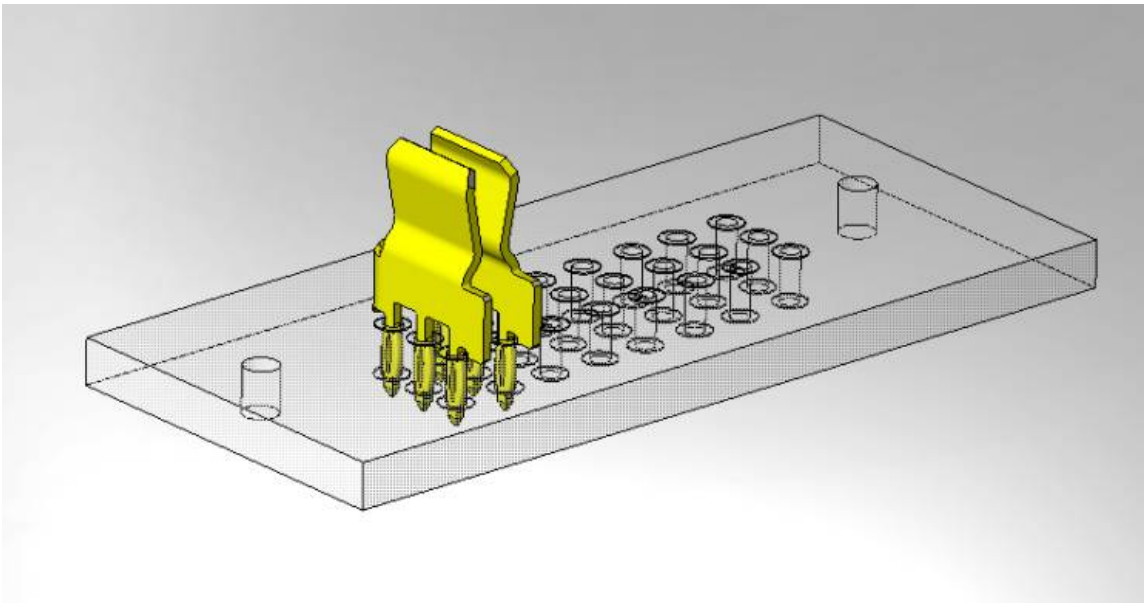
Project Number: Design Qualification Test Report	Tracking Code: 113523_Report_Rev_2			
Requested by: Kevin Meredith	Date: 02/16/2011	Product Rev: NA		
Part #: C-341-04.0-L	Lot #:NA	Tech: Gary Lomax	Eng: Eric Mings	
Part description:			Qty to test: 120	
Test Start: 12/17/2010	Test Completed: 12/17/2010			



Compliant pin testing for UPT and UPS connectors
With PV lead styles

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

SCOPE

To perform the following tests: Design Qualification Test

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) Any additional preparation will be noted in the individual test sequences.
4) Samtec Test PCBs used: PCB-102913-TST/ PCB-102914-TST/ PCB-102916-TST/ PCB-102909-TST

Tracking Code: 113523_Report_Rev_2	Part #: C-341-04.0-L
Part description:	

FLOWCHARTS

TEST	GROUP A	GROUP B
STEP	**90 Points (30 per cycle, individual pins)**	**90 Points (30 per cycle, individual pins)**
	Insertion/Retention force Min PTH (022 dia) for each PCB finish	**Insertion/Retention force Max PTH (.028 dia)**
01	measure and record the compiant pin (width only)	measure and record the compiant pin (width only)
02	Measure/record PTH hole diameter to determine it is smallest diameter permissible.	Measure/record PTH hole diameter to determine it is largest diameter permissible.
	1st Cycle	**1 Cycle**
03	Fixture and press pin into PTH, Record data	Fixture and press pin into PTH, Record data
04	Fixture and remove pin from PTH, Record data	Fixture and remove pin from PTH, Record data
	2nd Cycle (Use new compliant pin, same hole)	**2nd Cycle (Use new compliant pin, same hole)**
05	measure and record the compiant pin (width only)	Measure Compliant pin size
06	Fixture and press pin into PTH, Record data	Fixture and press pin into PTH, Record data
07	Fixture and remove pin from PTH, Record data	Fixture and remove pin from PTH, Record data
	3rd Cycle (Use new compliant pin, same hole)	**3rd Cycle (Use new compliant pin, same hole)**
08	measure and record the compiant pin (width only)	Measure Compliant pin size
09	Fixture and press pin into PTH, Record data	Fixture and press pin into PTH, Record data
10	Fixture and remove pin from PTH, Record data	Fixture and remove pin from PTH, Record data
11	**photo inspection of vias (check for cracked barrel)**	**photo inspection of vias (check for cracked barrel)**

