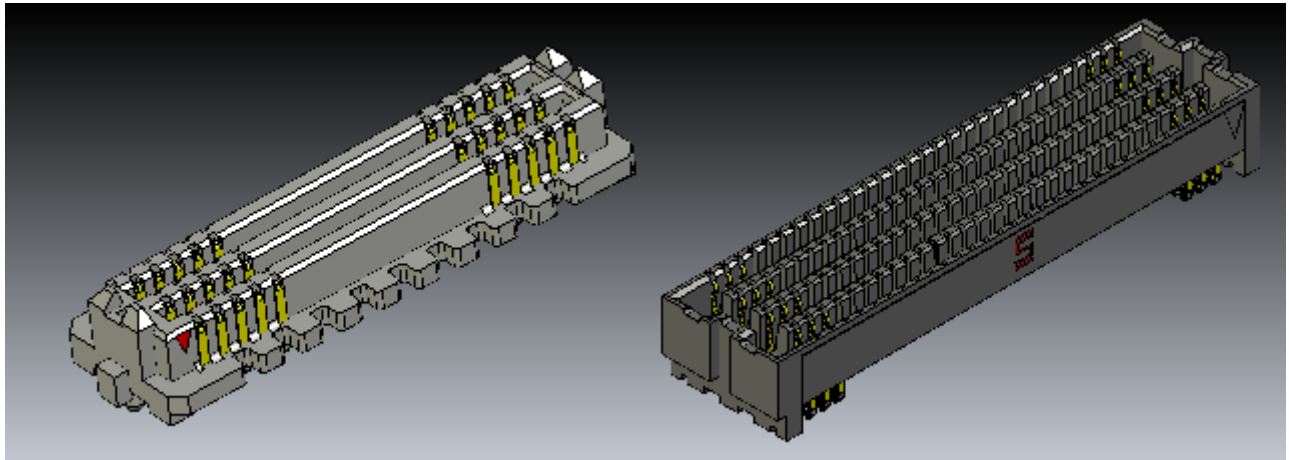




Project Number:		Tracking Code: TC085--1567 & TC085--1568				
Requested by: Neal Patterson		Date: 2/1/2008		Product Rev: NA		
Part #: SEAX			Lot #: NA		Tech: Gary Lomax	Eng: Troy Cook
Part description: SEAX					Qty to test: 15	
Test Start: 02/07/2008		Test Completed: 2/7/2008				



**Group 1 Durability- 3 subsets of 5 samples each. Test to include: Visual Exam, Mate/Un-mate forces, LLCR, Durability (100 cycles), LLCR, Visual Exam, Mate/Un-mate forces. Report**

