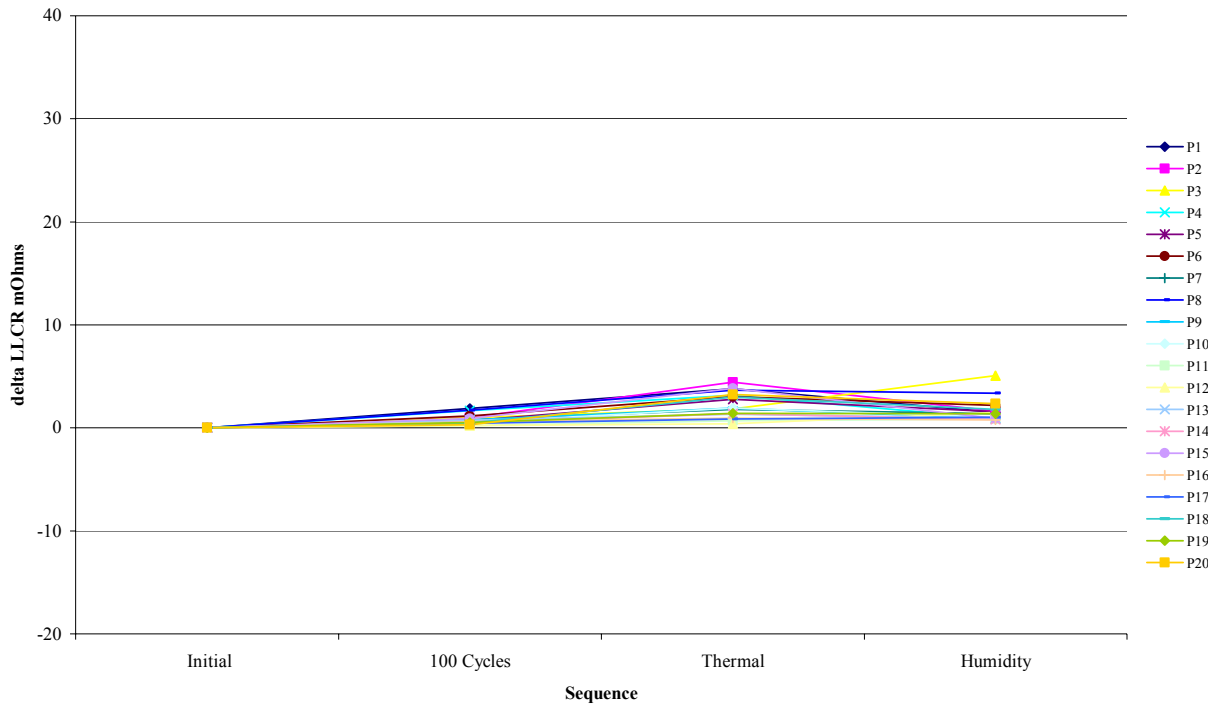


TC053--0596, PEC
100 Cycle Set #6

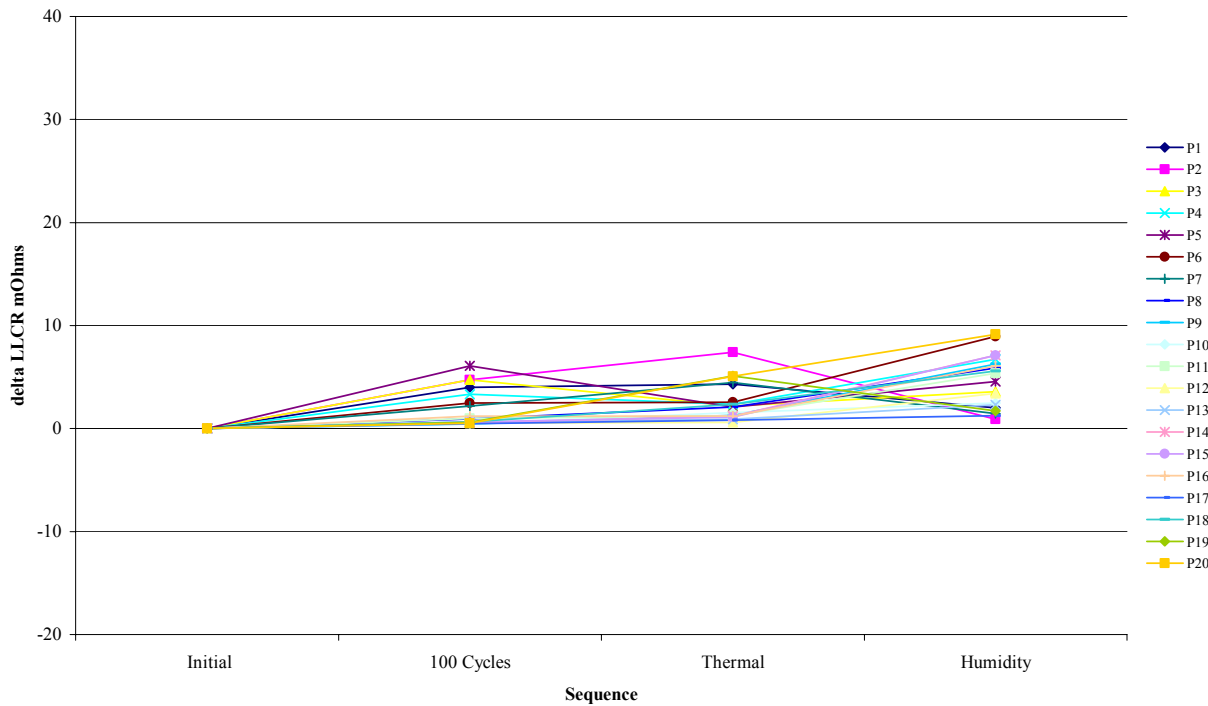


DATA SUMMARIES Continued

TC053--0596, PEC
100 Cycle Set #7



TC053--0596, PEC
100 Cycle Set #8

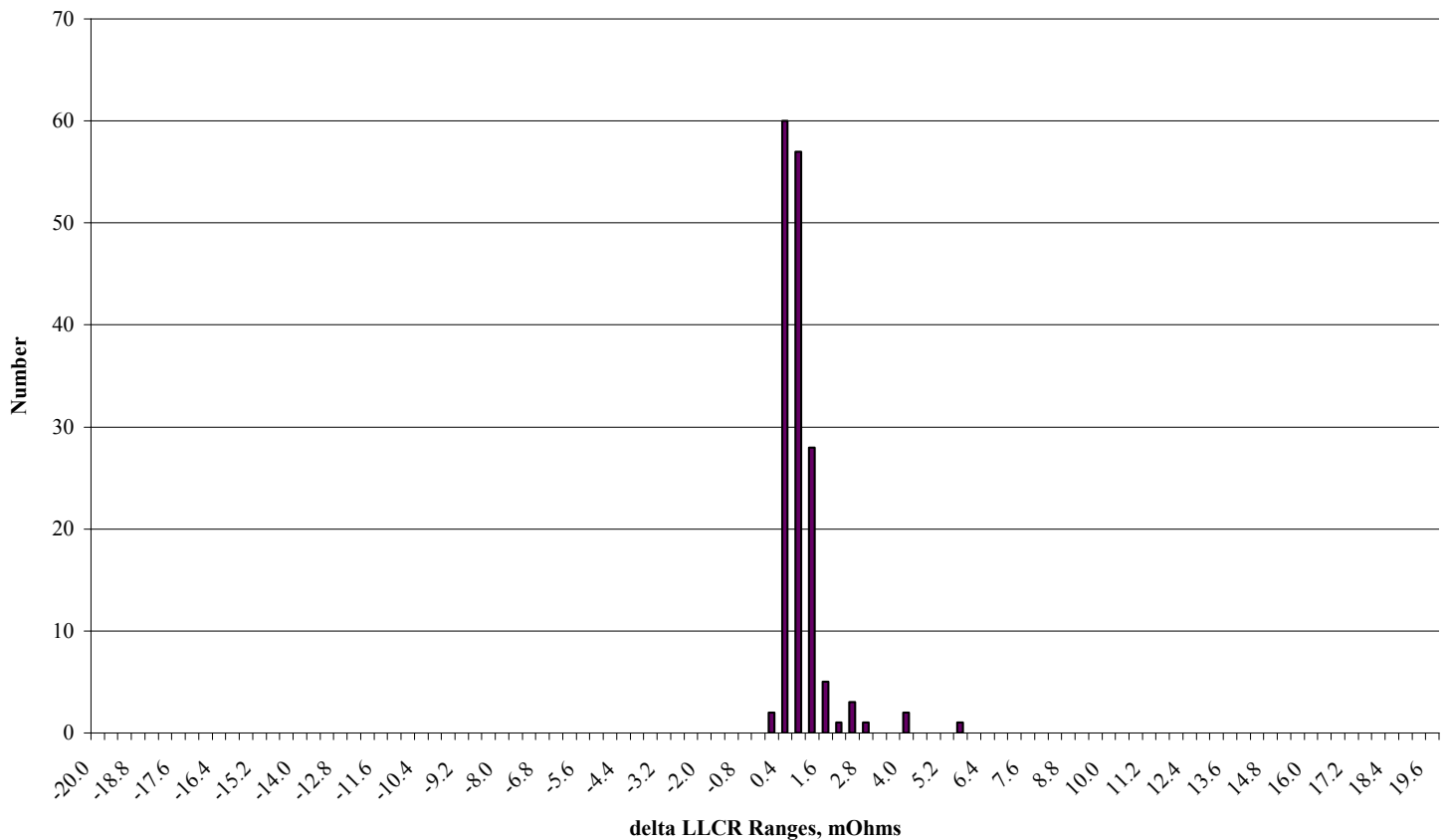


DATA SUMMARIES Continued**LLCR, 3000 Cycle Group:**

- 1) A total of 160 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

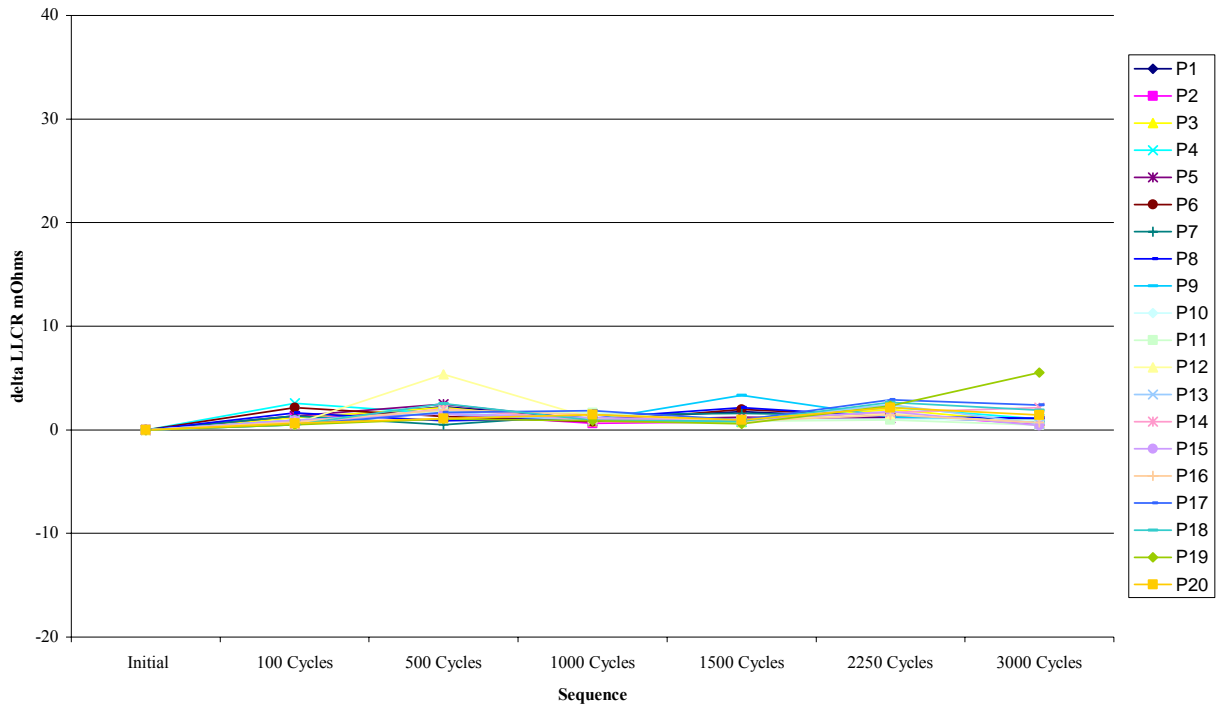
mOhm values	Actual Initial	Delta 100 Cycles	Delta 500 Cycles	Delta 1000 Cycles	Delta 1500 Cycles	Delta 2250 Cycles	Delta 3000 Cycles