Insertion/Retention Forces = EIA-364-13

ATTRIBUTE DEFINITIONS

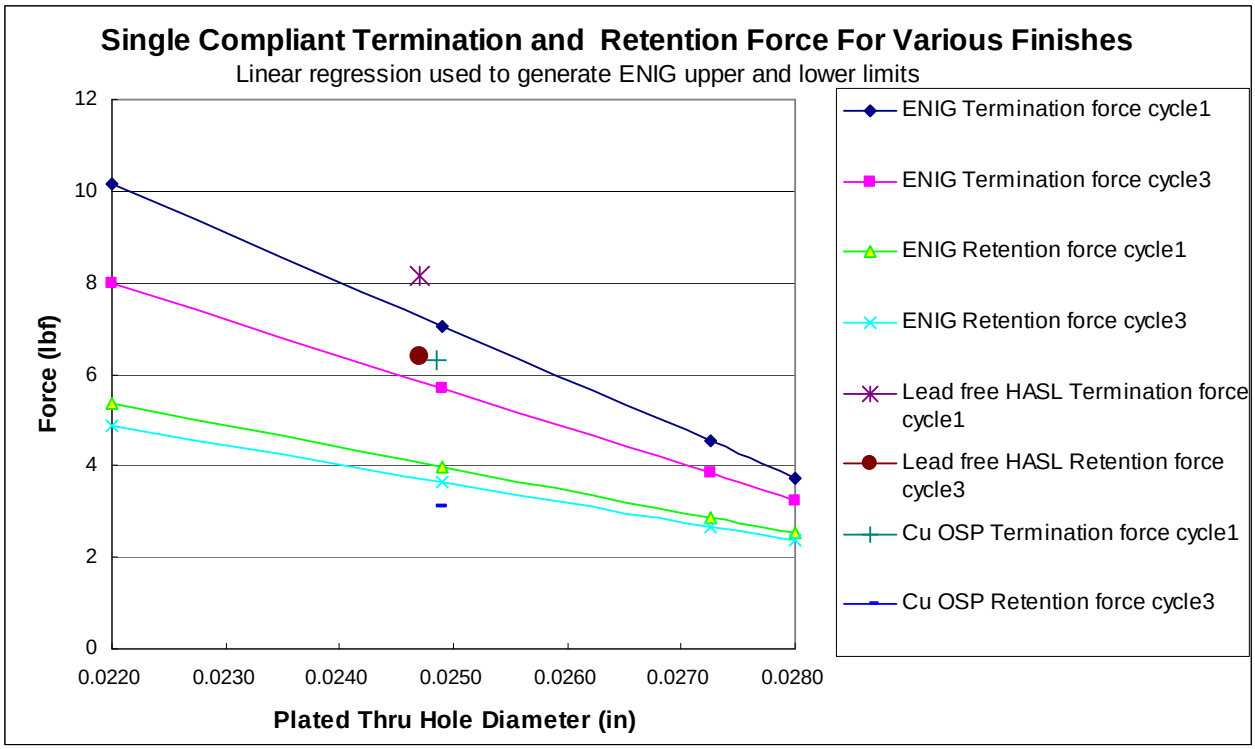
The following is a brief, simplified description of attributes.

Insertion/Retention force

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.

