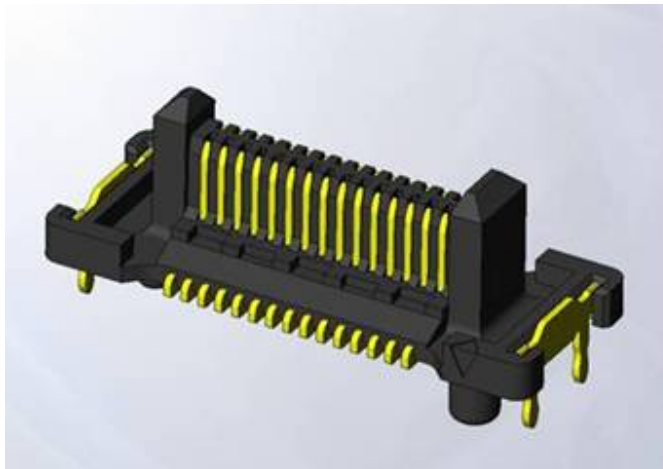
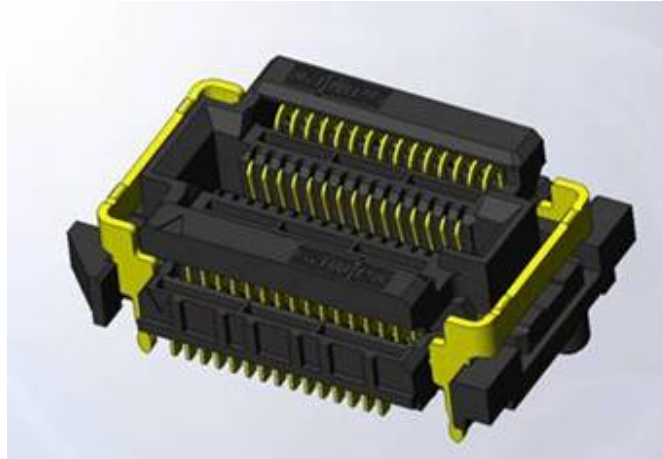




Project Number: Design Verification Test Report		Tracking Code: TC1023—3438_Report_Rev_2	
Requested by: Kevin Meredith		Date: 9/10/2010	Product Rev: 0
Part #:FS5-15-04.0-L-DV-TH-TR, FT5-15-03.0-L-DV-TH-TR		Lot #: na	Tech: Troy Cook Eng: Eric Mings
Part description: FS5/FT5			Qty to test: 30
Test Start:6/29/2010	Test Completed: 7/1/2010		



GUIDE POST STRENGTH AND FLOATING FORCE TEST REPORT

FS5/FT5

FS5-15-04.0-L-DV-TH-TR/ FT5-15-03.0-L-DV-TH-TR

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 determine the force required to fail the guide features and the force required to displace the floating portion of the connector system .5mm in the X and Y direction.

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.

FLOWCHARTS**Guide Post Strength**

TEST STEP	GROUP A1 5 connectors	GROUP A2 5 connectors
01	load GP in X direction as shown till failure	load GP in Y direction as shown till failure
02	record peak force value	record peak force value

X shift force

TEST STEP	GROUP A 10 connectors
01	Measure force to shift connector .5mm in X direction

Y shift force

TEST STEP	GROUP A 10 connectors
01	Measure force to shift connector .5mm in Y direction

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

SUPPLEMENTAL TESTS

Guide post strength:

- 1) Load GP in the X and Y directions till failure
- 2) Record peak force value required to break post.