Average	8.9	0.6	2.4	0.7	0.7	1.2	0.7
St. Dev.	0.2	0.8	2.1	0.6	0.6	1.0	0.7
Min	8.5	-0.1	0.3	-0.3	-0.2	0.0	0.0
Max	9.7	6.3	14.1	4.3	3.5	5.5	5.5
Count	160	160	160	160	160	160	160

Count, TC053--0596, PEC
3000 Durability

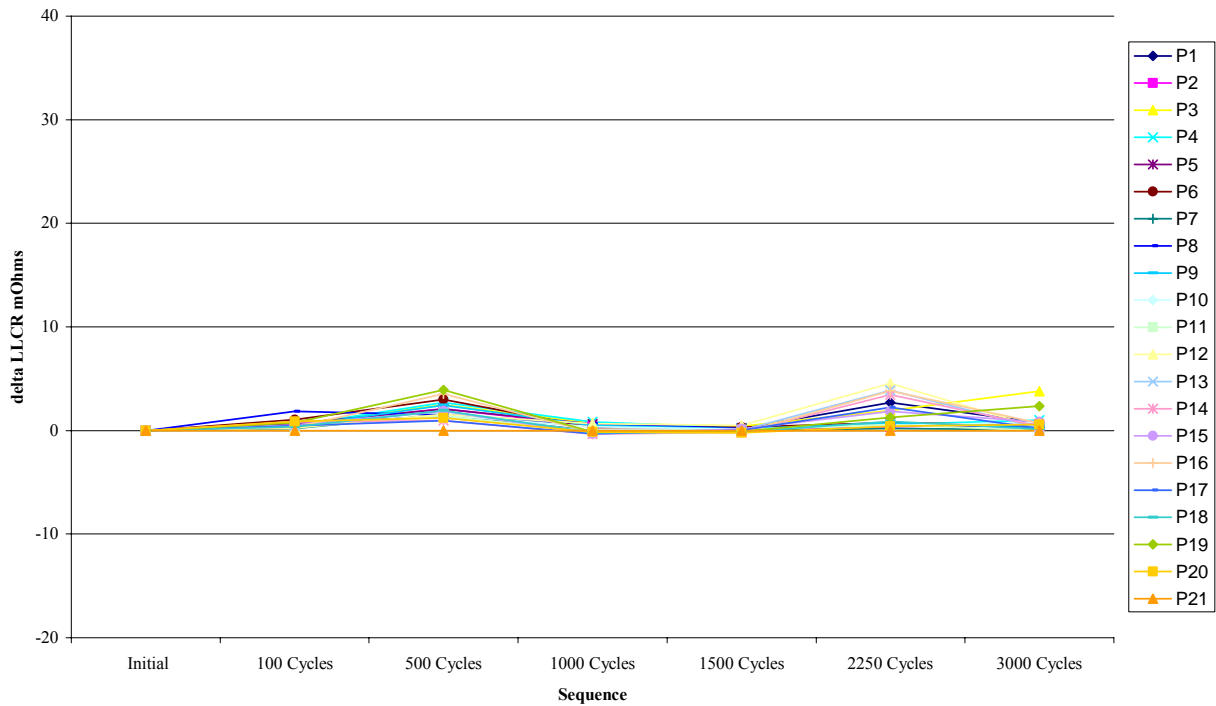


DATA SUMMARIES Continued

TC053--0596, PEC
3000 Cycle Set #5



TC053--0596, PEC
3000 Cycle Set #6



Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

DATA**CONTACT GAPS:**

Test Date:	5/18/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	33%
Equipment ID:	OGP-01

