

**PWB INTERCONNECT SOLUTIONS
RELIABILITY TESTING**

IST TEST RESULTS

5 June 2014

(ARLON 91ML - 12 LYR, 5oz. PLATED INNER LYRS)

Job Number J14_4815_1	Test Cycles 1563	Precon Cycles 3
Lot Number N/A	Test Temp 152	Precon Temp 260
Customer Arlon	Coupon Type PTH	Fail Method: Power/Sense
Cage Code # N/A	Test Vehicle # TV12076A	Date Code: 1914
Coupon Rec 6	Incoming Tested 6	Coupons Passed 6
Customer Req Arlon_1563_152	Part # N/A	WO # N/A

TEST RESULTS

Coupon ID	Pwr Cycles	Pwr %	Sense Cycle	Sense %	Results
1_20	1563	-0.7	1563	-0.4	Accept
1_23	1563	1.3	1563	1.9	Accept
1_32	1563	-0.9	1563	-0.7	Accept
2_2	1563	0.3	1563	0.4	Accept
2_29	1563	0.6	1563	0.9	Accept
2_31	1563	-0.1	1563	0.2	Accept
					Cus Spec
Mean	1563	0.1	1563	0.4	N/A
Std Dev	0	0.8	0	1.0	
Min	1563	-0.9	1563	-0.7	Accept
Max	1563	1.3	1563	1.9	
Range	0	2.2	0	2.7	
Coef Var	0%		0%		N/A

TEST PROTOCOL: Arlon 1563 152

-----**PASS**-----

Min Cyc to Fail	Min Avg Cyc to Fail	Max Coefficient Variation	Percent Change (%)	Applied to:	
				POWER	SENSE
1563	N/A	N/A	2	YES	YES

NOTES: N/A

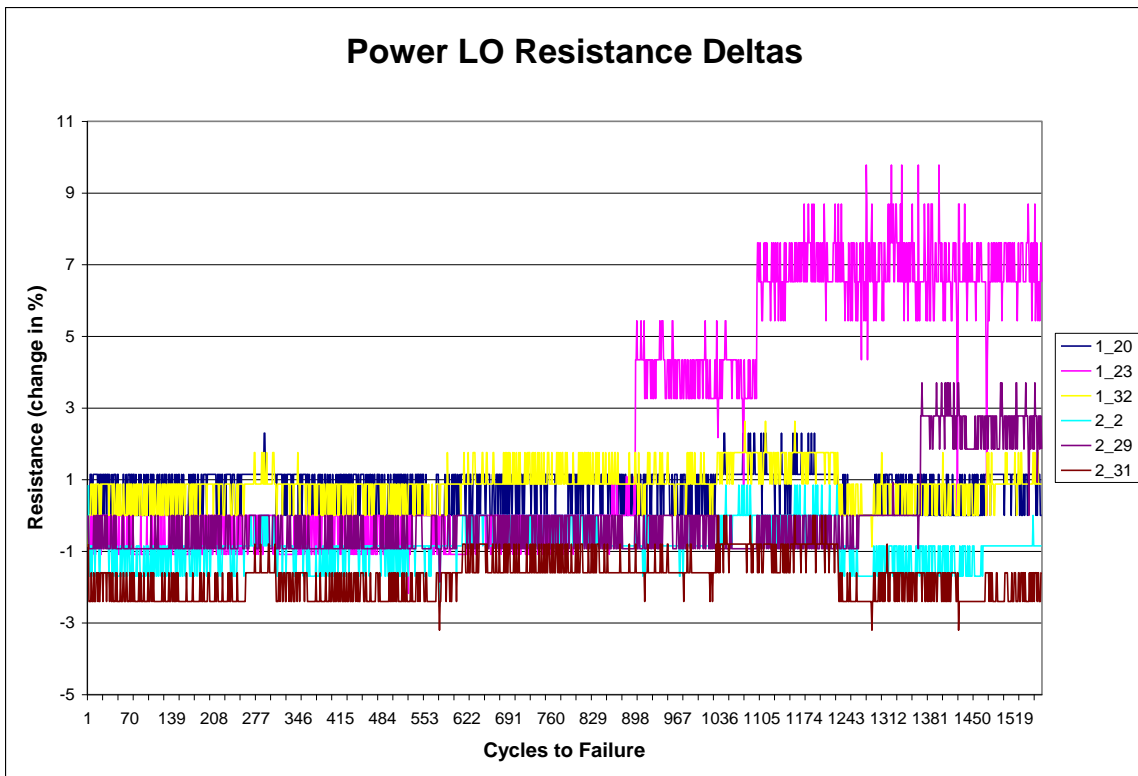
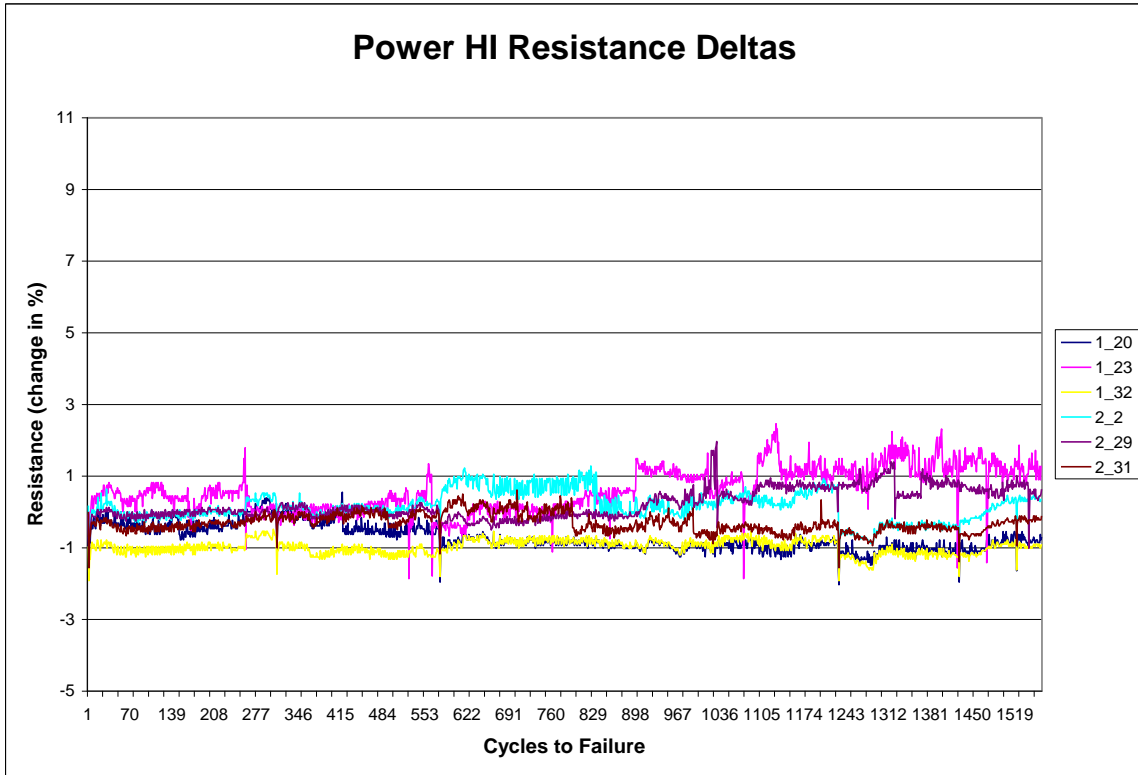
PRESCREEN RESULTS

Coupon ID	Power	Sense
1_20	84	329.1
1_23	88	341.6
1_32	110	358.7
2_2	113	345.2
2_29	104	367.9
2_31	118	346.3
Mean	103	348
Std Dev	14	14
Min	84	329
Max	118	368
Range	34	39

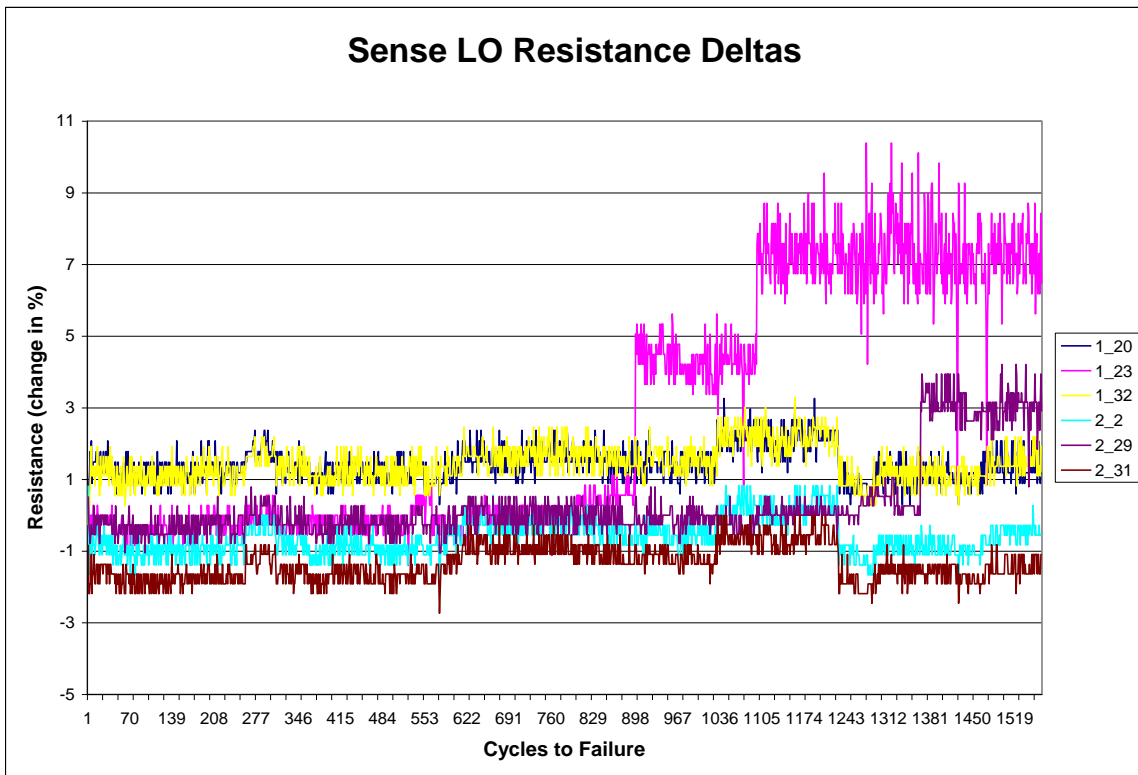
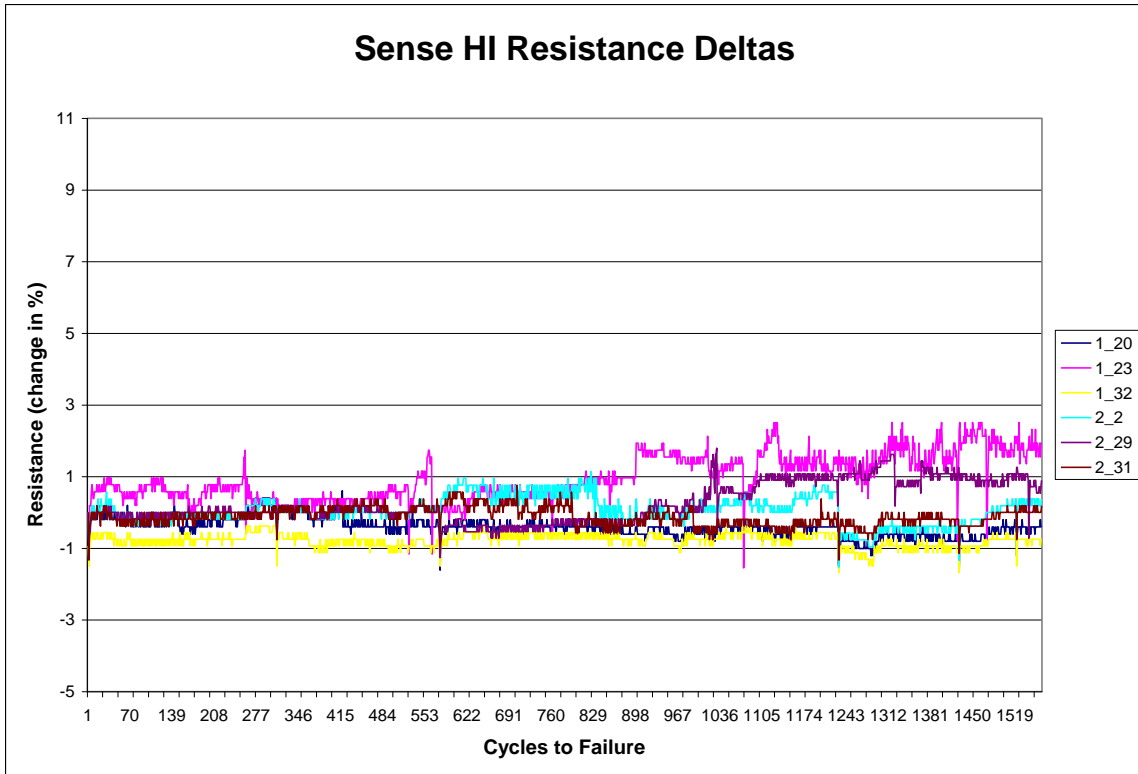
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Coef Var	13.5%	3.9%
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PWB INTERCONNECT SOLUTIONS RELIABILITY TESTING



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Capacitance Legend
As Received
After Preconditioning
End of test
N/A
Above Acceptable Limit

Delamination Evaluation						
Capacitance in Pico farads						
Design: TV12076A						
Layer	2_29	1_32	2_31	2_2	1_23	1_20
3/5	20	20	19	20	21	21
	20	20	19	20	20	21
	20	20	19	20	20	20
5/8	19	19	17	17	18	19
	19	19	18	18	18	19
	18	18	16	18	18	18
8/10	20	20	20	20	21	21
	20	20	19	20	21	21
	19	20	19	20	21	21
Capacitance Percent Change						
Layer	2_29	1_32	2_31	2_2	1_23	1_20
3/5						
	0.0%	0.0%	0.0%	0.0%	-5.0%	0.0%
	0.0%	0.0%	0.0%	0.0%	-5.0%	-5.0%
5/8						
	0.0%	0.0%	5.6%	5.6%	0.0%	0.0%
	-5.6%	-5.6%	-6.3%	5.6%	0.0%	-5.6%
8/10						
	0.0%	0.0%	-5.3%	0.0%	0.0%	0.0%
	-5.3%	0.0%	-5.3%	0.0%	0.0%	0.0%

Note: The warning limit to indicate that material damage may have occurred is set to a 4% change from the “as received” measurement. With lower readings (As received readings of <30 Pico farads) a small change of one or two Pico farads makes a greater difference in the percent change and therefore exceeds the warning limit. Material damage may have occurred in areas exceeding the 4% limit or moisture leaving the coupon, which is also evident by a small change of one or two Pico farads, may be responsible for the change, a microsection would confirm or refute the presence of delamination.

If a microsection is performed and no delamination is evident then a decision could be made to increase the warning limit from 4% to a more suitable limit for this design.