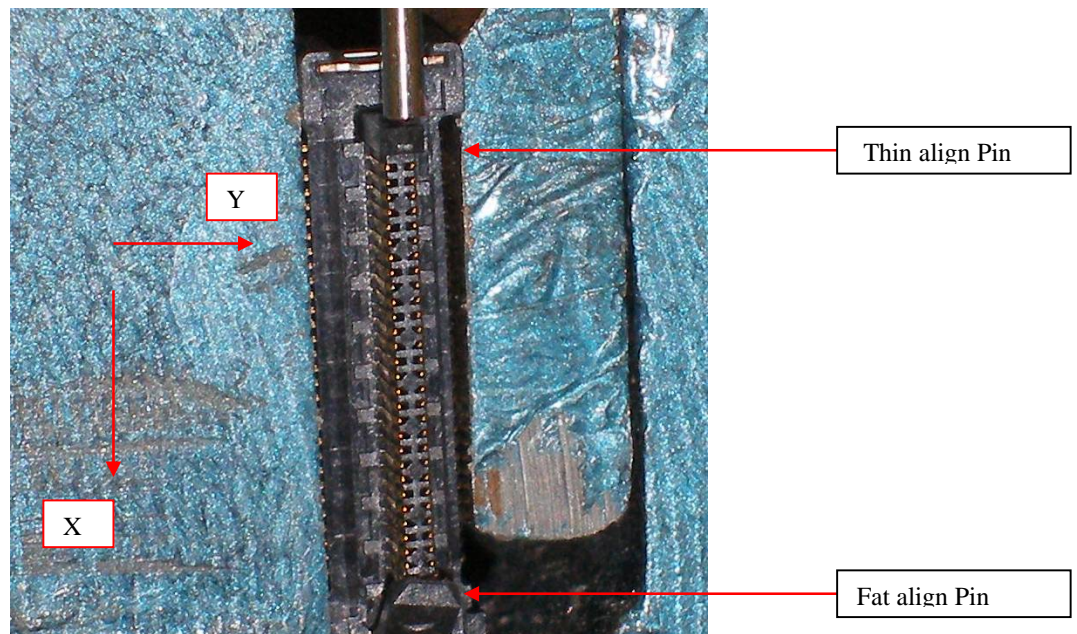


Figure 1: the photo to test the post strength

SUPPLEMENTAL TESTS**Shift force:**

- 1) Measure force to shift connector .5mm in X and Y direction

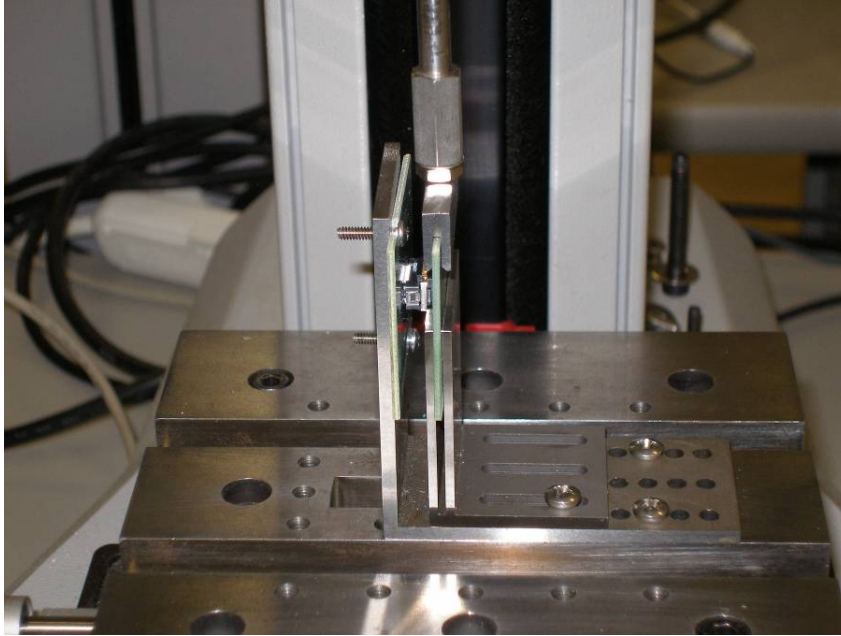


Figure 2: the photo to test shift force

RESULTS**Guide Post strength Forces**

- **X direction:**
 - **Fat align pin**
 - **Min** -----23.068 Lbs
 - **Max** -----30.232 Lbs
 - **Thin align pin**
 - **Min** -----20.524 Lbs
 - **Max** -----32.077 Lbs
- **X direction-Opposite**
 - **Fat align pin**
 - **Min** ----- 4.932 Lbs
 - **Max** ----- 6.157 Lbs
 - **Thin align pin**
 - **Min** ----- 4.261 Lbs
 - **Max** ----- 4.630 Lbs
- **Y direction:**
 - **Fat align pin**
 - **Min** ----- 10.603 Lbs
 - **Max** -----16.290 Lbs
 - **Thin align pin**
 - **Min** ----- 8.271 Lbs
 - **Max** ----- 9.429 Lbs

Shift force**FS5-15-04.0-L-DV-TH-TR/FT5-15-03.0-L-DV-TH-TR**

- **X direction:**
 - **Min** ----- 2.456 Lbs **Displacement at: 0.0195 inch**
 - **Max** ----- 2.617 Lbs **Displacement at: 0.0237 inch**
- **Y direction:**
 - **Min** ----- 6.320 Lbs **Displacement at: 0.0225 inch**
 - **Max** -----12.275 Lbs **Displacement at: 0.0520 inch**