RESULTS

Summary graph



Pin Dimension

- **A-1**
  - **Min ---------- 0.0305 in**
  - **Max ---------- 0.0310 in**
- **A-2**
  - **Min ---------- 0.0305 in**
  - **Max ---------- 0.0315 in**
- **A-3**
  - **Min ---------- 0.0305 in**
  - **Max ---------- 0.0315 in**
- **B-1**
  - **Min ---------- 0.0305 in**
  - **Max ---------- 0.0310 in**

PCB Hole Dimension

- **PCB-102913-TST-02A**
  - **Min ---------- 0.0240 in**
  - **Max ---------- 0.0254 in**
- **PCB-102914-TST-01A**
  - **Min ---------- 0.0244 in**
  - **Max ---------- 0.0254 in**
- **PCB-102916-TST-02A**
  - **Min ---------- 0.0245 in**
  - **Max ---------- 0.0252 in**
- **PCB-102909-TST-02**
  - **Min ---------- 0.0270 in**
  - **Max ---------- 0.0275 in**

RESULTS Continue

Insertion/ Withdraw force

PCB-102913(Lead Free HASL finish)

- **1 Cycles**
  - **Mating**
    - **Min ---------- 6.71 Lbs**
    - **Max---------- 9.56 Lbs**
  - **Unmating**
    - **Min ---------- 4.48 Lbs**
    - **Max---------- 6.86 Lbs**
- **2 Cycles**
  - **Mating**
    - **Min ---------- 6.36 Lbs**
    - **Max---------- 9.99 Lbs**
  - **Unmating**
    - **Min ---------- 4.47 Lbs**
    - **Max---------- 7.04 Lbs**
- **3 Cycles**
  - **Mating**
    - **Min ---------- 5.75 Lbs**
    - **Max---------- 9.24 Lbs**
  - **Unmating**
    - **Min ---------- 4.16 Lbs**
    - **Max---------- 8.60 Lbs**

PCB-102914(ENIG finish)

- **1 Cycles**
  - **Mating**
    - **Min ---------- 5.89 Lbs**
    - **Max---------- 8.23 Lbs**
  - **Unmating**
    - **Min ---------- 2.58 Lbs**
    - **Max---------- 5.34 Lbs**
- **2 Cycles**
  - **Mating**
    - **Min ---------- 5.17 Lbs**
    - **Max---------- 8.14 Lbs**
  - **Unmating**
    - **Min ---------- 2.29 Lbs**
    - **Max---------- 4.85 Lbs**
- **3 Cycles**
  - **Mating**
    - **Min ---------- 4.41 Lbs**
    - **Max---------- 6.98 Lbs**
  - **Unmating**
    - **Min ---------- 2.38 Lbs**
    - **Max---------- 4.93 Lbs**

RESULTS Continue

Insertion/ Withdraw force

PCB-102916(Cu OSP finish)

- **1 Cycles**
  - **Mating**
    - **Min ---------- 5.20 Lbs**
    - **Max---------- 7.43 Lbs**
  - **Unmating**
    - **Min ---------- 2.39 Lbs**
    - **Max---------- 4.15 Lbs**
- **2 Cycles**
  - **Mating**
    - **Min ---------- 4.09 Lbs**
    - **Max---------- 7.47 Lbs**
  - **Unmating**
    - **Min ---------- 2.47 Lbs**
    - **Max---------- 3.70 Lbs**
- **3 Cycles**
  - **Mating**
    - **Min ---------- 3.28 Lbs**
    - **Max---------- 5.88 Lbs**
  - **Unmating**
    - **Min ---------- 1.98 Lbs**
    - **Max---------- 4.25 Lbs**

PCB-102909(ENIG finish)

- **1 Cycles**
  - **Mating**
    - **Min ---------- 3.29 Lbs**
    - **Max---------- 5.79 Lbs**
  - **Unmating**
    - **Min ---------- 2.02 Lbs**
    - **Max---------- 3.69 Lbs**
- **2 Cycles**
  - **Mating**
    - **Min ---------- 3.36 Lbs**
    - **Max---------- 5.12 Lbs**
  - **Unmating**
    - **Min ---------- 1.77 Lbs**
    - **Max---------- 4.04 Lbs**
- **3 Cycles**
  - **Mating**
    - **Min ---------- 2.77 Lbs**
    - **Max---------- 4.90 Lbs**
  - **Unmating**
    - **Min ---------- 1.67 Lbs**
    - **Max---------- 3.69 Lbs**

DATA SUMMARIES

Pin Dimension

	A-1	A-2	A-3	B-1
Minimum	0.0305	0.0305	0.0305	0.0305
Maximum	0.0310	0.0315	0.0315	0.0310
Average	*0.0308*	*0.0309*	*0.0308*	*0.0307*
St. Dev.	*0.0003*	*0.0003*	*0.0003*	*0.0003*
Count	*90*	*90*	*90*	*90*