#### **PART DESCRIPTION**

**SEAX**

## 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

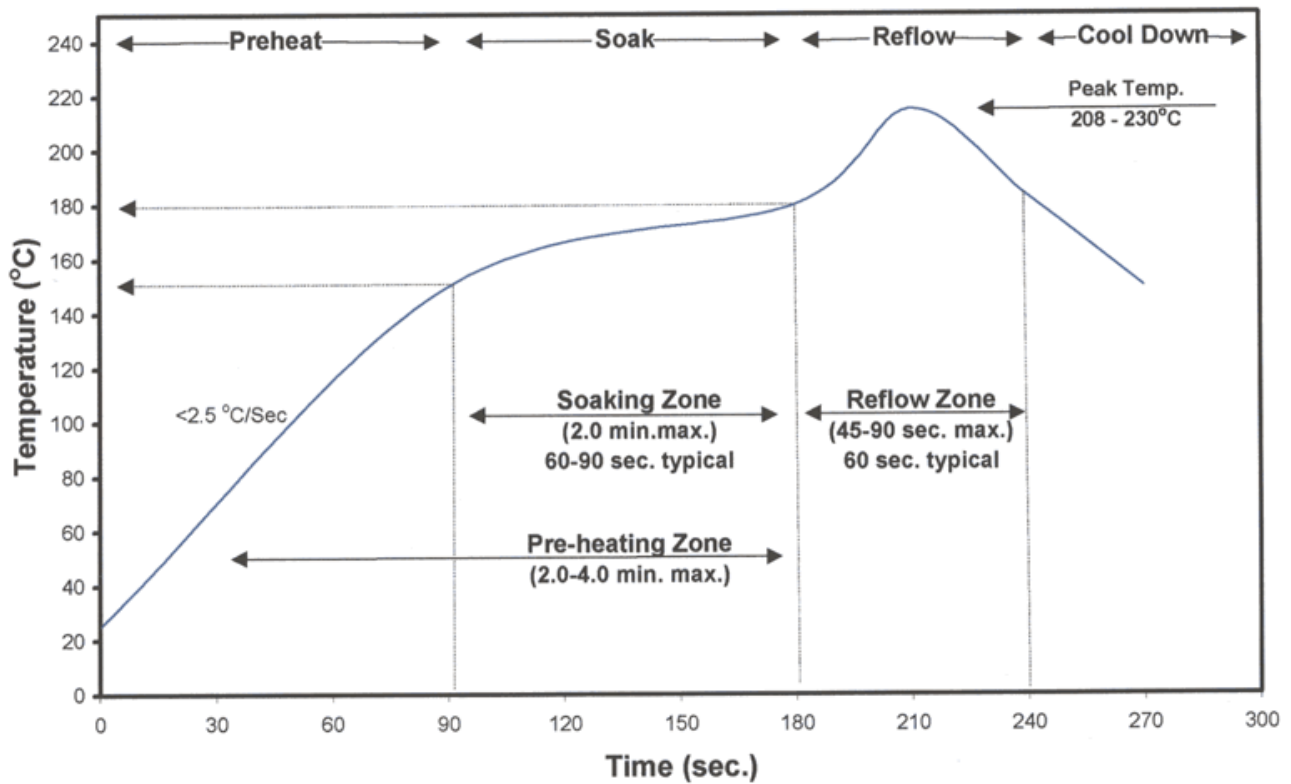
To perform the following tests: Group 1 Durability- 3 subsets of 5 samples each. Test to include: Visual Exam, Mate/Un-mate forces, LLCR, Durability (100 cycles), LLCR, Visual Exam, Mate/Un-mate forces.

### 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 Soldered
- 9) Re-Flow Time/Temp: See accompanying profile.
- 10) Samtec Test PCBs used: PCB-100719-TST-XX

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

**FLOWCHARTS****Durability****Molex# 454970-4311 mated with SEAF-40-06.5-S-10-2-A**

<b>TEST STEP</b>	<b>GROUP A 5 Boards</b>
<b>01</b>	Visual Inspection
<b>02</b>	Mating / Unmating
<b>03</b>	Data Review
<b>04</b>	LLCR-1
<b>05</b>	100 Cycles
<b>06</b>	LLCR-2
<b>07</b>	Data Review
<b>08</b>	Visual Inspection
<b>09</b>	Mating / Unmating
<b>10</b>	Data Review

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

LLCR = EIA-364-23, LLCR

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

**Durability****Molex# 45971-4411 mated with SEAF-40-11.0-S-10-2-A**

<b>TEST STEP</b>	<b>GROUP B 5 Boards</b>
<b>01</b>	Visual Inspection
<b>02</b>	Mating / Unmating
<b>03</b>	Data Review
<b>04</b>	LLCR-1
<b>05</b>	100 Cycles
<b>06</b>	LLCR-2
<b>07</b>	Data Review
<b>08</b>	Visual Inspection
<b>09</b>	Mating / Unmating
<b>10</b>	Data Review

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

LLCR = EIA-364-23, LLCR

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

**Durability****Molex# 45971-4411 mated with Molex# 45970-4311**

<b>TEST STEP</b>	<b>GROUP C 5 Boards</b>
<b>01</b>	Visual Inspection
<b>02</b>	Mating / Unmating
<b>03</b>	Data Review
<b>04</b>	LLCR-1
<b>05</b>	100 Cycles
<b>06</b>	LLCR-2
<b>07</b>	Data Review
<b>08</b>	Visual Inspection
<b>09</b>	Mating / Unmating
<b>10</b>	Data Review