Initial**Measurements in inches**

Sample#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	0.0178	0.0186	0.0186	0.0197	0.0174	0.0173	0.0173	0.0167	0.0166	0.0183
2	0.0171	0.0176	0.0174	0.0190	0.0165	0.0167	0.0163	0.0158	0.0158	0.0179
3	0.0164	0.0177	0.0176	0.0190	0.0168	0.0163	0.0167	0.0160	0.0161	0.0178
4	0.0171	0.0185	0.0179	0.0198	0.0177	0.0170	0.0173	0.0169	0.0171	0.0188
5	0.0175	0.0189	0.0183	0.0204	0.0188	0.0177	0.0179	0.0173	0.0179	0.0192
6	0.0187	0.0197	0.0192	0.0213	0.0197	0.0187	0.0186	0.0187	0.0188	0.0199
7	0.0188	0.0201	0.0195	0.0214	0.0199	0.0192	0.0188	0.0187	0.0190	0.0201
8	0.0191	0.0198	0.0187	0.0206	0.0186	0.0190	0.0180	0.0184	0.0182	0.0199
9	0.0182	0.0192	0.0186	0.0201	0.0181	0.0184	0.0174	0.0178	0.0175	0.0190
10	0.0188	0.0193	0.0187	0.0205	0.0183	0.0188	0.0176	0.0176	0.0180	0.0193

Test Date:	6/3/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	42%
Equipment ID:	OGP-01

Mating - 25 Cycles**Measurements in inches**

Sample#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	0.0180	0.0180	0.0188	0.0194	0.0178	0.0176	0.0178	0.0169	0.0174	0.0185
2	0.0173	0.0171	0.0176	0.0186	0.0168	0.0171	0.0168	0.0162	0.0165	0.0179
3	0.0167	0.0172	0.0177	0.0185	0.0172	0.0165	0.0173	0.0164	0.0168	0.0180
4	0.0174	0.0180	0.0180	0.0193	0.0183	0.0174	0.0179	0.0171	0.0178	0.0189
5	0.0178	0.0185	0.0184	0.0201	0.0191	0.0179	0.0185	0.0179	0.0186	0.0192
6	0.0188	0.0194	0.0191	0.0209	0.0202	0.0190	0.0192	0.0191	0.0194	0.0200
7	0.0191	0.0198	0.0195	0.0210	0.0208	0.0195	0.0196	0.0192	0.0199	0.0204
8	0.0194	0.0195	0.0188	0.0204	0.0193	0.0192	0.0186	0.0187	0.0213	0.0201
9	0.0185	0.0189	0.0186	0.0197	0.0187	0.0187	0.0180	0.0180	0.0221	0.0190
10	0.0188	0.0189	0.0186	0.0201	0.0188	0.0191	0.0181	0.0180	0.0185	0.0195

DATA Continued**CONTACT GAPS:**

Test Date:	6/3/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	42%
Equipment ID:	OGP-01

Mating - 100 Cycles**Measurements in inches**

Sample#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	0.0183	0.0183	0.0183	0.0196	0.0179	0.0178	0.0176	0.0169	0.0173	0.0185
2	0.0177	0.0174	0.0173	0.0190	0.0169	0.0172	0.0167	0.0161	0.0165	0.0180
3	0.0171	0.0174	0.0175	0.0189	0.0173	0.0167	0.0171	0.0164	0.0170	0.0181
4	0.0177	0.0181	0.0179	0.0195	0.0182	0.0176	0.0175	0.0172	0.0177	0.0189
5	0.0180	0.0185	0.0182	0.0204	0.0191	0.0182	0.0182	0.0179	0.0191	0.0192
6	0.0189	0.0195	0.0192	0.0211	0.0202	0.0190	0.0189	0.0190	0.0194	0.0201
7	0.0192	0.0198	0.0195	0.0212	0.0205	0.0196	0.0191	0.0190	0.0199	0.0204
8	0.0199	0.0196	0.0187	0.0205	0.0192	0.0194	0.0183	0.0187	0.0187	0.0201
9	0.0188	0.0190	0.0185	0.0199	0.0233	0.0188	0.0176	0.0180	0.0180	0.0191
10	0.0190	0.0191	0.0187	0.0204	0.0191	0.0192	0.0178	0.0180	0.0184	0.0195

Test Date:	6/17/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	42%
Equipment ID:	OGP-01

Thermal**Measurements in inches**

Sample#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	0.0199	0.0207	0.0207	0.0224	0.0196	0.0199	0.0205	0.0194	0.0204	0.0203
2	0.0198	0.0204	0.0202	0.0218	0.0191	0.0198	0.0202	0.0192	0.0199	0.0203
3	0.0195	0.0206	0.0205	0.0220	0.0195	0.0197	0.0202	0.0197	0.0197	0.0204
4	0.0199	0.0210	0.0207	0.0225	0.0204	0.0202	0.0209	0.0205	0.0204	0.0212
5	0.0198	0.0214	0.0207	0.0227	0.0209	0.0203	0.0207	0.0204	0.0207	0.0214
6	0.0202	0.0213	0.0216	0.0235	0.0215	0.0210	0.0209	0.0208	0.0216	0.0213
7	0.0202	0.0215	0.0216	0.0236	0.0210	0.0208	0.0209	0.0207	0.0212	0.0215
8	0.0205	0.0213	0.0206	0.0224	0.0203	0.0208	0.0203	0.0206	0.0206	0.0214
9	0.0199	0.0209	0.0206	0.0221	0.0200	0.0204	0.0198	0.0202	0.0201	0.0208
10	0.0202	0.0208	0.0207	0.0223	0.0200	0.0208	0.0198	0.0205	0.0211	0.0213

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

DATA Continued**CONTACT GAPS:**

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature (C):	24
Humidity (RH):	42%
Equipment ID:	OGP-01

Humidity

Measurements in inches

Sample#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	0.0201	0.0211	0.0208	0.0226	0.0201	0.0202	0.0208	0.0196	0.0203	0.0209
2	0.0201	0.0209	0.0204	0.0220	0.0198	0.0202	0.0207	0.0195	0.0199	0.0209
3	0.0198	0.0209	0.0207	0.0221	0.0202	0.0201	0.0206	0.0199	0.0199	0.0211
4	0.0202	0.0215	0.0209	0.0227	0.0211	0.0204	0.0212	0.0208	0.0204	0.0217
5	0.0201	0.0218	0.0208	0.0227	0.0215	0.0204	0.0210	0.0206	0.0207	0.0218
6	0.0203	0.0215	0.0217	0.0235	0.0219	0.0211	0.0209	0.0208	0.0215	0.0216
7	0.0202	0.0218	0.0218	0.0237	0.0215	0.0209	0.0211	0.0206	0.0210	0.0217
8	0.0207	0.0216	0.0207	0.0225	0.0208	0.0209	0.0206	0.0205	0.0205	0.0218
9	0.0202	0.0212	0.0208	0.0221	0.0205	0.0205	0.0201	0.0203	0.0201	0.0212
10	0.0204	0.0212	0.0208	0.0223	0.0206	0.0208	0.0202	0.0208	0.0209	0.0220

DATA Continued**MATING/UNMATING:**

Test Date:	6/3/2005
Operator:	Troy Cook
Temperature (C):	25
Humidity (RH):	56%
Equipment ID:	TCT-03
Load Cell ID:	LC-2500N(icell)
Part #	PEC

Sample#	Initial				After 25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	74.9	4.68	52.8	3.30	68.9	4.31	58.0	3.63
2	88.0	5.50	149.8	9.36	92.2	5.76	123.6	7.73
3	76.6	4.79	110.8	6.92	79.9	4.99	101.6	6.35
4	94.6	5.91	135.5	8.47	85.7	5.36	114.6	7.17
5	78.2	4.89	76.2	4.76	103.8	6.49	84.7	5.30
6	95.3	5.96	122.3	7.64	88.5	5.53	124.9	7.81
7	79.0	4.94	73.5	4.59	70.7	4.42	91.1	5.69
8	86.6	5.42	118.8	7.43	76.1	4.76	123.1	7.69
9	78.4	4.90	90.1	5.63	72.7	4.54	85.5	5.35
10	82.5	5.15	72.6	4.54	75.8	4.74	77.9	4.87