PCB Hole Dimension

	PCB-102913-TST-02A	PCB-102914-TST-01A	PCB-102916-TST-02A	PCB-102909-TST-02
Minimum	0.0240	0.0244	0.0245	0.0270
Maximum	0.0254	0.0254	0.0252	0.0275
Average	*0.0250*	*0.0250*	*0.0249*	*0.0273*
St. Dev.	*0.0003*	*0.0002*	*0.0001*	*0.0001*
Count	*48*	*48*	*48*	*48*

Insertion/ Withdraw force

PCB-102913(Lead Free HASL finish)

Cycle 1 Insertion Force Summary		Cycle 2 Insertion Force Summary		Cycle 3 Insertion Force Summary	
Minimum	6.71	*Minimum*	6.36	*Minimum*	5.75
Maximum	9.56	*Maximum*	9.99	*Maximum*	9.24
Average	8.29	*Average*	7.77	*Average*	7.41
St. Dev.	0.70	*St. Dev.*	0.96	*St. Dev.*	0.92

Cycle 1 Withdraw Force Summary		Cycle 2 Withdraw Force Summary		Cycle 3 Withdraw Force Summary	
Minimum	4.48	*Minimum*	4.47	*Minimum*	4.16
Maximum	6.86	*Maximum*	7.04	*Maximum*	8.60
Average	5.62	*Average*	5.65	*Average*	5.50
St. Dev.	0.61	*St. Dev.*	0.62	*St. Dev.*	0.95

DATA SUMMARIES Continue

Insertion/ Withdraw force

PCB-102914(ENIG finish)

Cycle 1 Insertion Force Summary		Cycle 2 Insertion Force Summary		Cycle 3 Insertion Force Summary	
Minimum	5.89	*Minimum*	5.17	*Minimum*	4.41
Maximum	8.23	*Maximum*	8.14	*Maximum*	6.98
Average	7.13	*Average*	6.32	*Average*	5.68
St. Dev.	0.66	*St. Dev.*	0.79	*St. Dev.*	0.69

Cycle 1 Withdraw Force Summary		Cycle 2 Withdraw Force Summary		Cycle 3 Withdraw Force Summary	
Minimum	2.58	*Minimum*	2.29	*Minimum*	2.38
Maximum	5.34	*Maximum*	4.84	*Maximum*	4.93
Average	3.71	*Average*	3.51	*Average*	3.32
St. Dev.	0.58	*St. Dev.*	0.51	*St. Dev.*	0.57

PCB-102916(Cu OSP finish)

Cycle 1 Insertion Force Summary		Cycle 2 Insertion Force Summary		Cycle 3 Insertion Force Summary	
Minimum	5.20	*Minimum*	4.09	*Minimum*	3.28
Maximum	7.43	*Maximum*	7.47	*Maximum*	5.88
Average	6.20	*Average*	5.27	*Average*	4.59
St. Dev.	0.60	*St. Dev.*	0.68	*St. Dev.*	0.56

Cycle 1 Withdraw Force Summary		Cycle 2 Withdraw Force Summary		Cycle 3 Withdraw Force Summary	
Minimum	2.39	*Minimum*	2.47	*Minimum*	1.98
Maximum	4.15	*Maximum*	3.70	*Maximum*	4.25
Average	3.11	*Average*	2.98	*Average*	2.95
St. Dev.	0.48	*St. Dev.*	0.31	*St. Dev.*	0.61

PCB-102909(ENIG finish)

Cycle 1 Insertion Force Summary		Cycle 2 Insertion Force Summary		Cycle 3 Insertion Force Summary	
Minimum	3.29	*Minimum*	3.36	*Minimum*	2.77
Maximum	5.79	*Maximum*	5.12	*Maximum*	4.90
Average	4.87	*Average*	4.07	*Average*	3.65
St. Dev.	0.53	*St. Dev.*	0.47	*St. Dev.*	0.53

Cycle 1 Withdraw Force Summary		Cycle 2 Withdraw Force Summary		Cycle 3 Withdraw Force Summary	
Minimum	2.02	*Minimum*	1.77	*Minimum*	1.67
Maximum	3.69	*Maximum*	4.04	*Maximum*	3.69
Average	3.18	*Average*	2.82	*Average*	2.68
St. Dev.	0.34	*St. Dev.*	0.44	*St. Dev.*	0.45