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

### 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.

### 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****Visual Inspection:****SEAM**

Sample #	Sample I.D.	Visual Inpection - Initial		Visual Inpection - 1 Cycle		Continuity When Mated	OBSERVATIONS	Sample Description
		MOLEX	SEAM	MOLEX	SEAM			
1	A	Pass	Pass	Pass	Pass	Yes	None	45971-3181 mates to SEAM-30-03.5-S-08-2-A
	B	Pass	Pass	Pass	Pass			
2	A	Pass	Pass	Pass	Pass	Yes	None	45971-3381 mates to SEAM-30-03.5-S-08-2-A
	B	Pass	Pass	Pass	Pass			
3	A	Pass	Pass	Pass	Pass	Yes	None	45971-3181 mates to SEAM-30-11.0-S-08-2-A
	B	Pass	Pass	Pass	Pass			
4	A	Pass	Pass	Pass	Pass	Yes	None	45971-3381 mates to SEAM-30-11.0-S-08-2-A
	B	Pass	Pass	Pass	Pass			
5	A	Pass	Pass	Pass	Pass	Yes	None	45971-3111 mates to SEAM-30-03.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
6	A	Pass	Pass	Pass	Pass	Yes	None	45971-2311 mates to SEAM-20-03.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
7	A	Pass	Pass	Pass	Pass	Yes	None	45971-3311 mates to SEAM-30-03.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
8	A	Pass	Pass	Pass	Pass	Yes	None	45971-4411 mates to SEAM-40-03.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
9	A	Pass	Pass	Pass	Pass	Yes	None	45971-3111 mates to SEAM-30-11.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
10	A	Pass	Pass	Pass	Pass	Yes	None	45971-2311 mates to SEAM-20-11.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
11	A	Pass	Pass	Pass	Pass	Yes	None	45971-3311 mates to SEAM-30-11.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
12	A	Pass	Pass	Pass	Pass	Yes	None	45971-4411 mates to SEAM-40-11.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			

**SEAF**

Sample #	Sample I.D.	Visual Inpection - Initial		Visual Inpection - 1 Cycle		Continuity When Mated	OBSERVATIONS	SAMPLE DESCRIPTION
		MOLEX	SEAM	MOLEX	SEAM			
13	A	Pass	Pass	Pass	Pass	Yes	None	45970-3181 mates to SEAF-30-05.0-S-08-2-A
	B	Pass	Pass	Pass	Pass			
14	A	Pass	Pass	Pass	Pass	Yes	None	45970-3381 mates to SEAF-30-05.0-S-08-2-A
	B	Pass	Pass	Pass	Pass			
15	A	Pass	Pass	Pass	Pass	Yes	None	45970-3181 mates to SEAF-30-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
16	A	Pass	Pass	Pass	Pass	Yes	None	45970-3381 mates to SEAF-30-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
17	A	Pass	Pass	Pass	Pass	Yes	None	45970-3211 mates to SEAF-30-05.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
18	A	Pass	Pass	Pass	Pass	Yes	None	45970-2311 mates to SEAF-20-05.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
19	A	Pass	Pass	Pass	Pass	Yes	None	45970-3311 mates to SEAF-30-05.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
20	A	Pass	Pass	Pass	Pass	Yes	None	45970-4311 mates to SEAF-40-05.0-S-10-2-A
	B	Pass	Pass	Pass	Pass			
21	A	Pass	Pass	Pass	Pass	Yes	None	45970-3211 mates to SEAF-30-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
22	A	Pass	Pass	Pass	Pass	Yes	None	45970-2311 mates to SEAF-20-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
23	A	Pass	Pass	Pass	Pass	Yes	None	45970-3311 mates to SEAF-30-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			
24	A	Pass	Pass	Pass	Pass	Yes	None	45970-4311 mates to SEAF-40-06.5-S-10-2-A
	B	Pass	Pass	Pass	Pass			