Test Date:	6/3/2005
Operator:	Troy Cook
Temperature (C):	25
Humidity (RH):	56%
Equipment ID:	TCT-03
Load Cell ID:	LC-2500N(icell)

Test Date:	6/17/2005
Operator:	Troy Cook
Temperature (C):	25
Humidity (RH):	42%
Equipment ID:	TCT-03
Load Cell ID:	LC-2500N(icell)

Sample#	After 100 Cycles				After Thermal			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	71.2	4.45	85.7	5.36	58.7	3.67	82.5	5.16
2	64.5	4.03	54.5	3.41	68.5	4.28	88.4	5.53
3	50.7	3.17	54.4	3.40	65.5	4.10	79.9	4.99
4	53.8	3.36	50.8	3.17	69.8	4.36	98.6	6.16
5	77.4	4.84	88.7	5.55	80.1	5.01	123.6	7.72
6	65.6	4.10	70.6	4.41	66.2	4.14	101.2	6.33
7	67.9	4.25	78.1	4.88	68.4	4.28	104.8	6.55
8	73.5	4.60	96.7	6.04	61.9	3.87	94.3	5.89
9	66.0	4.12	79.0	4.94	65.0	4.06	87.3	5.46
10	62.5	3.91	61.0	3.82	56.7	3.54	70.0	4.38

DATA Continued**MATING/UNMATING:**

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	50%
Equipment ID:	TCT-03
Load Cell ID:	LC-2500N(icell)

Sample#	After Humidity			
	Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	57.6	3.60	78.3	4.89
2	56.0	3.50	73.0	4.56
3	58.4	3.65	79.1	4.94
4	62.8	3.93	86.6	5.41
5	62.4	3.90	86.0	5.38
6	56.1	3.51	75.2	4.70
7	57.8	3.61	68.0	4.25
8	62.4	3.90	76.8	4.80
9	58.3	3.64	82.6	5.16
10	57.2	3.58	74.6	4.66

DATA Continued**NORMAL FORCE:**

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature:	24
Humidity:	41%
Equipment ID:	TCT-03
Load Cell ID:	LC- 5N(icell)

Initial	Deflections in inches Forces in Grams					
Sample #	0.004	0.008	0.012	0.016	0.020	SET
1	79.10	164.40	247.20	328.80	420.40	0.00020
2	79.10	164.40	247.20	331.30	426.70	0.00050
3	79.10	163.20	244.70	327.60	421.70	0.00040
4	79.10	163.20	244.70	326.30	414.10	0.00030
5	79.10	163.20	243.50	322.50	411.60	0.00030
6	75.30	156.90	234.70	312.50	399.10	0.00040

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature:	24
Humidity:	41%
Equipment ID:	TCT-03
Load Cell ID:	LC- 5N(icell)

Thermal	Deflections in inches Forces in Grams				
Sample #	0.004	0.008	0.012	0.016	0.020
1	82.80	169.40	258.50	356.40	466.90
2	80.30	164.40	251.00	340.10	446.80
3	80.30	165.70	249.80	341.40	445.50
4	76.60	161.90	243.50	328.80	429.20
5	77.80	163.20	251.00	333.80	434.20
6	77.80	164.40	249.80	340.10	444.30

DATA Continued**INSULATION RESISTANCE (IR):**

Test Date:	5/18/2005
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	35%
Equipment ID:	HPM-01

Test Conditions	<u>YES</u>	<u>NO</u>
<u>Adjacent Contacts</u>	X	
<u>Mated</u>		X
<u>PC Mounted</u>	X	

Electrification Time *Two (2) minutes*

Initial, Meg Ohms

<u>Sample #</u>	<u>Unmated</u>
	<u>Insulation Resistance</u>
1	100000
2	100000

Test Date:	6/17/2005
Operator:	Troy Cook
Temperature (C):	24
Humidity (RH):	40%
Equipment ID:	HPM-01

Test Conditions	<u>YES</u>	<u>NO</u>
<u>Adjacent Contacts</u>	X	
<u>Mated</u>		X
<u>PC Mounted</u>	X	

Electrification Time *Two (2) minutes*

Thermal, Meg Ohms

<u>Sample #</u>	<u>Unmated</u>
	<u>Insulation Resistance</u>
1	100000
2	50000

DATA Continued**INSULATION RESISTANCE (IR):**

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature (C):	24
Humidity (RH):	40%
Equipment ID:	HPM-01

Test Conditions	<u>YES</u>	<u>NO</u>
<u>Adjacent Contacts</u>	X	
<u>Mated</u>		X
<u>PC Mounted</u>	X	

Electrification Time *Two (2) minutes*
Humidity, Meg
Ohms

<u>Sample</u> <u>#</u>	<u>Unmated</u> <u>Insulation</u> <u>Resistance</u>
1	15000
2	100000

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

Test Date:	5/25/2005
Operator:	JT
Temperature (C):	23
Humidity (RH):	32%
Equipment ID:	HPM-01

Test Conditions	<u>YES</u>	<u>NO</u>
<u>Adjacent Contacts</u>	X	
<u>Mated</u>		X
<u>PC Mounted</u>	X	

Voltage Rate 500 VAC Per Sec.			
Test Voltage <i>Until Breakdown Occurs</i>			
Initial, VAC Unmated			
<u>Sample #</u>	<u>Breakdown Voltage</u>	<u>DWV</u>	<u>Working Voltage</u>
1	1500	1125	375
2	2000	1500	500

Test Date:	6/17/2005
Operator:	Troy Cook
Temperature (C):	24
Humidity (RH):	40%
Equipment ID:	HPM-01

Test Conditions	<u>YES</u>	<u>NO</u>
<u>Adjacent Contacts</u>	X	
<u>Mated</u>		X
<u>PC Mounted</u>	X	

Voltage Rate 500 VAC Per Sec.			
Test Voltage <i>Until Breakdown Occurs</i>			
Thermal, VAC Unmated			
<u>Sample #</u>	<u>Breakdown Voltage</u>	<u>DWV</u>	<u>Working Voltage</u>
1	1700	1275	425
2	1700	1275	425

DATA Continued

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Test Date:	7/8/2005
Operator:	Troy Cook
Temperature (C):	24
Humidity (RH):	40%
Equipment ID:	HPM-01

Test Conditions	YES	NO
Adjacent Contacts	X	
Mated		X
PC Mounted	X	

Voltage Rate 500 VAC Per Sec.			
Test Voltage <i>Until Breakdown Occurs</i>			
Humidity, VAC Unmated			
Sample #	Breakdown Voltage	DWV	Working Voltage
1	1400	1050	350
2	1400	1050	350

DATA Continued**LLCR, 25 Cycle Group:**

		Date	May 16 2005	May 18 2005	Jun. 16 2005	Jul. 08 2005
		Room Temp C	25	24	23	23
		RH	36%	25%	40%	45%
		Name	Troy Cook	Troy Cook	Troy Cook	Troy Cook
mOhm values		Actual	Delta	Delta	Delta	
Board	Position	Initial	25 Cycles	Thermal	Humidity	
1	P1	9.2	0.2	0.3	0.6	
1	P2	8.9	0.1	0.7	1.9	
1	P3	8.9	0.2	0.7	1.6	
1	P4	8.9	0.8	5.0	4.0	
1	P5	9.0	0.3	0.8	2.4	
1	P6	9.0	0.7	0.4	1.3	
1	P7	9.0	0.3	0.5	1.1	
1	P8	8.9	0.5	0.7	1.3	
1	P9	8.9	0.4	0.6	1.1	
1	P10	9.1	0.5	0.8	1.6	
1	P11	8.9	1.0	0.9	0.6	
1	P12	8.7	0.7	1.1	0.5	
1	P13	8.8	0.1	1.6	0.5	
1	P14	8.8	0.1	4.1	0.4	
1	P15	8.7	0.7	1.1	1.6	
1	P16	8.8	0.1	0.1	0.3	
1	P17	8.7	0.4	0.4	0.5	
1	P18	8.7	0.4	0.6	0.9	
1	P19	8.6	0.3	0.4	0.4	
1	P20	8.8	0.3	0.5	0.5	
2	P1	9.5	0.0	0.2	0.4	
2	P2	9.3	0.1	0.4	1.6	
2	P3	9.3	0.3	1.2	0.9	
2	P4	9.3	0.2	1.0	1.4	
2	P5	9.3	0.2	0.6	1.1	
2	P6	9.3	0.9	2.5	0.9	
2	P7	9.3	0.7	0.9	1.1	
2	P8	9.3	0.8	1.0	1.4	
2	P9	9.3	0.4	0.4	0.5	
2	P10	9.5	1.0	0.3	0.4	
2	P11	8.9	0.4	0.6	0.9	
2	P12	8.7	0.3	0.9	1.6	
2	P13	8.8	0.9	1.0	2.1	
2	P14	8.8	0.3	1.2	2.8	
2	P15	8.8	0.2	0.6	0.7	
2	P16	8.7	0.1	0.4	0.6	
2	P17	8.7	0.3	0.9	1.1	
2	P18	8.9	0.1	0.3	0.5	