DATA

Pin Dimension

Pos.#	A-1	A-2	A-3	B-1
1	0.0310	0.0310	0.0305	0.0305
2	0.0305	0.0310	0.0315	0.0310
3	0.0310	0.0305	0.0310	0.0310
4	0.0310	0.0305	0.0315	0.0310
5	0.0310	0.0310	0.0305	0.0305
6	0.0305	0.0305	0.0315	0.0305
7	0.0305	0.0310	0.0305	0.0310
8	0.0305	0.0305	0.0305	0.0305
9	0.0305	0.0310	0.0310	0.0305
10	0.0310	0.0305	0.0310	0.0310
11	0.0305	0.0310	0.0305	0.0310
12	0.0310	0.0310	0.0305	0.0310
13	0.0305	0.0305	0.0310	0.0305
14	0.0305	0.0315	0.0310	0.0305
15	0.0310	0.0315	0.0310	0.0310
16	0.0305	0.0315	0.0305	0.0305
17	0.0305	0.0315	0.0305	0.0310
18	0.0305	0.0315	0.0310	0.0305
19	0.0310	0.0315	0.0305	0.0310
20	0.0310	0.0310	0.0305	0.0305
21	0.0310	0.0305	0.0310	0.0305
22	0.0310	0.0315	0.0310	0.0310
23	0.0305	0.0310	0.0310	0.0305
24	0.0310	0.0315	0.0305	0.0305
25	0.0305	0.0305	0.0305	0.0310
26	0.0310	0.0315	0.0310	0.0310
27	0.0305	0.0305	0.0305	0.0310
28	0.0305	0.0305	0.0305	0.0305
29	0.0310	0.0310	0.0310	0.0305
30	0.0305	0.0310	0.0310	0.0310
31	0.0310	0.0305	0.0310	0.0305
32	0.0305	0.0305	0.0305	0.0305
33	0.0305	0.0310	0.0305	0.0310
34	0.0310	0.0310	0.0310	0.0310
35	0.0310	0.0310	0.0305	0.0310
36	0.0310	0.0305	0.0310	0.0305
37	0.0305	0.0305	0.0305	0.0305
38	0.0305	0.0310	0.0310	0.0310
39	0.0310	0.0305	0.0305	0.0305
40	0.0305	0.0305	0.0305	0.0305
41	0.0305	0.0310	0.0305	0.0305
42	0.0310	0.0310	0.0305	0.0310
43	0.0310	0.0310	0.0305	0.0305
44	0.0310	0.0305	0.0305	0.0305
45	0.0305	0.0305	0.0310	0.0310
46	0.0305	0.0310	0.0305	0.0310

47	0.0305	0.0305	0.0305	0.0310
48	0.0305	0.0310	0.0305	0.0305
49	0.0310	0.0305	0.0305	0.0305
50	0.0305	0.0310	0.0305	0.0310
51	0.0310	0.0310	0.0305	0.0305
52	0.0305	0.0310	0.0310	0.0310
53	0.0310	0.0310	0.0310	0.0305
54	0.0310	0.0310	0.0310	0.0310
55	0.0310	0.0310	0.0310	0.0305
56	0.0310	0.0310	0.0310	0.0305
57	0.0310	0.0310	0.0305	0.0305
58	0.0310	0.0310	0.0305	0.0305
59	0.0310	0.0305	0.0310	0.0305
60	0.0310	0.0310	0.0305	0.0305
61	0.0305	0.0310	0.0305	0.0310
62	0.0305	0.0310	0.0310	0.0310
63	0.0305	0.0305	0.0310	0.0310
64	0.0305	0.0305	0.0310	0.0310
65	0.0305	0.0305	0.0305	0.0310
66	0.0305	0.0310	0.0305	0.0305
67	0.0310	0.0305	0.0305	0.0310
68	0.0305	0.0305	0.0305	0.0310
69	0.0305	0.0305	0.0310	0.0310
70	0.0305	0.0305	0.0305	0.0305
71	0.0305	0.0305	0.0310	0.0305
72	0.0305	0.0305	0.0305	0.0305
73	0.0305	0.0310	0.0310	0.0310
74	0.0310	0.0310	0.0310	0.0305
75	0.0310	0.0310	0.0310	0.0305
76	0.0310	0.0310	0.0310	0.0305
77	0.0310	0.0310	0.0310	0.0305
78	0.0310	0.0305	0.0310	0.0305
79	0.0305	0.0310	0.0310	0.0305
80	0.0310	0.0310	0.0310	0.0310
81	0.0310	0.0305	0.0305	0.0310
82	0.0310	0.0305	0.0305	0.0310
83	0.0305	0.0310	0.0310	0.0310
84	0.0310	0.0305	0.0305	0.0305
85	0.0305	0.0310	0.0310	0.0310
86	0.0305	0.0305	0.0310	0.0305
87	0.0310	0.0310	0.0310	0.0305
88	0.0310	0.0310	0.0310	0.0310
89	0.0310	0.0310	0.0310	0.0310
90	0.0305	0.0310	0.0310	0.0310