**RESULTS Continued****Molex 45970-4311/SEAF-40-06.5-S-10-2-A****Mating – Unmating Forces**

- **Initial**
  - **Mating**
    - **Min** ----- 21.1 Lbs.
    - **Max** ----- 24.3 Lbs.
  - **Unmating**
    - **Min** ----- 11.8 Lbs.
    - **Max** ----- 13.4 Lbs.
- **After 100 Cycles**
  - **Mating**
    - **Min** ----- 27.6 Lbs.
    - **Max** ----- 30.7 Lbs.
  - **Unmating**
    - **Min** ----- 21.2 Lbs.
    - **Max** ----- 22.6 Lbs.

**Molex 45971-4411/SEAF-40-11.0-S-10-2-A****Mating – Unmating Forces**

- **Initial**
  - **Mating**
    - **Min** ----- 17.9 Lbs.
    - **Max** ----- 20.6 Lbs.
  - **Unmating**
    - **Min** ----- 15.8 Lbs.
    - **Max** ----- 19.9 Lbs.
- **After 100 Cycles**
  - **Mating**
    - **Min** ----- 21.5 Lbs.
    - **Max** ----- 26.9 Lbs.
  - **Unmating**
    - **Min** ----- 13.7 Lbs.
    - **Max** ----- 19.3 Lbs.

**Molex 45971-4411/ Molex 45970-4311****Mating – Unmating Forces**

- **Initial**
  - **Mating**
    - **Min** -----17.3 Lbs.
    - **Max** -----20.4 Lbs.
  - **Unmating**
    - **Min** -----12.3 Lbs.
    - **Max** -----14.0 Lbs.
- **After 100 Cycles**
  - **Mating**
    - **Min** -----27.4 Lbs.
    - **Max** -----28.3 Lbs.
  - **Unmating**
    - **Min** -----23.0 Lbs.
    - **Max** -----24.5 Lbs.

**RESULTS Continued****Molex 45970-4311/SEAF-40-06.5-S-10-2-A****LLCR Durability (125 LLCR test points)**

- **Initial ----- 10.4 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +5.0 mOhms ----- 125 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**

**Molex 45971-4411/SEAF-40-11.0-S-10-2-A****LLCR Durability (125 LLCR test points)**

- **Initial ----- 9.8 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +5.0 mOhms ----- 125 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**

**Molex 45971-4411/ Molex 45970-4311****LLCR Durability (125 LLCR test points)**

- **Initial ----- 10.6 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +5.0 mOhms ----- 125 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**

**DATA SUMMARIES****MATING/UNMATING:****Molex 45970-4311/SEAF-40-06.5-S-10-2-A**

	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	337.1	21.07	189.0	11.81	441.0	27.56	339.0	21.19
Maximum	388.6	24.3	214.2	13.4	491.8	30.7	361.8	22.6
<b>Average</b>	359.9	<b>22.5</b>	196.9	<b>12.3</b>	463.5	<b>29.0</b>	345.1	<b>21.6</b>

**Molex 45971-4411/SEAF-40-11.0-S-10-2-A**

	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	285.6	17.85	253.4	15.84	343.2	21.45	218.4	13.65
Maximum	329.1	20.6	317.8	19.9	430.6	26.9	309.3	19.3
<b>Average</b>	308.1	<b>19.3</b>	294.6	<b>18.4</b>	386.7	<b>24.2</b>	267.1	<b>16.7</b>

**Molex 45971-4411/ Molex 45970-4311**

	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	276.3	17.27	196.8	12.30	438.7	27.42	367.7	22.98
Maximum	326.7	20.4	223.2	14.0	453.4	28.3	392.2	24.5
<b>Average</b>	298.9	<b>18.7</b>	213.8	<b>13.4</b>	445.5	<b>27.8</b>	378.3	<b>23.6</b>

**DATA SUMMARIES Continued****LLCR:**

- 1) A total of 125 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

**Molex 45970-4311/SEAF-40-06.5-S-10-2-A**

mOhm values	Actual Initial	Delta After 100 Cycles
Average	7.0	-0.3
St. Dev.	0.8	0.8
Min	5.9	-4.2
Max	10.4	1.2
Count	125	125