FS5-30-04.0-L-DV-TH-TR/FT5-30-03.0-L-DV-TH-TR

- **X direction:**
 - **Min** ----- 4.697 Lbs **Displacement at: 0.0250 inch**
 - **Max** ----- 5.267 Lbs **Displacement at: 0.0259 inch**
- **Y direction:**
 - **Min** ----- 6.308 Lbs **Displacement at: 0.0200 inch**
 - **Max** ----- 8.052 Lbs **Displacement at: 0.0200 inch**

DATA SUMMARIES**Guide Post strength Forces**• **X direction:**

	Side#1 (FAT)	Side#2 (THIN)
	Force (lbs)	Force (lbs)
Minimum	23.068	20.524
Maximum	30.232	32.077
Average	26.443	25.280

• **X direction-Opposite**

	Side#1 (FAT)	Side#2 (THIN)
	Force (lbs)	Force (lbs)
Minimum	4.932	4.261
Maximum	6.157	4.630
Average	5.515	4.411

• **Y direction:**

	Side#1 (FAT)	Side#2 (THIN)
	Force (lbs)	Force (lbs)
Minimum	10.603	8.271
Maximum	16.290	9.429
Average	13.317	8.861

Shift force:

FS5-15-04.0-L-DV-TH-TR/FT5-15-03.0-L-DV-TH-TR

• **X direction:**

	Force (lbs)	Displacement
Minimum	2.456	0.0195
Maximum	2.617	0.0237
Average	2.551	0.0213

• **Y direction:**

	Force (lbs)	Displacement
Minimum	6.320	0.0225
Maximum	12.275	0.0520
Average	8.746	0.0344

Shift force:**FS5-30-04.0-L-DV-TH-TR/FT5-30-03.0-L-DV-TH-TR**• **X direction:**

	Force (lbs)	Displacement
Minimum	4.697	0.0250
Maximum	5.267	0.0260
Average	4.982	0.0250

• **Y direction:**

	Force (lbs)	Displacement
Minimum	6.308	0.0200
Maximum	8.052	0.0200
Average	7.392	0.0200

DATA**Guide Post strength Forces**

- X direction:**

	Side#1 (FAT)	Side#2 (THIN)
Sample #	Force (lbs)	Force (lbs)
1	23.068	21.474
2	25.987	24.964
3	30.232	32.077
4	24.628	20.524
5	28.302	27.363

- X direction-Opposite:**

	Side#1 (FAT)	Side#2 (THIN)
Sample #	Force (lbs)	Force (lbs)
1	6.157	4.312
2	5.735	4.630
3	4.932	4.372
4	5.236	4.479
5		4.261

- Y direction:**

	Side#1 (FAT)	Side#2 (THIN)
Sample #	Force (lbs)	Force (lbs)
1	16.290	8.565
2	10.603	9.177
3	12.683	9.429
4	13.690	8.271

DATA Continued**Shift force:****FS5-15-04.0-L-DV-TH-TR/FT5-15-03.0-L-DV-TH-TR**• **X direction:**

Sample #	Force (lbs)	Displacement
1	2.456	0.0195
2	2.537	0.0206
3	2.596	0.0214
4	2.595	0.0220
5	2.499	0.0197
6	2.589	0.0237
7	2.486	0.0214
8	2.592	0.0206
9	2.617	0.0228
10	2.547	0.0212

• **Y direction:**

Sample #	Force (lbs)	Displacement
1	10.440	0.0336
2	6.320	0.0225
3	8.521	0.0294
4	7.438	0.0387
5	7.876	0.0230
6	8.078	0.0397
7	12.275	0.0298
8	8.838	0.0484
9	9.223	0.0520
10	8.448	0.0264

FS5-30-04.0-L-DV-TH-TR/FT5-30-03.0-L-DV-TH-TR• **X direction:**

Sample #	Force (lbs)	Displacement
1	5.267	0.0259
2	4.996	0.0250
3	5.129	0.0245
4	4.821	0.0240
5	4.697	0.0250

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Part #: FS5-15-04.0-L-DV-TH-TR,
FT5-15-03.0-L-DV-TH-TR

Part description: FS5/FT5

FS5-30-04.0-L-DV-TH-TR/FT5-30-03.0-L-DV-TH-TR

- **Y direction:**

Sample #	Force (lbs)	Displacement
1	6.308	0.0200
2	7.440	0.0200
3	8.016	0.0200
4	7.144	0.0200
5	8.052	0.0200

Tracking Code: TC1023—3438_Report_Rev_2

Part #: FS5-15-04.0-L-DV-TH-TR,
FT5-15-03.0-L-DV-TH-TR

Part description: FS5/FT5

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: TCT-04

Description: Dillon Quantrol TC2 Test Stand

Manufacturer: Dillon Quantrol

Model: TC2

Serial #:

Accuracy: Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.

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