

Test Report of Panel Mount retention force comparison

1. INTRODUCTION

Competed TE panel dimension and retention force with competitor.

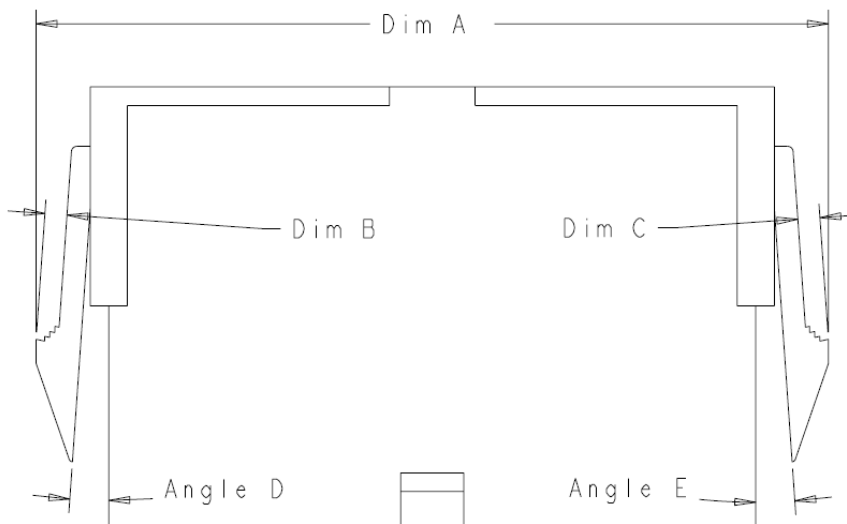
2. SPECIMENS

We got the samples of TE and competitor(Molex).

Description	P/N	Part Revision
PANEL MOUNT PLUG HOUSING VAL-U-LOK	2296207-6	A
Competitor sample	N/A	A

3. TEST CONDITIONS

3.1 dimension measure



3.2 retention force test

EIA-364-5. Measure force necessary to remove the housing from the jig at a maximum rate of 12.7 mm per minute.

4. TEST Group

Group 1: TE sample

Group 2: Competitor sample

5. TEST RESULT

5.1 dimension comparison (Units: mm):

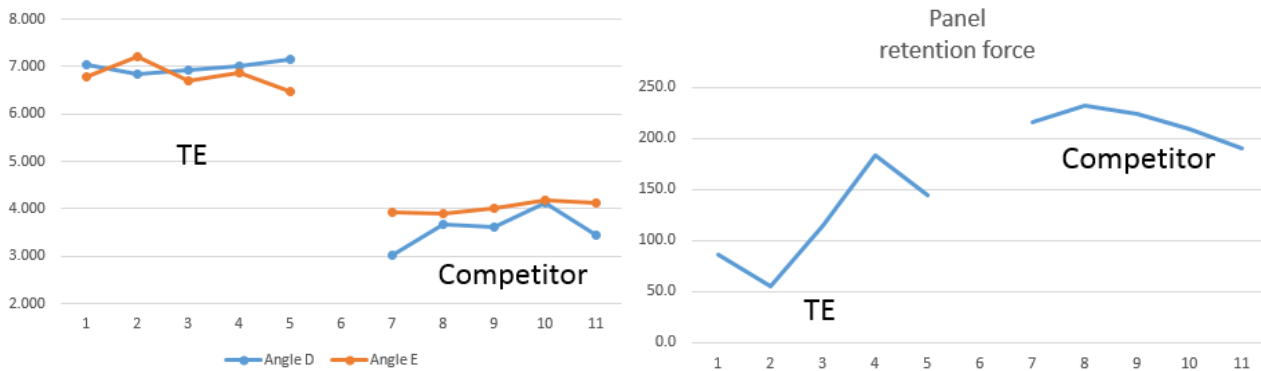
Item		Dim A	Dim B	Dim C	Angle D	Angle E
TE Sample	1	22.778	1.280	1.206	7.043	6.782
	2	22.832	1.215	1.154	6.834	7.221
	3	22.738	1.190	1.211	6.932	6.707
	4	22.793	1.236	1.166	7.011	6.870
	5	22.729	1.233	1.200	7.157	6.485
	Max	22.832	1.280	1.211	7.157	7.221
	Min	22.729	1.190	1.154	6.834	6.485
	Average	22.774	1.231	1.187	6.995	6.813
Competitor Sample	1	22.661	1.237	1.253	3.031	3.931
	2	22.758	1.242	1.259	3.661	3.913
	3	22.787	1.253	1.269	3.602	4.019
	4	22.904	1.279	1.265	4.115	4.171
	5	22.766	1.240	1.250	3.432	4.138
	Max	22.904	1.279	1.269	4.115	4.171
	Min	22.661	1.237	1.250	3.031	3.913
	Average	22.775	1.250	1.259	3.568	4.034

5.2 Retention force comparison (Units: N)

Item		Panel retention force
TE Sample	1	85.6
	2	54.7
	3	114.7
	4	183.7
	5	143.6
	Max	183.7
	Min	54.7
	Average	116.5
Competitor Sample	1	215.4
	2	232.3
	3	223.4
	4	209.2
	5	189.6
	Max	232.3
	Min	189.6
	Average	214.0

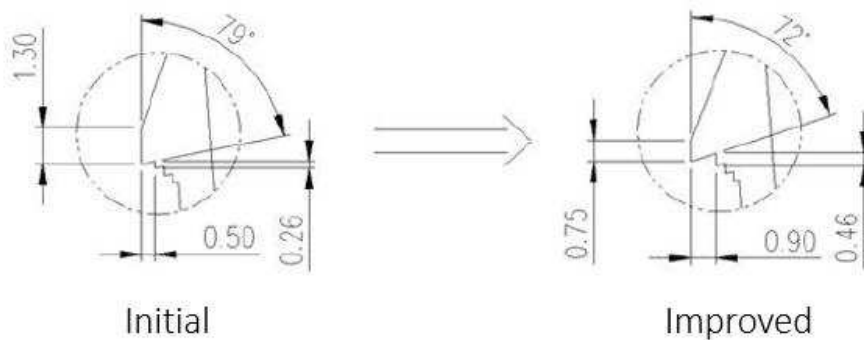
6. Conclusion

There is the most difference in Angle D and E, so TE retention force is less than competitor.



6. improvement conclusion.

Improving design as below:



Test data:

Sample	Retention force (Unit: N)
1	359.5
2	384.0
3	378.0
4	356.5
5	349.0
6	364.0
Max	384.0
Min	349.0
Avg.	365.2

The improvement is effect for retention force(actual 365N), can more than competitor's actual force(actual 214N).