**Molex 45971-4411/SEAF-40-11.0-S-10-2-A**

mOhm values	Actual Initial	Delta After 100 Cycles
Average	8.7	-0.3
St. Dev.	0.4	0.3
Min	8.1	-1.5
Max	9.8	0.4
Count	125	125

**Molex 45971-4411/ Molex 45970-4311**

mOhm values	Actual Initial	Delta After 100 Cycles
Average	7.7	-0.9
St. Dev.	0.8	0.7
Min	6.5	-3.6
Max	10.6	0.4
Count	125	125

**DATA****MATING/UNMATING:****Molx 45970-4311/SEAF-40-06.5-S-10-2-A**

<b>Sample#</b>	<b>Initial</b>		<b>After 100 Cycles</b>	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	24.29	11.81	27.56	22.61
2	23.80	13.39	30.74	21.43
3	22.24	12.27	29.07	21.19
4	21.07	12.03	29.07	21.19
5	21.07	12.03	28.41	21.42

**Molx 45971-4411/SEAF-40-11.0-S-10-2-A**

<b>Sample#</b>	<b>Initial</b>		<b>After 100 Cycles</b>	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	20.42	17.43	23.21	19.33
2	19.41	19.86	23.61	18.44
3	20.57	15.84	21.45	13.65
4	17.85	19.48	25.67	15.58
5	18.03	19.46	26.91	16.48

**Molx 45971-4411/ Molx 45970-4311**

<b>Sample#</b>	<b>Initial</b>		<b>After 100 Cycles</b>	
	<u>Mating</u>	<u>Unmating</u>	<u>Mating</u>	<u>Unmating</u>
1	20.42	13.95	27.42	24.51
2	18.00	13.37	27.72	23.81
3	18.08	13.28	28.34	23.82
4	19.63	13.91	27.69	22.98
5	17.27	12.30	28.05	23.10

**DATA Continued****LLCR:****Molex 45970-4311/SEAF-40-06.5-S-10-2-A**

	mOhm values	Actual	Delta
Board	Position	Initial	After 100 Cycles
1	P1	6.2	0.3
1	P2	6.5	0.1
1	P3	6.6	-0.1
1	P4	6.4	0.0
1	P5	6.5	-0.3
1	P6	5.9	0.2
1	P7	6.2	0.2
1	P8	6.4	0.2
1	P9	6.7	-0.2
1	P10	6.5	-0.3
1	P11	7.0	-0.6
1	P12	8.1	-1.6
1	P13	7.3	-0.5
1	P14	9.5	-2.4
1	P15	7.7	-0.7
1	P16	7.7	-1.0
1	P17	7.7	-1.2
1	P18	7.4	-1.0
1	P19	6.6	-0.3
1	P20	6.4	0.6
1	P21	6.3	0.1
1	P22	6.8	0.5
1	P23	6.7	0.1
1	P24	7.7	-0.4
1	P25	6.9	-0.2
2	P1	6.4	-0.2
2	P2	6.2	0.1
2	P3	6.3	0.2
2	P4	6.5	-0.1
2	P5	6.7	-0.1
2	P6	7.1	-0.8
2	P7	7.2	-1.2
2	P8	6.8	-0.4
2	P9	7.2	-0.9
2	P10	6.8	-0.5
2	P11	6.6	-0.2
2	P12	6.8	-0.3
2	P13	7.1	-0.5
2	P14	6.5	0.1