PCB Hole Dimension

Pos.#	PCB-102913-TST-02A	PCB-102914-TST-01A	PCB-102916-TST-02A	PCB-102909-TST-02
1	0.0249	0.0247	0.0247	0.0270
2	0.0248	0.0250	0.0248	0.0271
3	0.0250	0.0251	0.0250	0.0273

4	0.0250	0.0252	0.0251	0.0273
5	0.0249	0.0252	0.0250	0.0274
6	0.0250	0.0252	0.0250	0.0272
7	0.0247	0.0250	0.0251	0.0273
8	0.0245	0.0251	0.0249	0.0274
9	0.0253	0.0250	0.0250	0.0273
10	0.0250	0.0250	0.0249	0.0274
11	0.0248	0.0251	0.0248	0.0273
12	0.0248	0.0251	0.0249	0.0273
13	0.0247	0.0251	0.0248	0.0274
14	0.0251	0.0250	0.0247	0.0274
15	0.0251	0.0249	0.0247	0.0274
16	0.0252	0.0245	0.0245	0.0273
17	0.0250	0.0249	0.0249	0.0271
18	0.0247	0.0251	0.0250	0.0272
19	0.0249	0.0252	0.0251	0.0273
20	0.0251	0.0252	0.0251	0.0273
21	0.0248	0.0251	0.0252	0.0274
22	0.0251	0.0252	0.0251	0.0273
23	0.0253	0.0254	0.0250	0.0273
24	0.0253	0.0252	0.0251	0.0274
25	0.0252	0.0252	0.0251	0.0274
26	0.0252	0.0251	0.0249	0.0274
27	0.0253	0.0252	0.0250	0.0274
28	0.0254	0.0249	0.0251	0.0274
29	0.0251	0.0251	0.0250	0.0275
30	0.0253	0.0250	0.0248	0.0274
31	0.0251	0.0250	0.0249	0.0274
32	0.0248	0.0248	0.0247	0.0273
33	0.0249	0.0248	0.0249	0.0270
34	0.0247	0.0249	0.0251	0.0272
35	0.0248	0.0249	0.0249	0.0271
36	0.0250	0.0249	0.0250	0.0272
37	0.0249	0.0249	0.0251	0.0273
38	0.0253	0.0251	0.0250	0.0271
39	0.0250	0.0251	0.0250	0.0273
40	0.0253	0.0251	0.0250	0.0273
41	0.0249	0.0251	0.0250	0.0273
42	0.0248	0.0252	0.0250	0.0274
43	0.0248	0.0250	0.0250	0.0274
44	0.0250	0.0250	0.0249	0.0274
45	0.0249	0.0249	0.0249	0.0274
46	0.0251	0.0249	0.0249	0.0273
47	0.0240	0.0247	0.0248	0.0274
48	0.0249	0.0244	0.0246	0.0272

DATA Continue

Insertion/Retention force

PCB-102913(Lead Free HASL finish)