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

2	P19	8.7	0.4	0.4	1.5
2	P20	8.8	0.1	0.2	0.3
3	P1	8.8	1.2	0.9	2.1
3	P2	8.6	0.0	0.3	0.4
3	P3	8.6	-0.1	0.3	0.4
3	P4	8.6	-0.1	0.1	0.1
3	P5	8.6	0.3	0.6	0.8
3	P6	8.6	0.0	0.2	0.2
3	P7	8.6	0.1	0.3	0.3
3	P8	8.3	0.2	0.4	0.4
3	P9	8.3	-0.1	0.3	0.3
3	P10	8.5	0.1	0.3	0.4
3	P11	9.5	0.3	0.6	0.7
3	P12	9.3	0.6	1.0	1.5
3	P13	9.3	0.4	0.6	0.7
3	P14	9.4	0.4	0.5	0.6
3	P15	9.3	0.3	0.6	0.5
3	P16	9.4	0.2	0.2	0.3
3	P17	9.3	0.2	0.2	0.3
3	P18	9.3	0.3	0.4	0.5
3	P19	9.3	0.2	0.3	0.4
3	P20	9.5	0.2	0.2	0.3
4	P1	9.2	0.2	0.7	0.8
4	P2	9.1	0.9	2.2	4.3
4	P3	9.0	0.6	3.7	1.5
4	P4	9.0	0.2	0.8	1.1
4	P5	9.0	1.8	2.7	1.6
4	P6	9.0	0.0	0.2	0.3
4	P7	9.0	0.1	0.4	0.4
4	P8	9.0	0.3	0.7	0.9
4	P9	9.0	0.1	0.2	0.4
4	P10	9.2	0.3	0.2	0.2
4	P11	9.2	0.7	0.4	0.6
4	P12	9.0	0.3	0.4	0.7
4	P13	9.0	0.5	0.6	1.4
4	P14	9.0	0.3	0.6	1.2
4	P15	9.0	0.5	0.6	2.2
4	P16	9.1	0.4	0.4	0.7
4	P17	9.0	0.4	0.7	1.2
4	P18	9.1	0.2	1.0	1.8
4	P19	9.0	0.2	0.7	1.3
4	P20	9.2	0.7	1.8	2.5
5	P1	9.1	0.1	0.3	0.4
5	P2	9.0	0.0	0.4	0.5
5	P3	9.0	0.0	0.2	0.3
5	P4	9.1	0.2	0.8	1.0
5	P5	9.0	0.2	0.5	0.6
5	P6	9.1	0.1	0.3	0.3
5	P7	9.0	0.3	0.7	0.7
5	P8	9.0	1.4	2.8	2.6

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

5	P9	9.0	0.4	0.9	1.0
5	P10	9.2	4.3	0.2	1.6
5	P11	9.6	0.4	0.8	0.7
5	P12	9.4	0.3	0.7	0.8
5	P13	9.4	0.2	0.4	0.5
5	P14	9.4	0.7	1.2	1.4
5	P15	9.4	0.2	0.4	0.5
5	P16	9.5	0.3	0.7	0.8
5	P17	9.5	0.1	0.4	0.5
5	P18	9.5	0.2	0.4	0.5
5	P19	9.4	0.1	0.3	0.4
5	P20	9.6	0.1	0.3	0.4
6	P1	9.0	0.3	1.1	1.5
6	P2	8.9	0.0	0.5	0.7
6	P3	8.9	-0.1	0.4	0.7
6	P4	8.9	0.0	0.4	0.7
6	P5	8.9	0.0	0.2	0.2
6	P6	8.9	-0.1	0.1	0.1
6	P7	8.9	0.1	0.3	0.4
6	P8	8.9	0.1	0.4	0.4
6	P9	8.9	0.6	1.3	2.2
6	P10	9.0	0.3	1.2	2.4
6	P11	9.0	0.1	0.5	0.5
6	P12	8.9	0.6	2.7	0.6
6	P13	8.8	0.1	0.8	0.4
6	P14	8.9	0.3	0.9	0.7
6	P15	8.9	0.0	0.3	0.4
6	P16	8.9	0.1	0.3	0.2
6	P17	8.8	0.4	0.6	0.2
6	P18	8.9	0.7	1.3	0.4
6	P19	8.8	0.8	2.1	0.3
6	P20	8.9	0.2	0.6	0.4
7	P1	9.1	1.3	1.3	0.1
7	P2	8.9	0.4	0.4	0.5
7	P3	8.9	0.4	0.9	0.3
7	P4	8.9	0.3	1.0	2.7
7	P5	8.9	0.3	0.9	1.3
7	P6	8.9	0.0	0.3	0.4
7	P7	9.0	0.2	0.6	0.8
7	P8	8.9	-0.1	0.1	0.2
7	P9	8.9	0.3	0.4	0.6
7	P10	9.1	0.7	0.3	0.7
7	P11	9.0	0.2	0.6	0.9
7	P12	8.8	0.2	0.5	0.8
7	P13	8.8	0.3	0.6	0.8
7	P14	8.8	0.4	0.5	0.6
7	P15	8.9	0.2	0.4	0.4
7	P16	8.9	0.1	0.2	0.3
7	P17	8.9	0.0	0.2	0.2
7	P18	8.8	0.1	0.4	0.4

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

7	P19	8.8	0.0	0.2	0.3
7	P20	9.0	0.1	0.3	0.6
8	P1	8.8	0.3	0.7	0.7
8	P2	8.7	0.7	0.3	0.4
8	P3	8.7	0.5	0.3	0.3
8	P4	8.7	0.5	0.5	0.6
8	P5	8.7	0.6	0.3	0.3
8	P6	8.7	0.4	0.5	0.5
8	P7	8.7	0.4	0.2	0.2
8	P8	8.7	0.6	0.5	0.5
8	P9	8.6	0.6	0.4	0.5
8	P10	8.9	0.5	0.6	0.8
8	P11	9.0	0.1	1.1	2.5
8	P12	8.8	0.3	1.5	2.8
8	P13	8.8	0.3	1.3	2.3
8	P14	9.0	0.5	0.5	1.8
8	P15	8.8	0.3	0.7	1.2
8	P16	8.9	0.6	0.9	1.7
8	P17	8.8	0.3	0.5	0.6
8	P18	8.9	1.0	0.6	0.9
8	P19	8.8	0.9	0.3	0.5
8	P20	9.0	1.1	0.5	0.4

DATA Continued**LLCR, 100 Cycle Group:**

		Date	May 13 2005	May 18 2005	Jun. 16 2005	Jul. 08 2005
		Room Temp C	24	25	23	23
		RH	42%	25%	43%	42%
		Name	Troy Cook	Troy Cook	Troy Cook	Troy Cook
mOhm values		Actual	Delta	Delta	Delta	
Board	Position	Initial	100 Cycles	Thermal	Humidity	
1	P1	9.1	1.2	2.7	2.4	
1	P2	8.9	1.9	2.2	2.7	
1	P3	8.9	2.6	2.1	4.5	
1	P4	8.9	1.9	1.4	3.2	
1	P5	8.8	1.0	2.4	5.8	
1	P6	9.0	1.0	3.1	3.3	
1	P7	8.9	0.6	2.3	1.2	
1	P8	9.0	0.7	3.2	1.2	
1	P9	9.0	0.8	2.6	1.8	
1	P10	9.2	0.6	2.7	2.4	
1	P11	9.6	0.7	1.9	2.5	
1	P12	9.4	0.4	1.4	2.0	
1	P13	9.4	0.8	2.4	10.0	
1	P14	9.4	0.4	1.7	0.5	
1	P15	9.4	0.7	3.1	1.3	
1	P16	9.5	0.3	0.9	0.3	
1	P17	9.4	0.4	0.7	1.2	
1	P18	9.5	0.3	1.5	2.9	
1	P19	9.4	0.6	1.1	2.5	
1	P20	9.6	0.5	1.5	1.7	
2	P1	8.7	1.0	6.1	1.3	
2	P2	8.5	0.5	5.5	1.2	
2	P3	8.5	0.9	2.9	1.1	
2	P4	8.5	0.4	2.3	1.3	
2	P5	8.5	0.6	2.4	1.0	
2	P6	8.6	0.3	4.1	0.9	
2	P7	8.5	0.5	1.3	1.3	
2	P8	8.5	0.9	0.9	1.9	
2	P9	8.6	0.4	2.2	1.7	
2	P10	8.8	0.3	2.2	1.8	
2	P11	9.0	0.6	4.1	5.2	
2	P12	8.8	0.5	3.3	4.5	
2	P13	8.8	0.8	2.1	2.2	
2	P14	9.1	0.7	3.0	1.1	
2	P15	8.8	2.1	3.8	5.1	
2	P16	8.9	0.6	2.1	1.6	
2	P17	8.8	0.7	1.7	2.3	
2	P18	8.8	0.6	2.5	1.0	

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

2	P19	8.9	1.6	4.7	2.9
2	P20	9.0	0.5	1.5	6.7
3	P1	9.0	0.2	0.6	0.8
3	P2	8.8	0.5	1.2	1.7
3	P3	8.8	0.4	1.1	1.4
3	P4	8.8	0.6	1.6	1.7
3	P5	8.7	0.5	2.1	1.4
3	P6	8.9	0.5	1.2	1.3
3	P7	8.8	0.2	0.6	0.9
3	P8	8.8	0.3	0.7	2.0
3	P9	8.8	0.5	1.9	2.9
3	P10	8.9	0.4	1.9	3.7
3	P11	9.0	1.0	3.7	6.8
3	P12	8.8	0.2	0.4	2.8
3	P13	8.7	0.2	0.4	4.9
3	P14	8.8	0.7	1.3	4.6
3	P15	8.8	0.5	0.8	3.4
3	P16	8.8	0.8	1.6	3.8
3	P17	8.8	1.1	4.3	3.8
3	P18	8.8	0.4	0.8	2.7
3	P19	8.7	0.8	2.6	4.8
3	P20	9.0	0.5	2.1	2.3
4	P1	8.9	2.0	2.6	3.4
4	P2	8.7	1.8	4.4	8.2
4	P3	8.8	2.8	0.9	1.8
4	P4	8.8	7.1	1.4	1.8
4	P5	8.9	1.4	0.7	0.7
4	P6	8.8	2.3	1.5	1.8
4	P7	8.8	1.0	2.0	2.3
4	P8	8.7	0.9	1.1	2.1
4	P9	8.7	0.9	2.1	2.2
4	P10	8.9	1.0	1.6	3.4
4	P11	9.0	0.1	0.5	6.9
4	P12	8.8	0.2	0.6	7.9
4	P13	8.8	0.4	0.7	2.1
4	P14	8.8	0.3	0.6	1.1
4	P15	8.9	0.3	0.6	0.9
4	P16	8.9	0.6	0.7	1.0
4	P17	8.8	0.6	0.9	0.8
4	P18	8.9	0.7	0.7	2.2
4	P19	8.8	0.3	0.4	3.6
4	P20	9.1	0.6	0.8	4.4
5	P1	9.0	0.6	0.8	1.5
5	P2	8.9	4.3	2.8	6.7
5	P3	8.8	2.6	3.2	4.2
5	P4	8.9	5.5	1.3	4.0
5	P5	8.9	5.6	0.7	2.9
5	P6	9.1	3.8	7.2	8.8
5	P7	9.0	2.1	5.8	8.1
5	P8	9.0	5.1	6.4	14.0

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

5	P9	8.8	1.3	7.0	6.4
5	P10	9.0	3.6	4.5	7.1
5	P11	8.8	1.0	4.2	8.4
5	P12	8.7	2.0	1.9	3.1
5	P13	8.6	0.7	8.7	2.6
5	P14	8.7	0.5	5.8	3.6
5	P15	8.6	0.8	4.8	2.1
5	P16	8.7	0.5	1.6	4.1
5	P17	8.6	0.9	7.0	10.6
5	P18	8.7	1.1	3.6	2.7
5	P19	8.6	1.2	4.2	5.1
5	P20	8.9	0.1	1.0	3.2
6	P1	9.1	0.7	1.6	5.3
6	P2	8.9	0.4	1.0	5.2
6	P3	8.8	0.3	0.8	4.9
6	P4	8.9	0.4	1.2	6.8
6	P5	8.9	0.2	0.5	4.0
6	P6	8.9	0.7	1.0	3.3
6	P7	8.8	0.1	0.3	3.3
6	P8	8.8	0.5	0.9	6.0
6	P9	8.8	0.3	0.6	2.0
6	P10	9.0	0.3	0.6	1.9
6	P11	9.0	1.2	1.4	3.0
6	P12	8.8	0.6	1.5	1.0
6	P13	8.8	0.2	0.8	1.4
6	P14	8.9	1.5	3.6	4.5
6	P15	8.9	0.7	2.1	1.3
6	P16	8.9	0.3	0.6	2.8
6	P17	8.9	0.6	2.0	1.9
6	P18	8.9	0.5	3.1	3.2
6	P19	8.8	0.4	1.2	2.4
6	P20	9.0	0.7	2.0	2.0
7	P1	9.4	1.9	3.8	1.5
7	P2	9.3	1.0	4.4	1.6
7	P3	9.3	1.0	1.8	5.1
7	P4	9.3	1.7	3.1	0.9
7	P5	9.3	0.7	2.8	1.6
7	P6	9.3	1.2	3.0	2.2
7	P7	9.2	0.8	1.8	1.4
7	P8	9.2	1.7	3.7	3.4
7	P9	9.2	0.8	1.9	0.9
7	P10	9.4	0.5	1.9	1.0
7	P11	9.1	0.2	0.7	0.9
7	P12	8.9	0.2	0.4	1.5
7	P13	8.9	0.7	1.3	1.0
7	P14	8.9	0.5	1.4	0.8
7	P15	8.9	0.9	3.9	0.9
7	P16	8.9	0.6	1.0	0.8
7	P17	8.9	0.4	0.9	1.0
7	P18	8.9	0.5	3.0	1.8

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

7	P19	8.9	0.5	1.4	1.4
7	P20	9.1	0.3	3.2	2.4
8	P1	9.0	4.0	4.3	2.0
8	P2	8.9	4.7	7.4	0.9
8	P3	8.8	4.7	2.2	3.6
8	P4	8.9	3.3	2.3	6.7
8	P5	8.8	6.1	2.1	4.6
8	P6	8.8	2.5	2.6	9.0
8	P7	8.9	2.2	4.5	1.4
8	P8	8.8	1.0	2.1	5.9
8	P9	8.8	0.4	1.3	6.3
8	P10	9.0	0.5	1.5	2.5
8	P11	8.9	1.0	1.2	5.4
8	P12	8.8	0.5	0.6	3.4
8	P13	8.6	0.6	0.9	2.3
8	P14	8.8	0.6	1.2	7.1
8	P15	8.7	0.6	1.1	7.1
8	P16	8.8	1.2	1.2	6.1
8	P17	8.8	0.5	0.8	1.2
8	P18	8.9	0.7	2.4	5.6
8	P19	8.8	0.6	5.1	1.7
8	P20	8.9	0.5	5.1	9.2

DATA Continued**LLCR, 3000 Cycle Group:**

		Date	May 13 2005	May 17 2005	Jun. 07 2005	Jun. 13 2005	Jun. 16 2005	Jun. 23 2005	Jun. 30 2005
Room Temp C			23	23	24	23	23	24	24
RH			35%	36%	38%	41%	51%	44%	58%
Name			Troy Cook	Troy Cook	Troy Cook	Troy Cook	Troy Cook	Troy Cook	Troy Cook
mOhm values		Actual	Delta	Delta	Delta	Delta	Delta	Delta	Delta
Board	Position	Initial	100 Cycles	500 Cycles	1000 Cycles	1500 Cycles	2250 Cycles	3000 Cycles	
1	P1	8.9	0.4	2.7	0.4	0.7	0.2	0.8	
1	P2	8.7	0.4	3.6	0.6	1.0	0.3	0.9	
1	P3	8.6	0.7	4.7	0.9	0.7	0.4	0.8	
1	P4	8.7	0.2	7.7	4.3	1.5	1.0	0.6	
1	P5	8.7	0.4	2.6	0.9	1.0	5.5	0.8	
1	P6	8.7	0.1	6.3	0.6	1.5	0.6	1.4	
1	P7	8.7	0.0	0.9	0.6	1.2	0.5	0.6	
1	P8	8.7	0.4	8.3	1.7	0.6	0.7	0.7	
1	P9	8.7	0.8	4.4	0.9	0.5	0.6	0.8	
1	P10	8.8	0.4	0.8	0.8	0.6	0.6	0.5	
1	P11	8.8	0.3	0.9	1.4	0.7	0.6	0.2	
1	P12	8.5	1.0	0.6	1.5	0.5	0.9	0.4	
1	P13	8.6	0.4	0.7	1.1	0.3	1.0	0.4	
1	P14	8.8	0.3	0.6	0.7	0.9	0.9	0.2	
1	P15	8.6	0.4	0.7	0.8	0.4	2.6	0.4	
1	P16	8.7	1.2	0.6	0.6	0.7	0.8	0.8	
1	P17	8.7	0.3	1.4	1.9	0.3	1.4	0.6	
1	P18	8.7	0.7	1.1	0.6	1.0	0.7	0.5	
1	P19	8.6	1.7	0.4	1.0	0.3	1.4	0.3	
1	P20	8.8	0.5	0.7	0.9	0.3	0.6	0.3	
2	P1	8.9	0.2	1.3	0.8	1.1	1.0	0.7	
2	P2	8.7	0.5	9.1	1.1	1.2	1.0	0.6	
2	P3	8.7	0.9	5.4	0.8	0.7	0.9	0.6	
2	P4	8.8	0.3	5.4	1.3	0.9	1.2	0.5	
2	P5	8.7	0.3	3.0	1.1	1.3	1.1	0.8	
2	P6	8.7	0.5	4.1	1.3	1.0	1.4	0.8	
2	P7	8.8	0.1	13.7	1.2	1.0	1.2	0.7	
2	P8	8.8	0.3	14.1	1.6	0.8	0.9	0.7	
2	P9	8.8	0.1	4.9	0.9	0.9	1.0	0.9	
2	P10	8.9	0.4	1.9	1.2	1.1	0.9	0.8	
2	P11	9.0	0.6	2.1	0.9	0.3	0.4	0.7	
2	P12	8.9	0.5	2.2	0.4	0.2	1.6	0.8	
2	P13	8.9	0.4	2.4	4.2	0.2	0.7	0.8	
2	P14	8.9	0.3	3.6	0.9	0.3	2.0	0.6	
2	P15	8.8	0.4	3.3	0.9	0.6	1.2	0.9	
2	P16	8.8	0.2	2.9	1.7	0.4	1.2	1.3	
2	P17	8.8	0.1	2.9	0.3	1.8	1.0	0.8	
2	P18	8.9	0.3	3.2	0.4	0.6	4.4	0.9	

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

2	P19	8.8	0.2	2.3	0.5	0.8	0.5	1.1
2	P20	9.1	0.3	1.8	0.2	0.2	0.6	3.7
3	P1	9.0	0.2	1.2	0.3	0.9	2.6	0.7
3	P2	8.7	0.3	1.6	0.7	0.6	1.3	0.3
3	P3	8.7	0.2	4.1	0.7	0.9	1.6	0.3
3	P4	8.8	0.5	7.9	0.9	0.8	2.0	0.3
3	P5	8.7	0.1	2.0	0.6	0.6	1.0	0.2
3	P6	8.7	0.4	2.7	0.5	0.7	0.8	0.4
3	P7	8.7	0.3	1.8	0.8	0.9	1.0	0.2
3	P8	8.7	0.5	5.8	0.6	0.6	1.2	0.2
3	P9	8.7	0.2	2.2	0.4	0.6	0.7	0.2
3	P10	8.9	0.4	1.1	0.6	0.8	0.9	0.3
3	P11	9.0	0.2	2.0	0.6	0.1	0.6	0.1
3	P12	8.8	0.4	1.1	0.9	0.3	0.5	0.1
3	P13	8.8	0.2	1.5	0.6	0.3	0.6	0.0
3	P14	8.8	0.5	3.4	1.1	0.6	0.9	0.0
3	P15	8.8	0.4	2.9	0.7	0.9	0.7	0.3
3	P16	8.8	0.2	1.2	0.8	0.4	0.5	0.2
3	P17	8.7	0.5	4.1	0.7	0.6	0.6	0.3
3	P18	8.8	0.4	2.2	0.9	0.5	0.3	0.1
3	P19	8.7	0.5	0.9	0.8	0.7	0.5	0.1
3	P20	8.9	0.4	1.9	0.5	0.6	0.4	0.3
4	P1	9.3	0.6	1.5	0.4	0.5	0.8	1.5
4	P2	9.1	0.4	0.7	0.2	0.2	0.3	0.3
4	P3	9.0	0.5	2.8	0.5	0.9	0.7	0.2
4	P4	9.2	0.3	2.1	0.3	-0.1	0.9	0.0
4	P5	9.1	1.1	2.2	0.2	0.7	1.7	0.5
4	P6	9.2	0.3	0.9	0.3	0.1	2.8	0.6
4	P7	9.1	0.3	1.7	0.4	0.2	1.1	0.8
4	P8	9.1	0.6	2.9	0.0	0.4	0.1	0.2
4	P9	9.3	0.5	2.9	0.2	0.0	0.2	0.0
4	P10	9.3	1.0	1.4	0.2	0.0	1.8	0.4
4	P11	8.7	0.7	1.3	0.5	0.6	0.5	0.8
4	P12	8.6	1.5	8.6	0.3	0.5	0.6	0.7
4	P13	8.5	1.7	2.0	0.8	1.0	0.8	0.7
4	P14	8.6	1.1	4.7	0.8	0.5	0.7	0.8
4	P15	8.7	6.3	3.1	0.2	2.6	0.7	0.5
4	P16	8.8	0.4	0.6	0.3	3.5	0.6	0.5
4	P17	8.6	1.7	5.7	0.5	0.8	2.8	0.7
4	P18	8.7	0.9	1.6	0.4	0.4	1.2	0.6
4	P19	8.6	0.9	2.6	0.2	0.9	1.3	0.8
4	P20	8.9	1.9	1.5	0.6	0.5	0.7	0.9
5	P1	8.9	0.8	2.2	1.0	1.8	1.1	1.0
5	P2	8.9	1.3	1.5	0.6	0.8	1.5	0.6
5	P3	8.8	1.2	2.2	0.9	0.8	2.0	0.7
5	P4	8.8	2.6	1.6	0.9	0.8	2.2	1.0
5	P5	8.7	1.4	2.5	0.9	1.2	1.1	0.9
5	P6	8.8	2.1	1.3	0.8	2.0	1.3	0.9
5	P7	8.8	1.3	0.5	1.5	1.6	1.4	0.9
5	P8	8.7	1.7	0.9	1.1	2.2	1.3	1.1

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

5	P9	8.7	0.9	1.8	1.0	3.3	1.3	0.7
5	P10	8.9	0.5	1.8	1.0	0.9	1.0	0.9
5	P11	9.0	0.8	1.9	1.6	0.8	1.0	0.5
5	P12	8.8	0.6	5.3	1.1	0.9	1.5	0.7
5	P13	8.8	0.9	1.5	0.9	0.9	2.4	0.6
5	P14	8.7	0.6	2.0	1.0	1.0	1.7	2.2
5	P15	8.8	0.9	1.6	1.2	1.0	1.8	0.4
5	P16	8.9	0.7	1.9	1.5	0.8	1.4	0.7
5	P17	8.8	0.5	1.7	1.8	1.0	2.9	2.4
5	P18	8.9	0.5	2.5	0.9	0.8	2.7	1.9
5	P19	8.9	0.5	1.1	0.9	0.6	2.3	5.5
5	P20	9.0	0.6	1.1	1.4	1.0	2.1	1.4
6	P1	9.0	0.6	1.4	0.4	0.2	2.7	0.7
6	P2	8.9	0.7	2.1	0.5	0.1	0.4	0.6
6	P3	8.9	0.6	2.5	0.7	0.4	1.9	3.8
6	P4	8.9	0.5	2.7	0.8	0.3	0.6	1.0
6	P5	8.8	0.7	2.0	0.6	0.2	0.7	0.4
6	P6	8.9	1.1	3.0	0.3	0.3	0.8	0.5
6	P7	9.0	0.2	1.5	0.0	0.0	0.2	0.1
6	P8	8.9	1.9	1.5	0.7	0.2	0.6	0.3
6	P9	8.9	0.4	2.5	0.5	0.1	0.7	0.4
6	P10	9.0	0.4	1.5	0.4	0.1	0.5	0.8
6	P11	9.6	0.4	1.4	-0.1	0.1	0.6	0.0
6	P12	9.5	0.2	1.6	0.7	0.5	4.5	0.2
6	P13	9.4	0.5	1.8	-0.2	0.0	3.9	0.3
6	P14	9.4	0.8	0.9	-0.3	-0.2	3.5	0.4
6	P15	9.4	0.5	1.9	-0.3	0.2	1.8	0.8
6	P16	9.5	0.3	3.5	-0.2	-0.2	3.8	0.7
6	P17	9.5	0.5	1.0	-0.3	0.0	2.2	0.2
6	P18	9.4	0.4	1.9	-0.2	-0.2	0.9	0.2
6	P19	9.5	0.7	3.9	-0.2	-0.1	1.3	2.3
6	P20	9.7	0.9	1.2	-0.1	-0.2	0.4	0.6
7	P1	9.1	1.1	0.7	0.5	0.3	1.0	0.2
7	P2	8.8	1.3	1.8	2.4	0.4	1.6	0.2
7	P3	8.7	0.7	0.5	1.4	0.5	1.0	0.2
7	P4	8.9	1.7	1.1	0.1	0.3	1.8	0.3
7	P5	8.9	2.0	0.3	0.0	1.1	3.1	0.4
7	P6	8.9	4.1	0.9	0.3	0.5	0.8	0.1
7	P7	8.9	2.5	0.6	0.3	0.3	0.6	0.3
7	P8	8.9	2.5	0.4	0.2	0.2	0.7	0.3
7	P9	8.9	0.9	0.3	0.1	0.6	1.1	0.3
7	P10	9.1	0.2	0.6	0.9	0.3	1.1	0.7
7	P11	9.0	0.3	2.3	0.2	0.3	0.2	0.6
7	P12	8.7	0.4	3.0	0.5	0.7	0.5	0.8
7	P13	8.7	0.2	0.8	0.7	0.7	0.5	0.5
7	P14	8.8	0.1	1.3	1.0	0.7	4.7	0.9
7	P15	8.8	0.1	1.1	0.2	0.6	0.6	0.9
7	P16	8.9	0.0	1.0	0.5	0.2	0.5	1.3
7	P17	8.9	0.1	1.1	0.5	0.3	0.4	1.1
7	P18	8.8	0.1	2.7	0.6	0.3	1.0	2.5

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

7	P19	8.7	0.1	1.3	0.7	0.5	0.4	0.6
7	P20	9.0	0.2	2.6	0.5	0.3	0.6	1.2
8	P1	9.1	-0.1	0.7	0.5	0.9	0.9	0.4
8	P2	8.9	-0.1	0.8	0.1	1.0	0.3	0.2
8	P3	8.9	0.0	1.0	0.2	2.8	1.2	0.3
8	P4	8.9	0.0	2.9	0.2	0.9	0.6	0.2
8	P5	8.9	-0.1	1.2	0.0	0.8	0.2	0.0
8	P6	8.9	0.0	1.1	0.1	1.6	0.2	0.2
8	P7	8.9	0.0	0.7	0.2	0.5	0.2	0.1
8	P8	8.9	0.0	1.1	0.1	0.3	0.3	0.2
8	P9	8.9	0.0	0.7	0.4	1.8	0.5	0.5
8	P10	9.1	-0.1	0.4	0.2	0.4	0.2	0.2
8	P11	9.1	0.0	1.6	0.2	0.2	0.5	0.8
8	P12	9.0	-0.1	2.0	0.1	0.2	0.0	0.5
8	P13	9.0	-0.1	4.5	0.1	0.3	0.2	0.3
8	P14	9.0	-0.1	2.7	0.0	0.2	0.6	0.5
8	P15	9.0	0.0	5.3	0.2	0.7	2.3	0.9
8	P16	9.0	-0.1	3.1	0.0	0.2	2.9	0.5
8	P17	9.0	0.0	2.1	0.1	0.6	0.5	0.2
8	P18	9.0	-0.1	2.4	0.4	0.2	0.6	0.4
8	P19	9.0	-0.1	1.7	0.1	0.2	0.2	0.1
8	P20	9.2	0.0	2.5	0.3	0.2	0.3	0.2

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** THL-02**Description:** Temperature/Humidity Chart Recorder**Manufacturer:** Dickson**Model:** THDX**Serial #:** 00120351**Accuracy:** Temp: +/- 1C; Humidity: +/-2% RH (0 - 60%) +/- 3% RH (61 - 95%).

... Last Cal: 6/07/05, Next Cal: 6/07/06

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

... Last Cal: 6/12/04, Next Cal: 6/12/05

Equipment #: MO-03**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 0791975**Accuracy:** See Manual

... Last Cal: 6/12/04, Next Cal: 6/12/05

Equipment #: TCT-01**Description:** Test Stand**Manufacturer:** Chatillon**Model:** TCD-1000**Serial #:** 05 23 00 02**Accuracy:** Speed Accuracy: +/-5% of max speed; Displacement: +/- .5% or +/- .005, whichever is greater.

... Last Cal: 6/23/05, Next Cal: 6/23/06

Equipment #: LC-1000**Description:** Chatillon 1000 Lb Load Cell**Manufacturer:** Chatillon**Model:** Remote-1000**Serial #:** E36263**Accuracy:** +/- 0.3% of Full Scale +/- 1 LSC

... Last Cal: 6/23/05, Next Cal: 6/23/06

Equipment #: MO-02**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 0780546**Accuracy:** See Manual

... Last Cal: 6/12/04, Next Cal: 6/12/05

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

... Last Cal: 6/12/04, Next Cal: 6/12/05

Equipment #: PS-01**Description:** System Power Supply**Manufacturer:** Hewlett Packard**Model:** HP 6033A**Serial #:** (HP) 3329A-07330**Accuracy:** See Manual

... Last Cal: 6/12/04, Next Cal: 6/12/05

Equipment #: TC090601-103/105**Description:** IC Thermocouple-103/105**Manufacturer:** Samtec**Serial #:** TC090601-103/105**Accuracy:** +/- 1 degree C**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: 6/12/04, Next Cal: 6/12/05

Equipment #: LC-2500N(icell)**Description:** 2500 N Load Cell for Dillon Quantrol**Manufacturer:** Dillon Quantrol**Model:** icell**Serial #:** 00120351**Accuracy:** .10% of capacity

... Last Cal: 5/17/05, Next Cal: 5/17/06

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

... Last Cal: 6/20/04, Next Cal: 6/30/05

Equipment #: THC-01**Description:** Temperature/Humidity Chamber**Manufacturer:** Thermotron

Tracking Code: TC053--0596

Part #: PEC-10-02-T-S-LC

Part description: PEC

Model: SM-8-7800

Serial #: 30676

Accuracy: See Manual

... Last Cal: 7/15/2005, Next Cal: 8/15/2006

Equipment #: HPM-01

Description: Hipot Megommeter

Manufacturer: Hipotronics

Model: H306B-A

Serial #: M9905004

Accuracy: 2 % Full Scale Accuracy

... Last Cal: 6/12/04, Next Cal: 6/12/05