2	P15	7.1	-0.4
2	P16	6.4	0.2
2	P17	6.4	-0.2
2	P18	6.7	-0.4
2	P19	7.1	-0.1
2	P20	6.4	0.8
2	P21	6.6	0.1
2	P22	6.6	-0.1
2	P23	8.4	-1.7
2	P24	6.8	0.1
2	P25	6.7	-0.4
3	P1	6.3	-0.1
3	P2	6.1	-0.1
3	P3	7.0	-0.5
3	P4	6.4	-0.2
3	P5	6.3	0.0
3	P6	6.4	0.2
3	P7	6.2	0.0
3	P8	6.5	-0.1
3	P9	7.2	-1.0
3	P10	8.4	-1.8
3	P11	7.0	-0.4
3	P12	10.4	-4.2
3	P13	7.3	-0.2
3	P14	9.0	-0.3
3	P15	7.4	-0.2
3	P16	7.4	-0.3
3	P17	7.7	-1.0
3	P18	10.0	-3.2
3	P19	6.6	-0.1
3	P20	6.8	0.9
3	P21	7.3	-0.2
3	P22	7.6	-0.5
3	P23	7.2	-0.4
3	P24	7.8	-0.7
3	P25	7.1	0.5
4	P1	6.3	0.3
4	P2	6.6	-0.1
4	P3	6.9	-0.4
4	P4	6.9	0.0
4	P5	7.5	-0.7
4	P6	7.0	-0.9
4	P7	6.5	0.0
4	P8	8.0	-1.4
4	P9	6.8	-0.1
4	P10	6.4	0.4
4	P11	7.3	0.0
4	P12	8.7	-1.4
4	P13	9.0	-1.2



4	P14	7.9	-1.2
4	P15	7.9	-0.9
4	P16	6.8	-0.3
4	P17	6.8	1.1
4	P18	7.7	-0.1
4	P19	7.1	0.4
4	P20	6.4	0.1
4	P21	6.8	0.1
4	P22	6.9	0.4
4	P23	6.8	0.0
4	P24	9.2	-1.8
4	P25	7.1	-0.2
5	P1	6.4	0.4
5	P2	6.1	0.9
5	P3	6.4	0.3
5	P4	6.5	0.4
5	P5	6.6	0.7
5	P6	7.2	-0.9
5	P7	6.7	-0.4
5	P8	6.9	0.5
5	P9	6.9	-0.1
5	P10	6.7	-0.1
5	P11	6.6	0.4
5	P12	7.3	0.2
5	P13	6.4	-0.2
5	P14	7.6	-0.5
5	P15	8.3	-1.1
5	P16	7.3	0.3
5	P17	6.2	0.2
5	P18	7.4	-0.5
5	P19	6.8	-0.1
5	P20	8.7	0.6
5	P21	6.7	0.3
5	P22	7.5	1.2
5	P23	6.7	0.2
5	P24	6.6	0.8
5	P25	7.0	-0.3

**Molex 45971-4411/SEAF-40-11.0-S-10-2-A**

	mOhm values	Actual	Delta
Board	Position	Initial	After 100 Cycles
1	P1	8.2	0.4
1	P2	8.6	-0.2
1	P3	8.1	0.2
1	P4	8.2	-0.2
1	P5	8.5	-0.2
1	P6	8.4	-0.2
1	P7	8.4	0.0
1	P8	9.8	-1.5
1	P9	8.6	-0.4
1	P10	8.4	-0.1
1	P11	8.4	-0.3
1	P12	8.5	-0.1
1	P13	8.5	-0.5
1	P14	8.8	-0.6
1	P15	8.3	0.0
1	P16	9.0	-0.6
1	P17	8.3	-0.3
1	P18	8.4	-0.2
1	P19	8.6	-0.5
1	P20	8.7	-0.2
1	P21	8.7	-0.2
1	P22	8.5	0.1
1	P23	9.2	-0.1
1	P24	8.4	0.0
1	P25	9.4	-0.3
2	P1	8.5	-0.1
2	P2	9.4	-0.7
2	P3	8.1	0.0
2	P4	8.2	-0.1
2	P5	8.4	-0.1
2	P6	8.5	-0.1
2	P7	8.7	-0.3
2	P8	9.2	-0.5
2	P9	8.3	-0.3
2	P10	8.6	0.3
2	P11	9.1	-1.0
2	P12	8.4	-0.3
2	P13	8.7	-0.5
2	P14	8.5	0.2
2	P15	8.5	-0.2
2	P16	8.5	0.0
2	P17	8.3	-0.1
2	P18	8.2	-0.2