	Cycle 1		Cycle 2		Cycle 3	
Sample:	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force
1	7.7636	5.0854	7.1593	5.8972	7.3925	4.4789
2	8.32	6.0859	8.22	5.9801	7.7533	4.8349
3	8.87	5.3187	6.69	4.7966	6.99	4.9074
4	8.28	6.2639	9.99	6.1429	6.85	6.3844
5	7.1006	6.8577	8.9065	5.5952	8.6388	5.8939
6	7.3165	5.3325	7.4305	5.2254	7.408	5.0595
7	9.2846	5.7092	8.1141	5.7697	7.382	5.2029
8	9.5556	6.1965	6.6346	5.4759	7.0714	4.8331
9	7.8637	5.5122	7.6635	5.4258	9.2362	4.8141
10	8.6804	5.0422	7.8707	5.8405	5.8576	8.6045
11	9.3174	6.0444	9.6178	6.5525	9.0135	5.4016
12	7.8241	5.9494	8.4335	5.9477	7.6946	5.7524
13	7.5046	5.4984	6.7588	7.0423	6.604	5.4137
14	8.1314	4.7104	6.8452	5.1684	8.4076	6.3002
15	8.2349	5.1476	8.7149	6.0341	7.6894	5.9477
16	9.2655	6.0289	6.36	5.7365	8.6612	6.374
17	8.663	5.075	7.3768	6.0494	7.2008	5.2703
18	8.8183	5.3307	6.79	4.4668	5.749	4.1627
19	8.1261	6.8579	9.1809	5.6109	8.8822	7.4669
20	8.9962	5.9042	8.9427	6.0427	7.123	6.5312
21	7.1248	5.2408	7.5202	6.4851	7.2008	4.1972
22	8.3505	6.2721	7.8628	6.1437	6.3618	4.5273
23	8.5719	6.6033	8.3565	6.6389	6.6346	5.5157
24	8.7753	5.1822	6.6398	4.6887	7.698	5.0457
25	6.707	5.4912	6.6363	5.4342	6.2565	4.9109
26	7.8006	5.5111	8.2626	4.9294	7.5185	4.6655
27	8.3316	4.6709	6.9902	4.9282	6.36	5.4873
28	8.4849	4.4772	7.919	5.1614	8.357	5.2037
29	7.9725	5.3498	7.7947	4.8193	7.5598	6.0509
30	8.651	5.8457	7.4217	5.5658	6.8593	5.6119

DATA Continue

Insertion/Retention force
PCB-102914(ENIG finish)

	Cycle 1		Cycle 2		Cycle 3	
Sample:	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force
1	7.53	4.05	6.23	4.12	6.77	4.93
2	7.89	4.60	5.68	3.57	5.68	3.90
3	5.89	4.31	7.26	4.84	6.30	4.26
4	6.60	4.56	6.42	3.66	6.16	4.17
5	6.97	2.64	6.83	3.20	5.79	3.48
6	8.01	2.58	8.14	2.88	5.23	2.72
7	7.47	3.40	5.17	3.49	4.53	2.38
8	8.01	3.63	5.18	3.39	6.65	3.81
9	6.49	3.60	7.86	3.51	6.80	3.26
10	6.50	3.65	5.88	3.86	4.71	2.95
11	7.81	3.58	6.66	3.15	4.41	2.86
12	7.26	3.56	6.33	3.56	6.13	3.21
13	6.09	3.52	5.61	3.10	5.02	3.72
14	6.61	3.27	6.51	3.91	6.24	3.39
15	7.66	4.03	6.64	3.55	6.98	2.95
16	8.18	2.93	7.65	2.29	5.73	3.08
17	7.67	3.94	6.15	3.44	6.08	3.44
18	8.23	2.98	7.18	3.40	6.49	3.54
19	7.45	3.87	5.72	3.27	5.18	2.81
20	6.27	3.97	5.72	3.55	4.95	2.94
21	6.93	3.51	6.03	3.28	5.53	2.84
22	7.33	3.37	6.33	3.40	5.87	2.99
23	6.27	3.71	5.55	2.91	5.18	2.88
24	6.97	3.76	6.33	3.15	5.74	2.81
25	6.97	3.88	5.55	3.23	5.21	3.01
26	6.35	3.23	5.49	3.08	5.71	2.94
27	7.24	3.47	6.88	4.24	5.39	4.01
28	7.41	4.44	7.23	4.50	5.81	4.05
29	6.51	4.00	5.45	3.75	4.80	3.22
30	7.23	5.34	5.86	4.09	5.26	3.16

DATA Continue

Insertion/Retention force
PCB-102916(Cu OSP finish)

	Cycle 1		Cycle 2		Cycle 3	
Sample:	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force
1	6.24	3.39	5.11	2.65	5.56	3.88
2	6.43	2.47	5.43	2.84	5.17	4.03
3	7.43	3.04	4.45	3.05	4.62	4.25
4	6.76	3.07	6.46	3.25	4.73	3.64
5	5.55	2.89	5.88	3.12	4.6	3.02
6	6.32	2.76	4.09	2.97	4.88	3.5
7	6.58	3.52	6.29	3.19	4.64	3.22
8	5.54	2.62	4.71	3.07	4.27	2.98
9	5.96	3.12	4.97	3.05	4.97	3.42
10	6.35	3.13	4.76	2.49	3.74	1.98
11	6.44	2.62	5.13	3.01	4.23	2.41
12	5.92	2.95	5.04	2.81	4.44	2.37
13	5.53	2.39	5.09	2.47	4.08	2.32
14	6.29	2.76	5.38	3.48	5.19	3.6
15	6.06	3.1	5.22	2.68	4.98	2.47
16	7.41	3.06	7.47	3.04	5.88	3.3
17	6.96	2.65	5.3	3.7	5.07	3.39
18	5.51	2.86	4.58	2.88	4.19	2.41
19	6.7	2.51	4.52	3.02	3.74	2.34
20	5.38	2.87	4.97	2.62	4.21	2.48
21	5.2	2.75	5.55	2.8	4.3	2.29
22	5.29	3.89	5.11	3.15	4.72	2.43
23	6.5	3.28	5.64	3.48	5	3.22
24	7.19	3.01	5.87	2.84	4.96	3.28
25	5.92	3.49	5.51	2.57	3.28	2.55
26	6.03	3.7	5.51	2.62	4.08	2.19
27	5.98	3.29	5.39	2.94	5.11	2.99
28	5.78	4.15	5.43	3.03	4.52	2.78
29	6.3	3.98	4.37	3.55	4.55	3.44
30	6.42	4.05	4.98	3.13	3.96	2.46

DATA Continue

Insertion/Retention force
PCB-102909(ENIG finish)

	Cycle 1		Cycle 2		Cycle 3	
Sample:	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force	Insertion Force	Withdraw Force
1	4.92	2.91	3.53	1.77	3.98	2.26
2	4.29	2.9	4.35	3.3	4.60	3.26
3	4.44	3.69	3.36	2.45	2.77	1.67
4	4.25	3.18	4.57	2.75	3.31	1.86
5	4.66	3.15	4.28	2.72	3.93	2.88
6	3.29	2.02	4.85	3.26	3.79	2.9
7	4.67	3.15	3.76	2.69	3.4	2.76
8	4.68	3.11	3.85	2.74	3.23	2.02
9	4.61	2.77	4.4	3.19	3.88	2.94
10	4.59	2.94	4.2	2.91	3.65	2.59
11	4.98	3.35	5.12	4.04	4.8	3.49
12	4.17	3.01	3.65	2.7	3.32	2.22
13	4.98	3.52	4.68	2.78	3.1	2.53
14	4.67	3.39	4.21	2.97	4.04	3.12
15	4.79	2.77	3.73	2.58	3.44	2.77
16	4.45	3.32	4.05	3.43	3.78	3.06
17	5.5	3.6	4.89	3.04	4.27	3.18
18	4.83	2.79	4.07	2.93	3.76	2.33
19	5.79	3.66	3.99	2.44	2.95	2.31
20	4.96	3.26	4.68	3.75	3.6	2.82
21	5.52	3.23	3.86	2.52	4.9	2.78
22	4.71	3.44	3.98	3.2	3.62	2.83
23	5.31	3.6	3.6	2.67	3.41	2.76
24	5.3	3.2	4.34	2.46	4.33	3.69
25	5.3	3.12	3.79	2.45	2.98	2.82
26	5.75	3.33	3.58	2.67	3.55	2.46
27	5.48	3.45	3.72	2.39	3.36	2.34
28	4.99	3.21	3.68	2.71	3.18	2.48
29	5.13	3.34	3.76	2.65	3.43	2.71
30	5.18	3.08	3.42	2.57	3.19	2.5

EQUIPMENT AND CALIBRATION SCHEDULES

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: Last Cal: 04/28/2010, Next Cal: 04/28/2011

Equipment #: MV-17
Description: 6" x 6" Video Measuring Machine
Manufacturer: Micro-Vu
Model: M3010898
Serial #: V9528
Accuracy: Last Cal: 06/10/2010, Next Cal: 06/10/2011