2	P19	8.2	0.3
2	P20	8.8	0.1
2	P21	9.5	-0.7
2	P22	8.6	0.0
2	P23	9.2	-0.7
2	P24	8.4	0.4
2	P25	9.0	-0.5
3	P1	9.8	-1.3
3	P2	8.9	-0.2
3	P3	8.3	-0.1
3	P4	8.3	-0.1
3	P5	8.6	-0.4
3	P6	8.3	-0.1
3	P7	8.7	-0.4
3	P8	9.0	-0.2
3	P9	8.7	-0.5
3	P10	9.0	-0.2
3	P11	8.5	0.1
3	P12	9.3	-1.3
3	P13	9.3	-0.7
3	P14	9.0	-0.5
3	P15	8.9	-0.6
3	P16	9.0	-0.4
3	P17	8.8	-0.3
3	P18	8.9	-0.4
3	P19	8.6	-0.1
3	P20	8.7	-0.2
3	P21	8.5	0.0
3	P22	8.7	0.0
3	P23	9.4	-0.7
3	P24	8.4	-0.2
3	P25	9.3	-0.4
4	P1	8.5	0.0
4	P2	8.5	-0.2
4	P3	8.5	-0.1
4	P4	8.5	-0.3
4	P5	8.9	-0.6
4	P6	8.4	-0.1
4	P7	8.5	-0.3
4	P8	9.5	-0.9
4	P9	8.5	-0.1
4	P10	8.6	-0.6
4	P11	8.9	-0.3
4	P12	9.0	-0.6
4	P13	8.7	-0.3
4	P14	8.8	-0.5
4	P15	8.7	-0.2
4	P16	8.9	-0.6
4	P17	9.4	-0.6

4	P18	8.5	-0.1
4	P19	8.7	-0.5
4	P20	8.6	-0.1
4	P21	9.0	-0.2
4	P22	9.0	-0.5
4	P23	8.7	-0.2
4	P24	8.4	0.1
4	P25	9.0	-0.2
5	P1	8.6	-0.2
5	P2	8.5	0.0
5	P3	8.6	-0.1
5	P4	8.3	-0.3
5	P5	8.5	-0.2
5	P6	8.5	-0.5
5	P7	9.0	-0.9
5	P8	9.7	-1.0
5	P9	8.4	-0.3
5	P10	8.6	0.2
5	P11	8.8	-0.7
5	P12	8.5	-0.2
5	P13	8.8	-0.7
5	P14	8.3	-0.3
5	P15	8.9	-0.6
5	P16	8.4	-0.4
5	P17	8.2	-0.1
5	P18	8.1	-0.2
5	P19	8.4	-0.4
5	P20	9.2	-0.6
5	P21	9.5	-0.6
5	P22	8.5	0.0
5	P23	8.8	0.0
5	P24	8.5	-0.2
5	P25	9.5	-0.5

**Molex 45971-4411/ Molex 45970-4311**

	mOhm values	Actual	Delta
Board	Position	Initial	After 100 Cycles
1	P1	7.0	-1.0
1	P2	6.8	-0.2
1	P3	6.8	-0.4
1	P4	7.0	-0.6
1	P5	7.1	-0.7
1	P6	7.1	-0.5
1	P7	6.5	-0.2
1	P8	7.3	-0.7
1	P9	8.3	-1.6
1	P10	7.2	-1.0
1	P11	7.8	-1.3
1	P12	7.7	-0.8
1	P13	8.0	-1.5
1	P14	9.6	-2.4
1	P15	10.6	-3.6
1	P16	8.9	-2.2
1	P17	7.6	-0.5
1	P18	7.4	-0.8
1	P19	7.5	-0.9
1	P20	7.5	-0.7
1	P21	7.6	-0.8
1	P22	9.2	-2.1
1	P23	8.8	-1.6
1	P24	7.6	-0.5
1	P25	7.5	-0.7
2	P1	7.1	-0.4
2	P2	7.2	-0.7
2	P3	6.9	-0.4
2	P4	7.1	-0.5
2	P5	7.4	-0.3
2	P6	8.6	-2.1
2	P7	7.6	-0.9
2	P8	7.3	-0.6
2	P9	8.5	-2.0
2	P10	6.6	-0.3
2	P11	7.9	-1.2
2	P12	8.2	-1.3
2	P13	7.7	-1.2
2	P14	8.9	-1.7
2	P15	9.5	-2.5
2	P16	7.6	-0.4
2	P17	8.1	-1.3
2	P18	7.1	-0.7

2	P19	7.3	-0.1
2	P20	7.5	-0.3
2	P21	7.3	-0.5
2	P22	8.1	-0.8
2	P23	8.3	-0.5
2	P24	7.7	-0.7
2	P25	7.5	-0.5
3	P1	7.1	0.4
3	P2	7.0	-0.5
3	P3	7.4	-0.8
3	P4	7.2	-0.9
3	P5	7.1	-0.5
3	P6	7.8	-1.1
3	P7	7.4	-0.9
3	P8	7.5	-0.9
3	P9	7.7	-0.8
3	P10	6.9	-0.4
3	P11	7.8	-1.2
3	P12	10.1	-2.9
3	P13	7.8	-0.5
3	P14	9.0	-1.3
3	P15	8.8	-1.2
3	P16	7.7	-0.8
3	P17	7.2	-0.6
3	P18	7.5	-0.7
3	P19	7.2	-0.7
3	P20	7.8	-0.8
3	P21	7.3	0.0
3	P22	7.5	-0.6
3	P23	7.3	-0.3
3	P24	7.4	-0.6
3	P25	8.4	-1.2
4	P1	7.3	-0.3
4	P2	7.0	0.4
4	P3	7.1	0.0
4	P4	7.3	-0.3
4	P5	7.1	0.0
4	P6	7.3	-0.4
4	P7	7.0	-0.4
4	P8	8.4	-1.1
4	P9	7.4	-0.3
4	P10	7.0	-0.3
4	P11	7.4	-0.3
4	P12	9.4	-2.5
4	P13	7.5	-0.8
4	P14	8.0	-1.3
4	P15	9.0	-1.2
4	P16	8.6	-1.8
4	P17	7.6	-0.8

4	P18	7.6	-0.8
4	P19	8.4	-1.3
4	P20	7.5	-0.3
4	P21	7.5	-0.8
4	P22	8.4	-1.3
4	P23	8.1	-1.2
4	P24	7.7	-0.5
4	P25	10.6	-3.1
5	P1	7.3	-0.6
5	P2	7.7	-1.0
5	P3	7.1	-0.4
5	P4	7.0	-0.2
5	P5	7.7	-1.0
5	P6	6.9	-0.6
5	P7	7.2	-0.6
5	P8	7.7	-0.8
5	P9	7.5	-0.4
5	P10	7.2	-0.3
5	P11	6.6	-0.2
5	P12	7.4	-0.2
5	P13	8.8	-2.0
5	P14	7.3	-0.3
5	P15	7.6	-1.0
5	P16	8.0	-1.2
5	P17	7.8	-1.0
5	P18	8.0	-1.0
5	P19	8.0	-1.2
5	P20	7.6	-0.9
5	P21	7.0	0.0
5	P22	7.5	-0.1
5	P23	8.5	-1.3
5	P24	7.5	-0.4
5	P25	8.6	-1.7

**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: 5/18/07, Next Cal: 5/18/08

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

... Last Cal: 06/22/07, Next Cal: 06/22/08

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

... Last Cal: 06/22/07, Next Cal: 06/22/08

**Equipment #:** LC-50N (icell)-1**Description:** 50 N icell load cell for Dillon Test Stand**Manufacturer:** Mecmesin (Dillon/Quantrol)**Model:** icell**Serial #:** 07-0302-09**Accuracy:**

... Last Cal: 12/21/2007, Next Cal: 12/21/2008

**Equipment #:** Null**Description:****Manufacturer:****Model:****Serial #:****Accuracy:**

... Last Cal: , Next Cal: