Product Change Notification

PCN Date:	Sep 4, 2025		
Supplier Name:	Pulse Electronics		
Pulse PCN No.	PCN-100000763		
Description of Change	Introduce new source supplier for the component of header 043-02929.001. The material and process are the same, with no impact on product form, fit, and function, and no change of product specifications.		
Reason for Change	Per the business contingency plan requirement, to introduce the new source to mitigate the supply risks.		
Summary of Changes	**Old**	**New**	
	Two header sources: 1) Smart Jumbo 2) HNM	Three header suppliers: 1) Smart Jumbo 2) HNM 3) Huahong	
Traceability guidelines	By date code, traceability record can be provided upon request		
Qualification Data	Pulse arranged the reliability test for Huahong Header 043-02929.001, please refer to the attached qualification report. HM2116ANL Qualification Test		
Customer Part Number	**Pulse Part Number**	**PCN Effectivity Date**	**Sample availability**
N/A	HM2116ANL/T HM2103ANL/T HM2190NL/T BM6202NL/T BM6220NL/T	Feb 4, 2026	Two weeks upon request

Customer: Generic
Originator: Keith Zhao
Phone: (86)-0816-7077888-2224
E-mail: Keith.zhao@yageo.com

Statement: Dear customer, please response this PCN requirement. If you have any special requirements, please let us know. Lack of response after 30 days will be considered acceptable of change.

Qualification Report _ HM2116ANL

PQ6.100.5729

Rev A: 7/29/2025

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Pulse MPO Sr. QA Supervisor

Approved By:
Raymond Tan
Pulse MPO Quality Manager

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HM2116ANL Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification Plan to qualify the automotive part HM2116ANL materials 043-02929.001 from supplier HUAHONG; Testing data will be reviewed after each environmental testing.

2. SCOPE

HM2116ANL is produced and tested in MPO.

3. REFERENCES

HM2116ANL released TLA document Rev10 and AEC-Q200 Rev E Table 5.

4. TEST SUMMARY AS BELOW:

TEST Description	Reference	Sample size	Test conditions/Remarks	Result	Remarks
High Temperature Exposure (Storage)	MIL-STD-202 Method 108	77	1000 Hrs @ 125C	Pass	Appendix 1-2
Temperature Cycling	JESD22 Method JA-104	77	1000cycles (-40C to125C)	Pass	Appendix 3-4
Biased Humidity	MIL-STD-202 Method 103	77	1000 hours 85C/85%RH.	Pass	Appendix 5-6
Operational Life	MIL-PRF-27	77	1000 hours 125C with 50mA DC	Pass	Appendix 7-8
Terminal Strength	MIL-STD-202 Method 211	30	Condition B, bent at 45degree.	Pass	Appendix 9
Resistance to Soldering Heat	MIL-STD-202 Method 210	30	Condition K,3times Reflow tests.	Pass	Appendix 10-11
Solvent resistance	MIL-STD-202 Method 215	5	It is applicable to marked and/or coated components. Add Aqueous wash chemical OKEMCLEAN(A 6% concentrated Oakite cleaner)or equivalent.	Not applicable. Laser marking	
Solderability	J-STD-002	45	a) Method B, 4hrs @ 155C dry heat @ 235C b) Method B @ 215C category 3. c) Method D category 3 @ 260C.	Pass	Appendix 12

HM2116ANL Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification Plan to qualify the automotive part HM2116ANL materials 043-02929.001 from supplier HUAHONG; Testing data will be reviewed after each environmental testing.

2. SCOPE

HM2116ANL is produced and tested in MPO.

3. REFERENCES

HM2116ANL released TLA document Rev10 and AEC-Q200 Rev E Table 5.

4. TEST SUMMARY AS BELOW:

Vibration	MIL-STD-202 Method 204	30	5g's for 20 minutes, 12 cycles each of 3 orientations. Note: Use 8"X5" PCB, .031" thick, 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.	Pass	Appendix 13-14
Mechanical Shock	MIL-STD-202 Method 213	30	Figure 1 of Method 213. Condition C Use the Vibration sample to do this.		
Electrical Characterization	User Spec	90	Test OCL @-40C,25C,125C	Pass	Appendix 15
Terminal Strength (SMD)	AEC-Q200-006	30	1.8kg @60s holding	Pass	Appendix 16
Board Flex	AEC-Q200-005	30	60 sec minimum holding time	Pass	Appendix 17-18
Flammability	UL-94	5	V-0 or V-1 Acceptable	Pass	Appendix 19
Physical Dimension	JESD22 Method JB-100	30	Electrical Test not required.	Pass	Appendix 20-21

Abbreviation in datasheet.

DCR: Direct Current Resistance
OPSH: Open / Short; for insulation
TRP: Turn Ratio and Polarity
OCL: Open Curent inductance
LL: Leakage Inductance
Cp: Winding Capacitance

Appendix 1

HM2116ANL Electrical Test Data Before High Temperature Exposure

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	540.98	530.75	646.64	629.16	1,560.71	1.00	1.00	1.00	1.00
STD DEV =	77.55	84.54	11.28	8.83	56.00	0.00	0.00	0.00	0.00
Cpu			20.49	26.84		58.92	17.08	41.97	17.00
Cpl	2.28	2.05			3.75	58.85	15.78	41.86	16.67
Cpk	2.28	2.05	20.49	26.84	3.75	58.85	15.78	41.86	16.67
DATA	-	-	-	-	-	-	-	-	-
1	404.782	532.855	636.561	619.184	1516.518	1	0.999	1	1
2	588.117	577.645	647.53	619.613	1517.336	1	0.999	1	1
3	567.367	591.696	650.059	635.995	1481.266	0.999	0.999	1	0.999
4	592.479	410.116	644.099	639.478	1482.13	1	0.999	1	1
5	523.591	644.585	642.682	632.962	1583.803	1	1	1	0.999
6	496.543	482.461	661.121	626.45	1434.861	1	0.999	1	0.999
7	505.834	563.51	649.857	639.872	1528.098	1	0.999	1	1
8	390.961	566.941	645.671	621.21	1503.97	1	0.999	1	0.999
9	407.399	476.513	650.889	631.498	1611.306	1	0.999	1	1
10	532.126	606.294	632.201	620.816	1521.811	1	0.999	1	0.999
11	381.841	656.163	677.096	631.093	1545.388	1	0.999	1	1
12	596.598	534.964	646.504	634.27	1617.758	1	1	1	1
13	602.643	489.491	645.78	614.954	1536.84	1	0.999	1	1
14	434.695	512.848	635.192	616.576	1609.876	1	1	1	1
15	595.349	656.519	664.662	630.252	1593.605	1	0.999	1	1
16	517.244	584.646	659.685	625.16	1617.615	1	0.999	1	1
17	595.505	417.425	651.171	627.954	1598.576	1	0.999	1	1
18	646.471	388.159	686.121	638.625	1592.517	1	0.999	0.999	1
19	568.876	426.737	666.737	624.973	1594.419	1	0.999	1	1
20	481.849	559.324	642.583	624.042	1544.091	1	1	1	1
21	561.407	493.963	631.38	611.058	1577.293	1	0.999	1	1
22	524.048	415.46	638.075	618.797	1646.42	1	0.999	1	1
23	644.07	655.871	636.685	609.346	1528.002	1	0.999	1	0.999
24	452.925	572.338	646.619	623.19	1524.705	1	1	1	1
25	590.433	559.313	647.875	629.974	1622.615	1	0.999	1	1
26	498.485	394.763	638.119	625.967	1441.887	1	1	1	0.999
27	572.792	550.117	634.078	605.37	1596.435	1	0.999	1	1
28	542.123	585.957	658.114	631.989	1502.565	1	1	1	0.999
29	656.301	454.017	651.348	629.176	1590.013	1	0.999	1	1
30	488.022	634.107	648.196	632.059	1568.968	1	0.999	1	1
31	567.657	651.356	652.68	639.989	1502.204	1	0.999	1	0.999
32	523.876	532.649	644.202	617.269	1506.589	1	0.999	1	1
33	514.563	445.677	647.961	622.524	1584.866	1	1	1	1
34	480.891	580.04	632.295	628.921	1577.644	1	0.999	1	1
35	546.337	383.694	645.627	627.557	1575.45	1	0.999	1	1
36	645.075	451.61	664.223	635.789	1537.388	1	1	1	1
37	547.349	555.236	649.914	628.358	1568.264	1	0.999	1	1
38	390.339	610.066	649.935	621.39	1483.742	1	0.999	1	0.999
39	652.705	643.162	652.024	624.414	1532.934	1	0.999	1	1

Appendix 1

HM2116ANL Electrical Test Data Before High Temperature Exposure

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	540.98	530.75	646.64	629.16	1,560.71	1.00	1.00	1.00	1.00
STD DEV =	77.55	84.54	11.28	8.83	56.00	0.00	0.00	0.00	0.00
Cpu			20.49	26.84		58.92	17.08	41.97	17.00
Cpl	2.28	2.05			3.75	58.85	15.78	41.86	16.67
Cpk	2.28	2.05	20.49	26.84	3.75	58.85	15.78	41.86	16.67
DATA	-	-	-	-	-	-	-	-	-
40	610.155	383.317	657.005	641.039	1738.272	1	1	1	1
41	403.885	652.702	649.307	629.15	1517.18	1	0.999	1	0.999
42	425.977	627.949	651.853	633.34	1523.948	1	0.999	1	1
43	560.437	474.179	641.882	625.947	1537.992	1	0.999	1	1
44	620.693	479.506	630.088	628.601	1503.784	1	0.999	1	1
45	416.568	399.129	651.296	628.186	1568.004	1	0.999	1	1
46	646.657	562.588	641.985	637.243	1537.443	1	1	1	1
47	526.858	437.366	641.422	636.303	1518.762	1	1	1	1
48	584.521	493.538	642.411	628.098	1651.863	1	0.999	0.999	1
49	661.334	583.349	627.84	625.035	1612.538	1	0.999	1	1
50	608.303	631.26	635.726	633.457	1511.101	1	0.999	1	1
51	579.093	562.748	644.5	640.139	1521.911	1	0.999	1	1
52	533.101	652.861	667.632	634.842	1536.316	1	0.999	1	1
53	516.674	487.713	647.4	644.809	1607.491	1	0.999	1	1
54	422.24	596.646	632.761	621.916	1539.376	1	0.999	1	1
55	613.302	593.906	647.507	638.349	1549.129	1	0.999	1	0.999
56	560.718	383.157	645.479	633.812	1634.981	1	1	1	1
57	457.587	524.17	633.138	633.065	1639.913	1	1	1	1
58	442.658	557.62	647.57	639.893	1618.04	1	0.999	1	1
59	548.514	420.972	639.745	618.195	1620.743	1	0.999	1	1
60	646.376	628.301	635.883	636.011	1596.773	1	0.999	1	0.999
61	584.882	546.045	641.211	624.668	1671.38	1	0.999	1	1
62	641.458	447.262	636.853	628.442	1538.124	1	0.999	1	0.999
63	654.645	401.633	627.627	609.919	1569.595	1	0.999	1	1
64	518.669	477.972	644.574	625.229	1518.783	1	1	1	1
65	486.648	435.398	646.767	632.933	1562.927	1	0.999	1	1
66	617.847	529.209	630.383	627.457	1524.372	1	0.999	1	1
67	417.424	607.826	639.6	643.971	1661.725	1	1	1	1
68	637.343	539.984	646.568	626.851	1563.021	1	0.999	1	1
69	541.968	400.527	636.161	624.055	1553.583	1	0.999	1	1
70	658.729	403.146	654.992	641.251	1594.737	1	0.999	1	1
71	566.474	627.467	640.432	622.369	1470.993	1	0.999	1	1
72	441.853	581.593	659.841	637.112	1635.944	1	0.999	1	1
73	449.404	474.856	652.578	652.202	1558.216	1	0.999	1	1
74	526.578	612.033	675.115	631.541	1617.812	1	0.999	1	1
75	605.089	655.656	640.978	631.339	1463.688	1	0.999	1	0.999
76	523.639	567.973	640.265	634.291	1497.808	1	0.999	1	1
77	567.533	577.829	659.051	645.807	1586.336	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	674.58	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.56	0.00	60s/0.5mA
Cpu	34.52	41.97	30.12	34.52	34.52	41.97	22.06	9.63	
Cpl	34.39	41.86	29.96	34.39	34.39	41.86			
Cpk	34.39	41.86	29.96	34.39	34.39	41.86	22.06	9.63	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	638.398	0.041	Pass
2	1	1	1	1	1	1	638.999	0.04	Pass
3	1	1	1	1	1	1	656.76	0.04	Pass
4	1	1	1	1	1	1	656.074	0.04	Pass
5	1	1	1	1	1	1	657.108	0.04	Pass
6	1	1	1	1	1	1	663.555	0.04	Pass
7	1	1	1	1	1	1	663.659	0.04	Pass
8	1	1	1	1	1	1	678.507	0.04	Pass
9	1	1	1	1	1	1	658.656	0.041	Pass
10	0.999	1	1	1	0.999	1	637.579	0.04	Pass
11	1	1	0.999	1	1	1	660.573	0.04	Pass
12	1	1	1	1	1	1	674.822	0.039	Pass
13	1	1	1	1	1	1	714.239	0.039	Pass
14	1	1	1	1	1	1	705.914	0.039	Pass
15	1	1	1	1	1	1	654.072	0.04	Pass
16	1	0.999	1	0.999	1	1	711.05	0.038	Pass
17	1	1	1	1	1	1	742.59	0.039	Pass
18	1	1	1	1	1	1	641.647	0.041	Pass
19	1	1	1	1	1	1	726.795	0.039	Pass
20	1	1	1	1	1	1	634.128	0.041	Pass
21	1	1	1	1	1	1	717.015	0.039	Pass
22	0.999	1	1	1	1	1	654.758	0.04	Pass
23	1	1	0.999	1	1	1	661.36	0.04	Pass
24	1	1	1	1	1	1	641.027	0.04	Pass
25	1	1	1	0.999	0.999	1	667.12	0.04	Pass
26	1	1	1	1	1	0.999	653.159	0.04	Pass
27	1	1	1	1	1	1	679.985	0.039	Pass
28	1	1	1	1	1	1	673.214	0.04	Pass
29	1	1	1	1	1	1	653.75	0.04	Pass
30	1	1	1	1	1	1	648.148	0.041	Pass
31	1	1	1	1	1	1	663.853	0.04	Pass
32	1	1	1	1	1	1	649.83	0.041	Pass
33	1	1	1	1	1	1	665.534	0.04	Pass
34	1	1	1	1	1	1	651.808	0.04	Pass
35	1	1	1	1	1	1	670.894	0.04	Pass
36	1	1	1	1	1	1	697.225	0.039	Pass
37	1	1	1	1	1	1	655.462	0.04	Pass
38	1	1	1	1	1	1	681.215	0.04	Pass
39	1	1	1	1	1	1	714.678	0.039	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	674.58	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.56	0.00	60s/0.5mA
Cpu	34.52	41.97	30.12	34.52	34.52	41.97	22.06	9.63	
Cpl	34.39	41.86	29.96	34.39	34.39	41.86			
Cpk	34.39	41.86	29.96	34.39	34.39	41.86	22.06	9.63	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	658.477	0.04	Pass
41	1	1	0.999	1	1	1	667.483	0.039	Pass
42	1	1	1	0.999	1	1	672.724	0.04	Pass
43	1	1	1	1	1	1	655.419	0.041	Pass
44	1	1	1	1	1	1	671.709	0.04	Pass
45	1	1	1	1	1	1	676.559	0.04	Pass
46	1	1	1	1	1	0.999	668.667	0.041	Pass
47	1	1	1	1	1	1	695.944	0.04	Pass
48	1	1	1	1	1	1	667.842	0.04	Pass
49	1	0.999	1	1	0.999	1	666.986	0.041	Pass
50	1	1	1	1	1	1	675.25	0.041	Pass
51	1	1	1	1	1	1	686.159	0.04	Pass
52	1	1	1	1	1	1	672.673	0.041	Pass
53	1	1	1	1	1	1	671.987	0.04	Pass
54	1	1	1	1	1	1	663.009	0.041	Pass
55	0.999	1	1	1	1	1	664.825	0.041	Pass
56	1	1	1	1	1	1	689.98	0.04	Pass
57	1	1	0.999	1	1	1	666.673	0.041	Pass
58	1	1	1	1	1	1	699.255	0.041	Pass
59	1	1	1	1	1	1	637.685	0.04	Pass
60	1	1	1	1	1	1	710.241	0.04	Pass
61	1	1	1	1	1	1	718.933	0.04	Pass
62	1	1	1	1	1	1	693.351	0.041	Pass
63	1	1	1	1	1	1	701.579	0.04	Pass
64	1	1	1	1	1	1	659.317	0.041	Pass
65	1	1	1	1	1	1	690.926	0.04	Pass
66	1	1	1	1	1	1	651.913	0.04	Pass
67	1	1	1	1	1	1	720.063	0.04	Pass
68	1	1	1	1	1	1	680.533	0.041	Pass
69	1	1	1	1	1	1	669.599	0.04	Pass
70	1	1	1	1	1	1	648.89	0.041	Pass
71	1	1	1	1	1	1	691.901	0.039	Pass
72	1	1	1	1	1	1	697.799	0.041	Pass
73	1	1	1	1	1	1	688.152	0.04	Pass
74	1	1	1	1	1	1	669.781	0.04	Pass
75	1	1	1	1	1	1	709.394	0.039	Pass
76	1	1	1	1	1	1	729.637	0.039	Pass
77	1	1	1	1	1	1	666.505	0.04	Pass

Appendix 2

HM2116ANL High Temperature Exposure1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	522.38	514.05	613.56	541.41	1,556.97	1.00	1.00	1.00	1.00
STD DEV =	76.53	77.93	18.77	19.89	63.13	0.00	0.00	0.00	0.00
Cpu			12.90	13.38		34.52	36.11	34.52	41.97
Cpl	2.23	2.16			3.31	34.39	32.80	34.39	41.86
Cpk	2.23	2.16	12.90	13.38	3.31	34.39	32.80	34.39	41.86
DATA	-	-	-	-	-	-	-	-	-
1	520.137	505.834	609.4	536.637	1646.536	1	0.999	1	1
2	541.483	525.188	601.912	533.751	1570.236	1	0.999	1	1
3	513.656	521.929	610.658	538.453	1606.425	1	0.999	1	1
4	573.551	464.492	612.679	534.234	1504.504	0.999	0.999	1	1
5	586.338	661.121	619.084	537.003	1543.473	1	0.999	1	1
6	489.365	398.006	615.319	541.325	1652.112	1	0.999	1	1
7	417.395	623.541	608.689	533.111	1546.914	1	0.999	1	0.999
8	500.247	436.319	623.444	550.681	1623.785	1	0.999	1	1
9	516.188	534.285	640.037	546.67	1595.287	1	0.999	1	1
10	554.614	593.028	615.786	533.18	1534.962	1	0.999	1	1
11	476.244	406.546	751.701	547.55	1528.847	1	0.999	1	1
12	521.508	471.037	612.511	543.664	1495.917	1	0.999	1	1
13	553.243	500.351	637.607	571.61	1610.859	1	0.999	1	1
14	578.498	513.914	620.82	538.777	1570.942	1	1	1	1
15	636.811	543.125	609.071	549.95	1534.635	1	0.999	1	1
16	487.617	479.461	629.959	548.174	1617.118	1	0.999	1	1
17	577.406	652.977	620.59	549.314	1661.271	1	0.999	1	1
18	513.728	538.595	610.512	539.447	1660.378	1	0.999	0.999	1
19	531.636	629.509	611.567	538.692	1599.402	1	0.999	1	1
20	557.593	407.523	609.789	602.512	1535.168	1	0.999	1	1
21	436.301	460.028	598.616	529.053	1532.237	0.999	0.999	1	1
22	387.055	617.955	617.664	545.255	1650.437	1	0.999	1	1
23	460.976	437.827	610.511	551.187	1581.985	1	0.999	1	1
24	481.12	593.729	595.243	521.037	1543.373	1	0.999	1	1
25	472.32	454.457	623.085	670.69	1605.169	1	0.999	1	1
26	526.623	512.181	647.53	538.49	1554.138	1	0.999	1	1
27	460.731	574.725	606.479	531.928	1528.195	1	0.999	1	1
28	415.766	516.978	604.504	531.173	1577.183	1	0.999	1	1
29	584.586	571.01	612.652	535.543	1652.204	1	0.999	1	1
30	642.959	624.335	616.048	535.284	1513.36	1	0.999	1	1
31	579.335	479.012	628.683	552.535	1568.624	1	0.999	1	1
32	392.986	401.705	619.403	575.951	1574.54	1	0.999	1	0.999
33	443.82	390.539	615.184	540.399	1487.493	1	0.999	1	1
34	557.943	431.325	619.71	544.969	1585.114	1	0.999	1	1
35	537.069	524.487	610.868	540.852	1576.432	1	1	1	1
36	414.344	542.312	625.894	527.329	1489.285	1	0.999	1	1
37	448.388	472.753	619.109	536.186	1655.687	1	0.999	1	1
38	434.987	408.592	618.774	533.215	1608.142	1	0.999	1	1
39	580.947	593.927	605.167	526.358	1443.963	1	0.999	1	1

Appendix 2

HM2116ANL High Temperature Exposure1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	522.38	514.05	613.56	541.41	1,556.97	1.00	1.00	1.00	1.00
STD DEV =	76.53	77.93	18.77	19.89	63.13	0.00	0.00	0.00	0.00
Cpu			12.90	13.38		34.52	36.11	34.52	41.97
Cpl	2.23	2.16			3.31	34.39	32.80	34.39	41.86
Cpk	2.23	2.16	12.90	13.38	3.31	34.39	32.80	34.39	41.86
DATA	-	-	-	-	-	-	-	-	-
40	401.176	641.699	612.786	553.902	1547.497	1	0.999	1	1
41	594.713	638.735	610.958	544.262	1493.826	1	0.999	1	1
42	661.414	473.836	597.583	541.151	1607.822	1	0.999	1	1
43	543.207	631.552	603.652	562.421	1615.697	1	0.999	1	1
44	593.774	477.181	607.654	542.832	1517.927	1	0.999	1	1
45	497.123	425.643	616.425	533.789	1404.262	0.999	0.999	0.999	1
46	498.01	393.428	596.083	541.847	1556.502	1	0.999	0.999	1
47	413.062	639.196	606.203	534	1504.015	1	0.999	1	1
48	450.424	553.77	620.314	530.489	1566.77	1	0.999	1	1
49	526.207	599.825	615.985	529.304	1580.966	1	0.999	1	1
50	489.437	472.644	617.093	537.636	1527.435	1	0.999	1	1
51	466.971	450.279	603.91	536.229	1563.265	1	0.999	1	1
52	634.939	479.576	602.787	527.255	1513.73	1	0.999	1	1
53	660.654	461.044	607.773	533.581	1580.221	1	0.999	1	1
54	602.821	400.221	596.895	523.155	1488.177	1	0.999	1	1
55	552.93	655.707	608.07	545.686	1498.821	1	0.999	1	1
56	582.329	438.058	607.744	535.522	1495.689	1	0.999	1	1
57	626.218	485.424	611.444	550.552	1586.871	1	0.999	1	1
58	436.242	444.154	603.677	538.946	1512.142	1	0.999	1	1
59	608.229	621.033	611.627	533.127	1734.059	1	0.999	1	1
60	547.953	607.688	603.252	542.238	1513.389	1	0.999	1	1
61	659.461	531.222	602.293	547.809	1560.699	1	0.999	1	1
62	447.876	453.34	608.445	526.512	1465.975	1	0.999	1	1
63	487.08	533.776	611.339	518.247	1478.794	1	0.999	1	1
64	658.207	604.484	612.182	549	1611.98	1	0.999	1	1
65	415.298	471.698	595.083	525.173	1495.969	1	0.999	1	1
66	641.439	494.427	602.577	543.13	1402.952	1	0.999	1	1
67	495.359	603.388	607.427	531.76	1634.681	1	0.999	1	1
68	605.051	442.724	597.757	514.761	1480.051	1	0.999	1	1
69	514.993	645.25	613.122	526.444	1501.022	1	0.999	1	1
70	411.488	493.18	614.384	571.202	1585.898	1	1	1	1
71	415.029	491.666	598.599	547.022	1559.37	1	0.999	1	1
72	658.461	426.858	628.385	537.848	1557.551	1	0.999	1	1
73	589.577	395.351	606.765	526.442	1549.837	1	0.999	1	1
74	573.211	526.698	608.733	532.792	1595.234	1	0.999	1	1
75	459.413	473.246	609.378	528.885	1629.773	1	0.999	1	1
76	402.829	501.383	597.528	525.588	1407.099	1	0.999	1	1
77	495.247	487.893	602.16	535.705	1594.105	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	654.73	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	21.60	0.00	60s/0.5mA
Cpu	24.97	34.52	24.97	34.52	41.97	41.97	25.39	9.82	
Cpl	24.77	34.39	24.77	34.39	41.86	41.86			
Cpk	24.77	34.39	24.77	34.39	41.86	41.86	25.39	9.82	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	626.029	0.04	Pass
2	1	1	1	1	1	1	641.908	0.04	Pass
3	1	1	1	1	1	1	645.173	0.04	Pass
4	1	1	1	1	1	1	639.055	0.04	Pass
5	1	1	1	1	1	1	648.58	0.04	Pass
6	1	1	1	1	1	1	647.61	0.04	Pass
7	1	1	1	1	1	1	647.536	0.04	Pass
8	1	1	1	1	1	1	667.027	0.04	Pass
9	1	1	1	1	1	0.999	660.773	0.04	Pass
10	1	1	1	1	1	1	648.426	0.039	Pass
11	1	1	1	1	1	1	663.338	0.039	Pass
12	1	1	1	1	1	1	645.845	0.04	Pass
13	1	1	0.999	0.999	1	1	628.794	0.04	Pass
14	1	1	0.999	1	1	1	642.464	0.04	Pass
15	0.999	1	0.999	1	1	1	695.806	0.038	Pass
16	0.999	1	0.999	1	1	1	688.876	0.039	Pass
17	0.999	1	0.999	1	1	1	645.688	0.04	Pass
18	0.999	1	1	1	1	1	674.575	0.039	Pass
19	0.999	1	1	1	1	1	713.232	0.038	Pass
20	1	1	1	1	0.999	1	657.126	0.039	Pass
21	1	1	1	1	1	1	687.494	0.038	Pass
22	1	1	1	1	1	1	667.577	0.039	Pass
23	1	1	1	1	1	1	649.772	0.039	Pass
24	1	0.999	1	1	1	1	626.703	0.039	Pass
25	1	1	1	1	1	1	632.701	0.04	Pass
26	1	1	1	1	1	1	631.135	0.04	Pass
27	1	1	1	1	1	1	643.473	0.039	Pass
28	1	1	1	1	1	1	633.529	0.04	Pass
29	1	1	1	0.999	1	0.999	633.022	0.04	Pass
30	1	0.999	1	1	1	1	647.096	0.04	Pass
31	1	1	1	1	1	1	631.26	0.04	Pass
32	1	1	1	1	1	1	629.604	0.04	Pass
33	1	1	1	1	1	1	639.007	0.04	Pass
34	1	1	0.999	1	1	1	702.961	0.038	Pass
35	1	1	1	1	1	1	638.824	0.039	Pass
36	1	1	1	1	1	1	643.394	0.039	Pass
37	0.999	1	1	1	1	1	665.432	0.038	Pass
38	1	1	1	1	0.999	1	640.65	0.04	Pass
39	1	1	1	1	1	1	644.068	0.04	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	654.73	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	21.60	0.00	60s/0.5mA
Cpu	24.97	34.52	24.97	34.52	41.97	41.97	25.39	9.82	
Cpl	24.77	34.39	24.77	34.39	41.86	41.86			
Cpk	24.77	34.39	24.77	34.39	41.86	41.86	25.39	9.82	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	638.134	0.039	Pass
41	1	1	1	1	1	1	642.209	0.04	Pass
42	1	1	1	1	1	1	682.227	0.039	Pass
43	1	1	1	0.999	1	1	699.694	0.038	Pass
44	1	0.999	1	1	1	1	673.524	0.039	Pass
45	1	1	1	1	1	1	665.54	0.04	Pass
46	1	1	1	1	1	1	714.141	0.038	Pass
47	1	1	1	1	1	1	639.114	0.04	Pass
48	1	1	1	1	1	1	682.531	0.039	Pass
49	1	1	1	1	1	1	676.639	0.039	Pass
50	1	1	1	1	1	1	679.722	0.038	Pass
51	1	1	1	1	1	1	650.093	0.04	Pass
52	1	1	1	1	1	1	645.103	0.039	Pass
53	1	1	1	1	1	1	649.048	0.04	Pass
54	1	1	1	1	1	1	651.972	0.04	Pass
55	1	1	1	1	1	1	651.759	0.04	Pass
56	1	1	1	1	1	1	696.609	0.038	Pass
57	1	1	1	1	1	1	624.166	0.039	Pass
58	1	1	1	1	1	1	656.394	0.039	Pass
59	1	1	1	1	1	1	643.403	0.04	Pass
60	1	1	1	1	1	1	688.288	0.039	Pass
61	1	1	1	1	1	1	636.896	0.04	Pass
62	1	1	1	1	1	1	658.905	0.039	Pass
63	1	1	1	1	1	1	626.217	0.04	Pass
64	1	1	1	1	1	1	651.718	0.039	Pass
65	1	1	1	1	1	1	639.621	0.04	Pass
66	1	1	1	1	1	1	654.211	0.039	Pass
67	1	1	1	1	1	1	630.659	0.04	Pass
68	1	1	1	1	1	1	670.645	0.039	Pass
69	1	1	1	1	1	1	629.194	0.039	Pass
70	1	1	1	1	1	1	652.204	0.039	Pass
71	1	1	1	1	1	1	672.115	0.039	Pass
72	1	1	1	1	1	1	649.024	0.04	Pass
73	1	1	1	1	1	1	680.49	0.038	Pass
74	1	1	1	1	1	1	657.686	0.039	Pass
75	1	1	1	1	1	1	653.001	0.04	Pass
76	1	1	1	1	1	1	650.587	0.039	Pass
77	1	1	1	1	1	1	635.064	0.04	Pass

Appendix 3

HM2116ANL Electrical Test Data Before Temperature Cycling

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	512.84	515.02	643.91	633.48	1,562.32	1.00	1.00	1.00	1.00
STD DEV =	79.32	77.58	12.26	10.02	59.10	0.00	0.00	0.00	0.00
Cpu			18.93	23.50		41.97	18.54	23.30	19.96
Cpl	2.11	2.17			3.57	41.86	17.06	23.08	19.70
Cpk	2.11	2.17	18.93	23.50	3.57	41.86	17.06	23.08	19.70
DATA	-	-	-	-	-	-	-	-	-
1	525.831	628.456	632.112	644.714	1631.468	1	1	1	1
2	511.748	529.902	648.821	645.114	1679.963	1	0.999	1	1
3	465.466	537.01	634.659	628.468	1548.092	1	1	1	1
4	584.75	399.125	640.153	637.41	1578.932	1	0.999	1	1
5	510.451	384.078	632.114	651.003	1597.05	1	0.999	1	1
6	409.861	559.086	637.31	622.702	1475.34	1	0.999	1	1
7	475.712	413.479	650.348	651.633	1554.27	0.999	0.999	1	1
8	654.036	452.721	633.491	616.874	1525.981	1	1	1	1
9	394.852	548.619	647.552	645.57	1574.598	1	0.999	0.999	1
10	580.361	538.837	641.146	642.439	1590.417	1	0.999	1	1
11	498.084	502.37	643.848	629.278	1497.369	1	0.999	1	0.999
12	628.433	615.842	639.647	632.081	1672.435	1	0.999	1	1
13	388.908	577.57	646.476	627.69	1535.58	1	0.999	1	1
14	515.3	551.214	644.585	631.457	1558.471	1	0.999	1	1
15	534.741	469.432	649.474	640.032	1577.161	1	0.999	1	1
16	443.729	465.717	647.709	628.848	1670.506	1	0.999	1	1
17	511.914	493.355	643.489	638.457	1661.636	1	1	1	1
18	535.954	400.986	641.158	642.02	1557.255	1	1	1	0.999
19	445.374	577.474	637.758	631.393	1658.577	1	0.999	1	1
20	515.914	512.308	631.972	615.116	1589.318	1	1	1	1
21	586.996	521.489	644.611	635.805	1552.809	1	1	1	1
22	549.444	604.583	634.809	640.718	1563.039	1	0.999	0.999	1
23	634.161	437.782	619.653	611.523	1599.417	1	0.999	0.999	1
24	417.241	541.074	643.356	640.767	1564.851	1	1	0.999	1
25	583.105	612.433	646.273	635.11	1548.067	1	0.999	1	1
26	648.456	520.425	624.319	632.787	1501.918	1	0.999	1	1
27	622.297	421.691	631.445	631.406	1472.708	1	0.999	1	0.999
28	524.664	454.533	648.709	654.401	1579.524	1	0.999	1	1
29	405.297	548.714	631.45	617.892	1602.06	1	0.999	1	1
30	624.483	436.099	633.074	631.319	1529.322	1	0.999	1	1
31	531.233	574.585	638.624	626.046	1493.377	1	0.999	1	0.999
32	394.695	417.375	642.784	624.177	1574.579	1	0.999	1	1
33	469.54	486.599	630.335	651.87	1627.529	1	1	1	1
34	490.338	403.938	713.079	643.977	1519.531	1	0.999	1	1
35	534.268	521.491	647.764	637.56	1564.308	1	0.999	1	1
36	519.817	645.576	626.985	632.2	1446.86	1	0.999	1	0.999
37	510.38	610.377	642.12	633.795	1593.823	1	1	1	1
38	504.295	536.451	649.414	657.013	1635.385	1	0.999	1	1
39	450.002	592.852	637.971	621.593	1500.415	1	0.999	1	1

Appendix 3

HM2116ANL Electrical Test Data Before Temperature Cycling

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	512.84	515.02	643.91	633.48	1,562.32	1.00	1.00	1.00	1.00
STD DEV =	79.32	77.58	12.26	10.02	59.10	0.00	0.00	0.00	0.00
Cpu			18.93	23.50		41.97	18.54	23.30	19.96
Cpl	2.11	2.17			3.57	41.86	17.06	23.08	19.70
Cpk	2.11	2.17	18.93	23.50	3.57	41.86	17.06	23.08	19.70
DATA	-	-	-	-	-	-	-	-	-
40	634.555	493.525	666.216	632.623	1582.312	1	0.999	1	1
41	475.565	559.891	644.884	630.705	1578.862	1	0.999	1	1
42	408.508	406.133	643.242	630.676	1489.845	1	0.999	1	1
43	545.459	614.437	652.232	651.09	1582.169	0.999	0.999	1	1
44	407.581	408.893	650.197	647.349	1570.469	1	0.999	1	1
45	658.977	490.72	645.943	632.192	1591.969	1	0.999	1	1
46	490.56	562.936	649.971	629.02	1571.816	1	0.999	1	0.999
47	404.111	630.583	637.944	624.569	1526.691	1	0.999	1	1
48	478.452	444.881	644.871	623.662	1571.969	1	0.999	1	1
49	578.478	576.468	644.275	635.38	1423.539	1	1	1	0.999
50	419.196	520.656	650.455	635.791	1528.15	1	0.999	1	1
51	485.161	395.459	641.618	631.844	1619.091	1	0.999	1	1
52	392.146	605.261	639.604	633.168	1544.964	1	0.999	1	1
53	512.767	442.805	628.367	625.362	1547.894	1	0.999	1	0.999
54	403.673	499.226	644.772	626.486	1584.757	1	0.999	0.999	1
55	482.867	413.425	640.208	621.056	1636.514	1	0.999	1	1
56	620.827	617.638	631.334	630.219	1534.952	1	0.999	1	0.999
57	606.482	502.833	643.986	648.708	1545.804	1	0.999	1	1
58	558.15	584.703	657.817	637.018	1603.538	1	0.999	1	1
59	625.96	590.201	652.557	639.818	1617.877	1	0.999	1	1
60	596.036	626.682	644.983	652.826	1491.05	1	0.999	1	0.999
61	583.144	596.919	641.148	620.422	1638.387	1	0.999	1	1
62	608.712	565.688	640.406	655.578	1416.266	1	0.999	1	1
63	456.646	485.968	639.481	623.395	1507.22	1	0.999	1	1
64	385.421	648.968	650.733	632.989	1617.231	1	0.999	1	1
65	491.803	501.712	658.911	628.965	1492.327	1	0.999	1	1
66	472.017	464.929	645.177	630.797	1612.844	1	0.999	1	1
67	443.494	396.402	677.61	628.856	1611.064	1	0.999	1	1
68	458.342	510.619	659.362	628.509	1558.824	1	0.999	1	1
69	638.624	581.191	639.317	622.952	1584.212	1	0.999	1	1
70	492.888	389.713	637.218	625.989	1568.728	1	0.999	1	1
71	567.686	425.649	656.388	636.451	1611.99	1	1	1	1
72	638.744	423.583	662.19	632.986	1520.567	1	0.999	0.999	1
73	436.064	565.402	639.826	620.936	1507.637	1	0.999	0.999	1
74	535.02	411.292	642.337	626.293	1632.347	1	0.999	1	1
75	578.149	632.808	649.5	627.467	1450.677	1	0.999	1	1
76	394.326	612.164	639.821	629.283	1598.873	1	1	1	1
77	389.883	410.632	635.601	624.343	1421.252	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	672.20	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	26.68	0.00	60s/0.5mA
Cpu	41.97	27.14	41.97	41.97	41.97	41.97	20.34	9.27	
Cpl	41.86	26.97	41.86	41.86	41.86	41.86			
Cpk	41.86	26.97	41.86	41.86	41.86	41.86	20.34	9.27	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	707.717	0.041	Pass
2	1	1	1	1	1	1	688.041	0.041	Pass
3	1	1	1	1	1	1	638.485	0.041	Pass
4	1	1	1	1	1	1	692.6	0.039	Pass
5	1	1	1	1	1	1	675.183	0.04	Pass
6	1	1	1	1	1	1	752.466	0.039	Pass
7	1	1	1	1	1	1	694.823	0.041	Pass
8	1	1	1	1	1	1	728.511	0.04	Pass
9	1	0.999	1	1	1	1	682.938	0.04	Pass
10	1	1	1	1	1	1	760.313	0.039	Pass
11	1	1	1	0.999	1	1	666.491	0.041	Pass
12	1	1	1	1	1	1	698.243	0.04	Pass
13	1	1	1	1	1	1	644.77	0.041	Pass
14	1	1	1	1	1	1	647.746	0.041	Pass
15	1	1	1	1	1	1	647.144	0.04	Pass
16	0.999	1	1	1	1	1	663.528	0.041	Pass
17	1	1	1	1	1	1	649.734	0.041	Pass
18	1	1	1	1	1	0.999	646.615	0.04	Pass
19	1	1	1	1	1	1	645.94	0.041	Pass
20	1	1	0.999	1	0.999	1	649.746	0.04	Pass
21	1	1	1	1	1	1	654.783	0.04	Pass
22	1	1	1	1	1	1	669.617	0.041	Pass
23	1	1	1	1	1	1	698.997	0.04	Pass
24	1	1	1	1	1	1	670.134	0.04	Pass
25	1	1	1	1	1	1	672.07	0.041	Pass
26	1	1	1	1	1	1	655.822	0.04	Pass
27	1	1	1	1	1	1	643.267	0.04	Pass
28	1	1	1	1	1	1	652.844	0.041	Pass
29	1	1	1	1	1	1	688.232	0.039	Pass
30	1	1	1	1	1	1	659.78	0.041	Pass
31	1	1	1	1	1	1	723.57	0.039	Pass
32	1	1	1	1	1	1	652.151	0.04	Pass
33	1	1	1	1	1	1	692.978	0.04	Pass
34	1	1	1	1	1	1	656.626	0.04	Pass
35	1	1	1	1	1	1	654.753	0.04	Pass
36	1	1	1	1	1	1	658.267	0.04	Pass
37	1	1	0.999	1	1	1	652.231	0.04	Pass
38	1	0.999	1	1	1	1	682.138	0.041	Pass
39	1	0.999	1	1	1	1	654.948	0.041	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	672.20	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	26.68	0.00	60s/0.5mA
Cpu	41.97	27.14	41.97	41.97	41.97	41.97	20.34	9.27	
Cpl	41.86	26.97	41.86	41.86	41.86	41.86			
Cpk	41.86	26.97	41.86	41.86	41.86	41.86	20.34	9.27	
DATA	-	-	-	-	-	-	-	-	
40	1	0.999	1	1	1	1	657.814	0.04	Pass
41	1	0.999	1	1	1	1	712.151	0.04	Pass
42	1	1	1	1	1	1	648.798	0.041	Pass
43	1	1	1	1	1	0.999	639.518	0.04	Pass
44	1	1	1	1	1	1	644.341	0.04	Pass
45	1	1	1	0.999	1	1	689.799	0.04	Pass
46	1	1	1	1	1	1	698.711	0.039	Pass
47	1	1	1	1	1	1	650.617	0.041	Pass
48	1	1	1	1	1	1	727.871	0.039	Pass
49	1	1	1	1	1	1	677.75	0.04	Pass
50	1	1	1	1	1	1	681.486	0.04	Pass
51	1	1	1	1	0.999	1	712.021	0.039	Pass
52	0.999	1	1	1	1	1	712.85	0.039	Pass
53	1	1	1	1	1	1	641.703	0.041	Pass
54	1	1	1	1	1	1	657.302	0.041	Pass
55	1	1	1	1	1	1	673.664	0.04	Pass
56	1	1	1	1	1	1	697.405	0.039	Pass
57	1	1	1	1	1	1	661.862	0.041	Pass
58	1	1	1	1	1	1	707.262	0.04	Pass
59	1	1	1	1	1	1	670.082	0.039	Pass
60	1	1	1	1	1	1	678.236	0.04	Pass
61	1	1	1	1	1	1	645.794	0.041	Pass
62	1	1	1	1	1	1	662.003	0.041	Pass
63	1	1	1	1	1	1	651.308	0.041	Pass
64	1	1	1	1	1	1	667.365	0.041	Pass
65	1	1	1	1	1	1	635.947	0.041	Pass
66	1	1	1	1	1	1	663.595	0.042	Pass
67	1	1	1	1	1	1	668.24	0.04	Pass
68	1	1	1	1	1	1	694.25	0.04	Pass
69	1	1	1	1	1	1	666.032	0.04	Pass
70	1	1	1	1	1	1	683.255	0.04	Pass
71	1	1	1	1	1	1	667.841	0.041	Pass
72	1	1	1	1	1	1	650.626	0.04	Pass
73	1	1	1	1	1	1	651.922	0.04	Pass
74	1	1	1	1	1	1	675.855	0.041	Pass
75	1	1	1	1	1	1	647.443	0.04	Pass
76	1	1	1	1	1	1	651.008	0.041	Pass
77	1	1	1	1	1	1	661.669	0.04	Pass

Appendix 4

HM2116ANL Temperature Cycling1000cycles Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	514.40	530.11	625.30	546.05	1,593.81	1.00	1.00	1.00	1.00
STD DEV =	72.01	83.98	15.59	52.22	80.77	0.00	0.00	0.00	0.00
Cpu			15.28	5.07		30.12	24.24	34.52	34.52
Cpl	2.33	2.06			2.74	29.96	22.14	34.39	34.39
Cpk	2.33	2.06	15.28	5.07	2.74	29.96	22.14	34.39	34.39
DATA	-	-	-	-	-	-	-	-	-
1	633.819	588.824	617.971	924.524	1612.575	1	0.999	1	1
2	476.423	485.617	596.036	522.957	1692.22	1	0.999	1	1
3	631.342	611.496	611.931	548.137	1567.005	1	0.999	1	1
4	493.794	409.653	685.137	743.184	1688.594	1	0.999	1	1
5	608.398	535.548	642.139	565.665	1528.545	1	0.999	1	1
6	576.93	540.908	591.962	513.972	1505.331	1	0.999	1	1
7	516.105	557.95	609.117	546.68	1595.797	1	1	1	1
8	461.037	625.417	608.346	516.931	1656.321	1	0.999	1	1
9	472.084	636.984	623.348	523.805	1529.763	1	0.999	1	0.999
10	572.298	649.334	640.558	540.282	1507.746	0.999	0.999	1	1
11	411.409	485.73	626.253	545.477	1519.016	1	0.999	1	1
12	459.728	465.353	628.792	537.379	1514.398	1	0.999	1	1
13	519.209	448.198	637.655	547.905	1712.536	1	0.999	1	1
14	381.872	506.435	628.081	561.773	1520.683	1	0.999	1	1
15	594.619	615.425	625.484	573.57	1643.253	1	1	1	1
16	587.339	637.54	632.196	541.31	1609.668	1	0.999	1	1
17	541.628	440.023	654.032	554.259	1609.382	0.999	0.999	1	1
18	445.698	586.749	623.883	542.789	1482.485	1	0.999	0.999	1
19	603.737	557.505	616.887	536.642	1594.676	1	0.999	0.999	1
20	596.526	476.491	619.104	529.791	1577.65	1	0.999	1	1
21	472.231	606.901	624.424	536.038	1589.883	1	0.999	1	1
22	614.646	450.485	613.213	516.184	1666.554	1	0.999	1	1
23	409.379	407.277	638.388	531.325	1673.985	1	0.999	1	1
24	560.739	415.072	616.537	559.857	1666.287	1	0.999	1	1
25	421.311	659.865	632.142	530.217	1707.53	1	0.999	1	1
26	529.938	434.622	628.476	572.021	1537.325	1	0.999	1	1
27	444.041	588.878	632.875	540.613	1687.461	1	0.999	1	1
28	471.813	441.073	633.218	545.677	1597.845	1	0.999	1	1
29	396.908	443.664	613.634	533.311	1618.378	1	0.999	1	1
30	488.88	552.607	650.607	544.891	1779.17	1	0.999	1	1
31	518.198	475.708	622.628	527.053	1552.279	1	0.999	1	1
32	608.383	636.152	677.884	549.816	1668.914	1	0.999	1	1
33	533.016	608.545	627.285	529.533	1727.856	1	0.999	1	1
34	414.783	557.56	614.261	529.449	1480.148	0.999	0.999	1	1
35	433.213	656.774	619.708	539.009	1481.039	1	0.999	1	1
36	495.63	528.18	656.564	554.837	1572.609	1	0.999	1	1
37	496.284	643.879	645.94	532.713	1652.336	1	0.999	1	1
38	474.121	503.983	620.814	513.061	1484.106	1	0.999	1	1
39	505.265	548.238	632.888	570.677	1580.463	1	0.999	1	1

Appendix 4

HM2116ANL Temperature Cycling1000cycles Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	514.40	530.11	625.30	546.05	1,593.81	1.00	1.00	1.00	1.00
STD DEV =	72.01	83.98	15.59	52.22	80.77	0.00	0.00	0.00	0.00
Cpu			15.28	5.07		30.12	24.24	34.52	34.52
Cpl	2.33	2.06			2.74	29.96	22.14	34.39	34.39
Cpk	2.33	2.06	15.28	5.07	2.74	29.96	22.14	34.39	34.39
DATA	-	-	-	-	-	-	-	-	-
40	537.751	400.208	636.476	533.089	1543.809	1	0.999	1	0.999
41	451.493	529.927	641.273	604.363	1455.348	1	0.999	0.999	1
42	482.849	620.266	609.447	523.81	1570.938	1	0.999	1	1
43	503.512	619.693	624.686	530.351	1649.244	0.999	0.999	1	1
44	477.137	396.702	611.844	518.158	1561.593	1	0.999	1	1
45	518.112	658.408	617.729	553.153	1508.097	1	0.999	1	1
46	600.104	413.585	619.883	570.96	1467.456	1	0.999	1	1
47	638.681	507.191	616.221	524.586	1507.117	1	0.999	1	1
48	618.79	430.662	637.552	536.365	1536.344	1	0.999	1	1
49	656.01	573.421	634.441	552.459	1705.523	1	0.999	1	1
50	578.629	636.018	607.029	518.88	1536.833	1	0.999	1	1
51	620.554	634.039	623.228	552.753	1683.129	1	0.999	1	1
52	490.423	493.218	622.766	530.732	1698.069	1	0.999	1	1
53	535.879	564.367	646.013	546.276	1604.808	1	0.999	1	1
54	412.404	601.628	627.672	530.149	1478.183	1	0.999	1	1
55	463.073	435.567	629.814	540.975	1563.845	1	0.999	1	1
56	616.392	603.161	626.426	529.388	1525.01	1	0.999	1	1
57	420.492	658.657	622.528	541.093	1522.259	1	0.999	1	1
58	529.114	402.924	631.936	525.7	1612.595	1	0.999	1	1
59	531.447	577.522	611.584	534.776	1539.554	1	1	1	1
60	430.741	525.188	616.475	538.639	1599.217	1	0.999	1	1
61	603.645	619.949	614.459	529.202	1564.166	1	1	1	0.999
62	490.291	452.519	617.235	518.225	1538.05	1	0.999	1	1
63	472.868	421.516	613.714	522.411	1600.283	1	0.999	1	1
64	626.665	478.554	602.179	509.635	1490.957	1	0.999	1	1
65	513.113	458.686	607.148	572.743	1540.599	1	0.999	1	1
66	481.495	507.824	630.51	557.082	1509.529	1	0.999	1	1
67	462.689	611.71	622.826	529.753	1647.024	1	1	1	1
68	470.115	458.474	619.58	534.592	1527.018	1	0.999	1	1
69	413.906	487.785	638.283	525.887	1595.72	1	0.999	1	1
70	616.132	464.725	612.695	515.403	1641.136	1	0.999	1	1
71	395.136	406.442	602.991	513.69	1551.857	1	0.999	1	1
72	575.299	580.431	622.66	523.491	1714.885	1	0.999	1	1
73	586.807	639.855	618.31	543.75	1796.233	1	1	1	1
74	551.636	403.726	614.801	519.625	1749.215	1	0.999	1	1
75	448.087	437.978	640.456	566.596	1637.318	1	1	1	1
76	435.402	448.085	614.431	520.688	1610.385	1	0.999	1	1
77	479.241	637.411	620.46	533.204	1748.273	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	661.40	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	22.59	0.00	60s/0.5mA
Cpu	41.97	41.97	23.30	41.97	34.52	24.97	24.17	9.30	
Cpl	41.86	41.86	23.08	41.86	34.39	24.77			
Cpk	41.86	41.86	23.08	41.86	34.39	24.77	24.17	9.30	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	648.364	0.04	Pass
2	1	1	1	1	1	1	679.779	0.039	Pass
3	1	1	1	1	1	1	660.559	0.039	Pass
4	1	1	1	1	1	1	688.294	0.038	Pass
5	1	1	1	1	1	1	648.877	0.039	Pass
6	1	1	1	1	1	1	646.81	0.039	Pass
7	1	1	1	1	1	1	635.533	0.039	Pass
8	1	1	1	1	1	1	648.544	0.04	Pass
9	1	0.999	1	1	1	1	700.996	0.038	Pass
10	1	1	1	1	1	1	638.865	0.04	Pass
11	1	1	1	1	1	1	643.414	0.04	Pass
12	1	1	1	0.999	1	1	636.967	0.04	Pass
13	1	1	1	1	1	0.999	697.149	0.038	Pass
14	1	1	1	1	1	0.999	643.847	0.04	Pass
15	1	1	1	1	1	0.999	632.934	0.04	Pass
16	0.999	1	1	1	1	0.999	660.098	0.039	Pass
17	1	1	1	1	1	1	647.953	0.04	Pass
18	1	1	1	1	1	1	662.431	0.04	Pass
19	1	1	1	1	0.999	1	650.597	0.04	Pass
20	1	1	1	1	1	1	653.378	0.039	Pass
21	1	1	1	1	1	1	660.606	0.04	Pass
22	1	1	1	1	1	1	681.281	0.039	Pass
23	1	1	1	1	1	1	672.203	0.039	Pass
24	1	1	1	1	1	0.999	690.024	0.039	Pass
25	1	1	1	1	1	1	651.069	0.039	Pass
26	1	1	1	1	1	1	701.638	0.038	Pass
27	1	1	1	1	1	1	668.855	0.039	Pass
28	1	1	1	1	1	1	663.248	0.039	Pass
29	1	1	0.999	1	1	1	644.736	0.039	Pass
30	1	1	0.999	1	1	1	666.355	0.039	Pass
31	1	1	0.999	1	1	1	699.119	0.038	Pass
32	1	1	0.999	1	1	1	710.882	0.038	Pass
33	1	1	0.999	1	1	1	636.602	0.04	Pass
34	0.999	1	0.999	1	1	1	650.133	0.039	Pass
35	1	1	1	1	1	1	638.364	0.041	Pass
36	1	1	1	1	0.999	1	627.377	0.04	Pass
37	1	1	1	1	1	1	661.594	0.04	Pass
38	1	1	1	1	1	1	674.21	0.038	Pass
39	1	1	1	1	1	1	630.562	0.039	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	661.40	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	22.59	0.00	60s/0.5mA
Cpu	41.97	41.97	23.30	41.97	34.52	24.97	24.17	9.30	
Cpl	41.86	41.86	23.08	41.86	34.39	24.77			
Cpk	41.86	41.86	23.08	41.86	34.39	24.77	24.17	9.30	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	709.974	0.038	Pass
41	1	1	1	1	1	1	654.223	0.04	Pass
42	1	1	1	1	1	1	702.515	0.039	Pass
43	1	1	1	1	1	1	707.454	0.039	Pass
44	1	1	0.999	1	1	0.999	653.048	0.039	Pass
45	1	1	1	1	1	1	642.097	0.04	Pass
46	1	1	1	1	1	1	700.958	0.039	Pass
47	1	1	1	1	1	1	649.401	0.04	Pass
48	1	1	1	1	1	1	682.725	0.039	Pass
49	1	1	1	1	1	1	650.594	0.039	Pass
50	1	1	1	1	1	1	668.223	0.039	Pass
51	1	1	1	1	1	1	671.096	0.039	Pass
52	1	1	1	1	1	1	642.6	0.041	Pass
53	1	1	1	1	1	1	642.836	0.04	Pass
54	1	1	1	1	1	1	637.164	0.039	Pass
55	1	1	1	1	1	1	644.195	0.04	Pass
56	1	1	1	1	1	1	687.021	0.039	Pass
57	1	1	1	1	1	1	707.198	0.038	Pass
58	1	1	1	1	1	1	670.507	0.04	Pass
59	1	1	1	1	1	1	659.081	0.04	Pass
60	1	1	1	1	0.999	1	648.509	0.039	Pass
61	1	1	1	1	1	1	646.502	0.039	Pass
62	1	1	1	1	1	1	687.472	0.039	Pass
63	1	1	1	1	1	1	631.37	0.04	Pass
64	1	1	1	1	1	1	670.253	0.039	Pass
65	1	1	1	1	1	1	628.136	0.039	Pass
66	1	1	1	1	1	1	643.279	0.04	Pass
67	1	1	1	1	1	1	640.343	0.04	Pass
68	1	0.999	1	1	1	1	635.317	0.04	Pass
69	1	1	1	1	1	1	654.416	0.04	Pass
70	1	1	1	0.999	1	1	689.356	0.039	Pass
71	1	1	1	1	1	1	649.613	0.04	Pass
72	1	1	1	1	1	1	642.825	0.04	Pass
73	1	1	1	1	1	1	672.565	0.04	Pass
74	1	1	1	1	1	1	661.559	0.04	Pass
75	1	1	1	1	1	1	641.377	0.041	Pass
76	1	1	1	1	1	1	675.766	0.04	Pass
77	1	1	1	1	1	1	672.2	0.04	Pass

Appendix 5

HM2116ANL Electrical Test Data Before Biased Humidity

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	506.95	518.74	641.92	628.88	1,566.44	1.00	1.00	1.00	1.00
STD DEV =	81.06	86.05	8.69	11.86	61.72	0.00	0.00	0.00	0.00
Cpu			26.79	19.99		58.92	17.99	41.97	20.87
Cpl	2.04	1.97			3.44	58.85	16.58	41.86	20.63
Cpk	2.04	1.97	26.79	19.99	3.44	58.85	16.58	41.86	20.63
DATA	-	-	-	-	-	-	-	-	-
1	563.28	472.31	632.001	617.382	1577.765	1	0.999	1	1
2	448.012	556.794	654.236	641.683	1596.033	1	0.999	1	1
3	432.689	473.731	643.824	624.896	1566.112	1	0.999	1	1
4	558.806	570.341	642.658	624.547	1557.394	1	0.999	1	1
5	546.499	562.871	641.612	617.807	1581.501	1	0.999	1	1
6	412.82	548.185	642.197	627.895	1596.026	1	0.999	1	1
7	546.303	610.902	651.486	630.14	1637.582	1	0.999	1	1
8	397.408	555.059	643.347	631.069	1643.685	1	0.999	1	1
9	541.488	389.744	658.981	626.449	1664.791	0.999	0.999	1	1
10	407.666	466.209	643.338	641.415	1529.422	1	0.999	1	0.999
11	633.861	554.286	652.856	639.803	1626.955	1	1	1	1
12	399.566	519.237	648.724	628.878	1568.016	1	1	1	1
13	443.848	512.607	650.581	612.767	1570.688	1	0.999	1	1
14	604.106	626.686	646.392	621.799	1559.929	1	0.999	1	1
15	482.639	536.104	650.021	619.07	1557.084	1	0.999	1	1
16	590.967	457.773	657.345	628.22	1495.042	1	0.999	0.999	1
17	624.197	428.322	636.16	619.125	1613.225	1	0.999	1	1
18	615.082	649.391	662.379	641.267	1511.87	1	0.999	1	1
19	480.553	596.371	635.562	619.474	1483.459	1	0.999	1	0.999
20	477.309	411.751	638.939	639.099	1544.07	1	0.999	1	1
21	471.359	419.226	639.685	617.976	1539.944	1	1	1	1
22	424.794	446.137	641.389	637.563	1559.065	1	1	1	1
23	534.076	658.634	624.177	610.659	1578.651	1	0.999	1	1
24	482.282	533.265	633.262	633.51	1579.262	1	0.999	1	1
25	582.304	463.421	655.794	624.914	1561.778	1	0.999	1	1
26	650.74	384.142	643.994	638.857	1580.889	1	0.999	1	1
27	487.241	518.339	658.827	633.471	1501.017	1	1	1	1
28	565.488	645.037	637.974	634.005	1633.848	1	0.999	1	1
29	506.706	415.137	639.135	620.15	1584.119	1	1	1	1
30	592.983	550.385	640.999	630.743	1493.141	1	0.999	1	1
31	420.317	557.499	625.478	616.138	1449.226	1	0.999	1	0.999
32	642.499	402.142	637.02	623.339	1607.062	1	1	1	1
33	526.528	533.032	626.073	615.314	1488.576	1	0.999	1	1
34	515.271	528.229	649.181	637.856	1542.372	1	0.999	1	1
35	608.235	562.129	638.664	634.071	1595.385	1	0.999	1	1
36	421.378	389.785	641.359	626.391	1696.409	1	1	1	1
37	525.807	470.736	641.892	661.35	1644.657	1	0.999	1	1
38	562.197	559.147	641.95	623.134	1499.367	1	1	1	1
39	404.617	415.647	649.051	629.425	1579.692	1	0.999	1	1

Appendix 5

HM2116ANL Electrical Test Data Before Biased Humidity

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	506.95	518.74	641.92	628.88	1,566.44	1.00	1.00	1.00	1.00
STD DEV =	81.06	86.05	8.69	11.86	61.72	0.00	0.00	0.00	0.00
Cpu			26.79	19.99		58.92	17.99	41.97	20.87
Cpl	2.04	1.97			3.44	58.85	16.58	41.86	20.63
Cpk	2.04	1.97	26.79	19.99	3.44	58.85	16.58	41.86	20.63
DATA	-	-	-	-	-	-	-	-	-
40	466.692	460.408	647.249	635.145	1551.497	1	0.999	1	1
41	440.406	409.369	651.228	621.9	1450.086	1	0.999	0.999	0.999
42	614.222	381.886	643.919	657.332	1671.847	1	0.999	1	1
43	550.382	411.454	636.275	620.796	1509.748	1	0.999	1	1
44	555.866	492.149	636.29	617.899	1529.642	1	0.999	1	1
45	655.159	475.448	656.358	654.367	1603.058	1	0.999	1	1
46	429.203	555.401	649.355	625.823	1614.339	1	0.999	1	1
47	476.644	657.281	652.264	652.512	1612.499	1	0.999	1	1
48	401.096	626.384	648.509	648.44	1607.011	1	0.999	1	1
49	567.132	646.349	635.917	619.507	1622.177	1	0.999	1	1
50	537.604	468.314	639.201	623.704	1525.922	1	0.999	1	1
51	628.971	442.769	648.783	617.078	1538.224	1	0.999	1	1
52	424.9	548.269	627.411	612.97	1474.025	1	0.999	1	0.999
53	380.229	431.145	641.752	629.156	1599.008	1	0.999	1	1
54	515.981	645.43	637.123	621.982	1567.089	1	0.999	1	1
55	393.733	565.629	637.403	672.617	1567.423	1	0.999	1	1
56	434.491	399.707	632.649	628.97	1634.574	1	0.999	1	1
57	616.827	633.087	639.011	619.363	1452.251	1	0.999	1	0.999
58	381.428	647.762	640.901	622.703	1449.683	1	0.999	1	1
59	458.076	601.313	637.43	622.489	1479.054	1	0.999	1	1
60	487.658	638.919	634.55	631.114	1594.266	1	0.999	1	1
61	431.042	533.155	629.846	626.142	1482.753	1	0.999	1	0.999
62	480.929	578.197	653.677	640.191	1654.535	1	0.999	1	1
63	597.234	445.476	629.42	624.653	1505.673	1	0.999	1	1
64	463.332	390.818	643.011	629.867	1543.556	1	1	1	1
65	602.358	402.27	629.315	629.198	1662.046	1	1	1	1
66	389.235	618.42	636.004	626.673	1574.22	1	0.999	1	1
67	394.976	655.234	658.625	627.274	1518.242	1	0.999	1	0.999
68	630.614	650.772	632.307	610.516	1444.745	1	0.999	1	0.999
69	469.949	509.073	637.578	621.974	1659.694	1	1	1	1
70	400.728	466.31	626.511	624.74	1670.282	1	0.999	1	1
71	462.57	609.378	638.645	621.543	1677.913	1	0.999	1	1
72	556.202	529.659	646.589	626.684	1545.136	1	0.999	1	1
73	541.331	551.273	632.308	614.151	1523.08	1	0.999	1	1
74	453.707	639.162	643.24	645.756	1565.684	1	0.999	1	1
75	395.947	418.248	643.541	627.716	1553.975	1	1	1	1
76	580.619	464.828	637.666	647.772	1527.924	1	0.999	1	1
77	635.499	391.474	637.404	621.517	1657.528	1	1	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	673.77	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.51	0.00	60s/0.5mA
Cpu	41.97	58.92	41.97	58.92	41.97	34.52	22.11	9.86	
Cpl	41.86	58.85	41.86	58.85	41.86	34.39			
Cpk	41.86	58.85	41.86	58.85	41.86	34.39	22.11	9.86	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	648.06	0.042	Pass
2	1	1	1	1	1	1	649.572	0.04	Pass
3	1	1	1	1	1	1	642.652	0.041	Pass
4	1	1	1	1	1	1	658.629	0.04	Pass
5	1	1	1	1	1	1	644.853	0.041	Pass
6	1	1	0.999	1	1	1	725.991	0.04	Pass
7	1	1	1	1	1	1	635.88	0.041	Pass
8	1	1	1	1	0.999	1	661.449	0.039	Pass
9	0.999	1	1	1	1	1	685.435	0.039	Pass
10	1	1	1	1	1	1	658.203	0.041	Pass
11	1	1	1	1	1	1	661.156	0.04	Pass
12	1	1	1	1	1	1	677.709	0.042	Pass
13	1	1	1	1	1	1	666.342	0.04	Pass
14	1	1	1	1	1	1	669.8	0.04	Pass
15	1	1	1	1	1	0.999	665.428	0.041	Pass
16	1	1	0.999	1	1	1	642.179	0.04	Pass
17	1	1	1	1	1	1	673.552	0.04	Pass
18	1	1	1	1	1	1	713.286	0.04	Pass
19	1	1	1	1	1	1	671.333	0.04	Pass
20	1	1	1	1	1	1	684.407	0.041	Pass
21	1	1	1	1	1	1	671.511	0.041	Pass
22	1	1	1	1	1	1	663.026	0.041	Pass
23	1	1	1	1	1	1	670.316	0.04	Pass
24	1	1	1	1	0.999	1	651.218	0.041	Pass
25	1	1	1	1	1	1	636.654	0.041	Pass
26	0.999	1	1	1	1	1	671.232	0.04	Pass
27	1	1	1	1	1	1	657.273	0.041	Pass
28	1	1	1	1	1	1	640.806	0.041	Pass
29	1	1	1	1	1	1	661.212	0.04	Pass
30	1	1	1	1	1	1	651.95	0.04	Pass
31	1	1	1	1	1	1	641.118	0.04	Pass
32	1	1	1	0.999	1	1	648.408	0.04	Pass
33	1	1	1	1	1	1	634.756	0.041	Pass
34	1	1	1	1	1	1	669.287	0.04	Pass
35	1	1	1	1	1	1	697	0.04	Pass
36	1	1	1	1	1	1	697.521	0.04	Pass
37	1	1	1	1	1	1	659.51	0.04	Pass
38	1	1	1	1	1	1	639.425	0.04	Pass
39	1	0.999	1	1	1	1	643.886	0.041	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	673.77	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.51	0.00	60s/0.5mA
Cpu	41.97	58.92	41.97	58.92	41.97	34.52	22.11	9.86	
Cpl	41.86	58.85	41.86	58.85	41.86	34.39			
Cpk	41.86	58.85	41.86	58.85	41.86	34.39	22.11	9.86	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	0.999	667.388	0.04	Pass
41	1	1	1	1	1	1	660.393	0.041	Pass
42	1	1	1	1	1	1	659.764	0.04	Pass
43	1	1	1	1	1	1	645.746	0.041	Pass
44	1	1	1	1	1	1	693.329	0.04	Pass
45	1	1	1	1	1	1	726.682	0.04	Pass
46	1	1	1	1	1	1	665.33	0.04	Pass
47	1	1	1	1	1	1	682.686	0.04	Pass
48	1	1	1	1	1	1	681.609	0.041	Pass
49	1	1	1	1	1	1	731.911	0.04	Pass
50	1	1	1	1	1	1	687.915	0.04	Pass
51	1	1	1	1	1	1	663.314	0.041	Pass
52	1	1	1	1	1	1	665.519	0.04	Pass
53	1	1	1	1	1	1	694.204	0.04	Pass
54	1	1	1	1	1	1	685.743	0.04	Pass
55	1	1	1	1	1	1	666.836	0.041	Pass
56	1	1	1	1	1	1	741.98	0.039	Pass
57	1	1	1	1	1	1	686.435	0.04	Pass
58	1	1	1	1	1	0.999	690.154	0.04	Pass
59	1	1	1	1	1	1	663.903	0.04	Pass
60	1	1	1	1	1	1	690.904	0.04	Pass
61	1	1	1	1	1	1	727.405	0.039	Pass
62	1	1	1	1	1	1	668.967	0.04	Pass
63	1	1	1	1	1	1	664.954	0.041	Pass
64	1	1	1	1	1	1	690.151	0.04	Pass
65	1	1	1	1	1	1	679.801	0.039	Pass
66	1	1	1	1	1	1	696.035	0.04	Pass
67	1	1	1	1	1	1	670.331	0.041	Pass
68	1	1	1	1	1	1	719.315	0.039	Pass
69	1	1	1	1	1	1	721.863	0.04	Pass
70	1	1	1	1	1	1	684.666	0.04	Pass
71	1	1	1	1	1	1	674.681	0.04	Pass
72	1	1	1	1	1	1	716.604	0.039	Pass
73	1	1	1	1	1	1	673.821	0.041	Pass
74	1	1	1	1	1	1	674.241	0.041	Pass
75	1	1	1	1	1	1	674.008	0.04	Pass
76	1	1	1	1	1	1	681.28	0.04	Pass
77	1	1	1	1	1	1	668.435	0.039	Pass

Appendix 6

HM2116ANL Biased Humidity1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	517.66	522.58	645.64	644.70	1,571.47	1.00	1.00	1.00	1.00
STD DEV =	80.55	84.80	56.86	118.21	63.57	0.00	0.00	0.00	0.00
Cpu			4.07	1.96		21.96	24.24	34.52	24.97
Cpl	2.10	2.01			3.36	21.74	22.14	34.39	24.77
Cpk	2.10	2.01	4.07	1.96	3.36	21.74	22.14	34.39	24.77
DATA	-	-	-	-	-	-	-	-	-
1	511.445	538.363	616.398	695.56	1507.323	1	0.999	1	1
2	592.079	442.201	627.82	565.36	1719.821	1	1	1	1
3	575.409	591.44	666.939	552.085	1534.938	1	0.999	1	1
4	553.036	650.53	712.218	806.494	1578.158	1	1	1	1
5	451.662	409.26	643.369	622.262	1627.474	1	0.999	1	1
6	495.801	392.223	633.415	894.814	1641.896	1	0.999	1	1
7	467.32	394.878	649.4	807.343	1557.994	0.999	0.999	1	1
8	382.019	403.909	684.194	545.011	1579.333	0.999	0.999	0.999	1
9	399.198	432.483	777.038	861.939	1600.467	1	0.999	1	1
10	507.058	440.276	622.857	618.849	1596.678	1	0.999	1	1
11	409.457	610.943	619.752	811.214	1493.007	1	0.999	1	1
12	493.506	619.556	885.877	696.8	1438.947	1	0.999	1	0.999
13	381.53	574.372	625.23	527.174	1680.724	1	0.999	1	1
14	531.099	616.544	650.958	881.348	1599.137	1	0.999	1	1
15	602.618	464.697	629.237	908.462	1513.899	1	0.999	1	1
16	550.616	648.501	809.028	595.838	1619.285	1	0.999	1	1
17	545.907	649.227	628.299	590.949	1606.725	1	1	1	1
18	411.675	410.488	624.606	576.825	1643.91	1	0.999	1	1
19	519.688	583.623	634.829	597.246	1527.866	1	0.999	1	1
20	654.873	420.495	608.611	616.432	1543.082	0.999	0.999	1	1
21	448.373	629.168	619.745	563.247	1538.545	0.999	0.999	1	1
22	383.888	382.921	634.551	526.118	1549.97	0.999	1	1	1
23	387.01	578.758	756.397	520.038	1483.168	1	0.999	1	1
24	467.895	441.159	594.599	553.039	1487.763	1	0.999	1	1
25	550.495	486.116	601.893	560.202	1497.713	1	0.999	1	1
26	516.492	577.464	656.928	527.852	1545.912	1	0.999	1	1
27	640.312	602.661	690.378	592.552	1516.529	1	0.999	1	1
28	489.436	615.548	647.357	550.232	1554.071	1	1	1	1
29	388.286	620.124	623.219	536.563	1614.741	1	0.999	1	1
30	503.084	561.725	619.947	908.239	1635.498	1	0.999	1	1
31	519.085	596.099	593.457	745.976	1573.963	1	0.999	1	1
32	508.683	496.338	800.495	593.551	1629.205	1	0.999	1	1
33	600.561	609.919	666.619	963.263	1734.536	1	1	1	1
34	640.394	505.314	605.261	579.695	1638.255	1	0.999	1	1
35	585.342	534.11	798.262	601.495	1563.712	1	0.999	1	1
36	523.997	593.121	700.747	658.906	1600.894	0.999	0.999	1	1
37	644.077	547.274	601.001	539.749	1586.975	0.999	0.999	1	1
38	573.708	460.615	650.332	541.343	1573.781	1	0.999	0.999	1
39	638.85	386.71	644.915	620.217	1499.32	1	0.999	1	1

Appendix 6

HM2116ANL Biased Humidity1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	517.66	522.58	645.64	644.70	1,571.47	1.00	1.00	1.00	1.00
STD DEV =	80.55	84.80	56.86	118.21	63.57	0.00	0.00	0.00	0.00
Cpu			4.07	1.96		21.96	24.24	34.52	24.97
Cpl	2.10	2.01			3.36	21.74	22.14	34.39	24.77
Cpk	2.10	2.01	4.07	1.96	3.36	21.74	22.14	34.39	24.77
DATA	-	-	-	-	-	-	-	-	-
40	658.448	524.042	603.975	892.528	1619.915	1	0.999	1	1
41	527.345	446.908	602.705	906.907	1523.494	1	0.999	1	1
42	582.528	434.958	600.424	533.109	1549.049	1	0.999	1	1
43	535.888	558.894	592.445	584.203	1598.427	1	0.999	1	1
44	639.933	502.928	606.245	552.02	1549.386	1	0.999	1	1
45	415.179	528.027	669.018	640.094	1663.272	1	0.999	1	1
46	570.508	520.815	605.802	535.106	1590.67	1	0.999	1	1
47	626.533	412.64	602.118	538.6	1695.547	1	0.999	1	1
48	492.226	632.41	618.941	555.32	1512.118	1	0.999	1	1
49	631.8	613.509	624.847	877.433	1591.207	1	0.999	1	1
50	402.282	655.334	637.443	526.471	1440.064	1	0.999	1	1
51	594.619	517.993	636.725	609.101	1484.795	1	0.999	1	1
52	459.322	469.062	595.441	564.077	1617.693	1	0.999	1	1
53	501.02	585.129	633.489	609.632	1579.882	1	0.999	1	1
54	547.563	542.589	650.572	629.17	1507.587	1	0.999	1	0.999
55	537.041	552.147	636.111	580.731	1503.016	1	0.999	1	0.999
56	564.636	395.484	605.529	537.678	1518.666	1	1	1	0.999
57	391.614	418.945	596.93	629.671	1523.04	1	0.999	1	0.999
58	413.022	385.078	679.341	713.832	1625.914	1	0.999	1	1
59	558.763	390.998	705.415	665.982	1645.168	0.999	0.999	1	1
60	423.758	559.314	599.751	577.717	1665.856	1	0.999	1	1
61	574.537	594.921	614.221	542.236	1617.194	1	0.999	1	1
62	420.956	580.224	591.715	663.679	1560.099	1	0.999	1	1
63	478.976	638.339	597.781	584.031	1596.363	1	0.999	1	1
64	509.496	600.876	608.786	590.32	1440.386	1	0.999	1	0.999
65	392.28	499.167	626.245	610.907	1572.884	1	0.999	1	1
66	405.132	550.634	631.086	755.352	1624.332	1	0.999	1	1
67	492.835	637.06	634.244	677.085	1585.223	1	0.999	1	1
68	524.029	418.78	703.628	671.137	1594.505	1	0.999	1	1
69	510.875	432.605	613.792	621.546	1550.983	1	0.999	1	1
70	452.602	564.576	643.88	564.878	1538.164	1	0.999	1	1
71	651.169	428.915	613.559	676.187	1656.445	1	0.999	0.999	1
72	585.142	573.381	617.235	846.561	1636.721	1	0.999	1	1
73	503.704	602.328	595.664	760.131	1533.266	1	0.999	1	1
74	657.326	606.828	737.096	555.609	1454.533	1	0.999	1	1
75	509.12	501.441	680.975	563.726	1517.576	1	0.999	1	1
76	463.238	431.086	643.562	590.37	1566.471	1	0.999	1	1
77	608.663	410.791	601.606	654.855	1518.4	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	675.57	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	30.89	0.00	60s/0.5mA
Cpu	30.12	34.52	34.52	20.87	34.52	27.14	17.53	8.98	
Cpl	29.96	34.39	34.39	20.63	34.39	26.97			
Cpk	29.96	34.39	34.39	20.63	34.39	26.97	17.53	8.98	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	651.801	0.04	Pass
2	1	1	1	1	1	1	651.322	0.041	Pass
3	1	1	1	1	1	1	708.619	0.038	Pass
4	1	1	1	1	1	1	660.303	0.04	Pass
5	1	1	1	1	1	1	665.141	0.041	Pass
6	1	1	1	1	1	1	642.279	0.04	Pass
7	1	1	0.999	1	1	1	658.006	0.04	Pass
8	1	1	1	1	1	1	663.126	0.04	Pass
9	1	1	1	1	1	1	735.072	0.038	Pass
10	0.999	1	1	1	1	0.999	647.54	0.04	Pass
11	1	1	1	1	1	1	654.214	0.039	Pass
12	1	1	1	1	0.999	1	667.877	0.04	Pass
13	1	1	1	1	1	1	694.733	0.039	Pass
14	1	1	1	0.999	1	1	672.055	0.039	Pass
15	1	1	1	1	1	1	655.877	0.04	Pass
16	1	1	1	1	1	1	665.003	0.039	Pass
17	1	1	1	1	1	0.999	747.148	0.039	Pass
18	1	1	1	1	1	1	650.671	0.041	Pass
19	1	1	1	1	1	1	652.855	0.039	Pass
20	1	0.999	1	1	1	1	727.838	0.039	Pass
21	1	1	1	0.999	1	1	666.207	0.04	Pass
22	1	1	1	1	1	1	646.465	0.04	Pass
23	1	1	1	1	1	1	676.214	0.04	Pass
24	0.999	1	1	1	1	1	651.23	0.04	Pass
25	1	1	1	1	1	1	654.131	0.04	Pass
26	1	1	1	1	1	1	681.286	0.041	Pass
27	1	1	1	1	1	1	667.333	0.04	Pass
28	1	1	1	1	1	1	660.556	0.04	Pass
29	1	1	1	1	1	1	658.073	0.04	Pass
30	1	1	1	1	1	1	660.855	0.041	Pass
31	1	1	1	1	1	1	676.199	0.041	Pass
32	1	1	1	1	1	1	650.397	0.04	Pass
33	1	1	1	1	1	1	666.735	0.04	Pass
34	1	1	1	1	1	1	649.819	0.04	Pass
35	1	1	1	1	1	1	651.028	0.041	Pass
36	0.999	1	1	1	0.999	1	656.921	0.041	Pass
37	1	1	0.999	1	1	1	647.422	0.04	Pass
38	1	1	0.999	1	1	1	669.678	0.04	Pass
39	1	1	1	1	1	1	756.82	0.039	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	675.57	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	30.89	0.00	60s/0.5mA
Cpu	30.12	34.52	34.52	20.87	34.52	27.14	17.53	8.98	
Cpl	29.96	34.39	34.39	20.63	34.39	26.97			
Cpk	29.96	34.39	34.39	20.63	34.39	26.97	17.53	8.98	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	699.803	0.04	Pass
41	1	1	1	1	1	1	704.95	0.04	Pass
42	1	1	1	1	1	1	635.78	0.04	Pass
43	1	1	1	1	1	1	749.318	0.038	Pass
44	1	1	1	1	1	1	683.855	0.041	Pass
45	1	1	1	1	1	1	653.139	0.04	Pass
46	1	1	1	1	1	1	638.583	0.041	Pass
47	1	0.999	1	1	1	1	655.373	0.04	Pass
48	1	1	1	1	1	1	658.853	0.04	Pass
49	1	1	1	1	1	1	704.261	0.039	Pass
50	1	1	1	1	1	1	661.146	0.041	Pass
51	1	1	1	1	1	1	655.406	0.04	Pass
52	1	1	1	1	1	1	657.188	0.041	Pass
53	1	1	1	0.999	1	1	659.512	0.04	Pass
54	1	1	1	0.999	1	1	662.624	0.04	Pass
55	1	1	1	0.999	1	1	742.757	0.04	Pass
56	1	1	1	0.999	1	1	635.185	0.041	Pass
57	1	1	1	0.999	1	0.999	693.013	0.039	Pass
58	1	1	1	0.999	1	1	697.615	0.04	Pass
59	1	1	1	0.999	1	1	665.845	0.041	Pass
60	1	1	1	1	1	1	651.752	0.04	Pass
61	1	1	1	1	1	1	657.443	0.039	Pass
62	1	1	1	1	1	1	703.665	0.039	Pass
63	1	1	1	1	1	1	752.425	0.04	Pass
64	1	1	1	1	1	1	665.929	0.04	Pass
65	1	0.999	1	1	1	1	645.669	0.04	Pass
66	1	1	1	1	1	1	725.372	0.039	Pass
67	1	1	1	1	1	1	655.845	0.04	Pass
68	1	1	1	1	1	1	755.834	0.039	Pass
69	1	1	1	1	1	1	656.22	0.04	Pass
70	1	1	1	1	1	1	678.154	0.041	Pass
71	1	1	1	1	1	1	687.83	0.041	Pass
72	1	1	1	1	1	1	698.996	0.04	Pass
73	1	1	1	1	1	0.999	668.852	0.04	Pass
74	0.999	1	1	1	1	1	693.108	0.04	Pass
75	1	1	1	1	1	1	683.614	0.039	Pass
76	1	1	1	1	1	0.999	723.089	0.04	Pass
77	1	1	1	1	0.999	1	682.04	0.04	Pass

Appendix 7

HM2116ANL Electrical Test Data Before Operational Life

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	540.62	513.58	636.75	626.05	1,581.57	1.00	1.00	1.00	1.00
STD DEV =	77.04	80.07	7.52	10.42	57.79	0.00	0.00	0.00	0.00
Cpu			31.19	22.83		58.92	21.67	41.97	30.12
Cpl	2.30	2.10			3.76	58.85	19.83	41.86	29.96
Cpk	2.30	2.10	31.19	22.83	3.76	58.85	19.83	41.86	29.96
DATA	-	-	-	-	-	-	-	-	-
1	527.441	527.964	648.357	641.922	1569.455	1	0.999	1	1
2	460.428	555.55	631.356	628.309	1561.164	1	0.999	1	1
3	634.934	465.095	638.436	634.977	1601.845	1	0.999	1	1
4	477.396	607.991	642.929	621.443	1575.555	1	1	1	1
5	622.316	615.378	633.573	615.552	1599.753	1	1	1	1
6	432.866	583.314	631.938	627.642	1644.331	1	0.999	1	1
7	641.23	628.421	637.508	624.057	1681.434	1	0.999	1	1
8	592.142	383.782	639.012	626.149	1534.531	1	0.999	1	1
9	615.348	491.956	630.595	623.196	1607.214	1	0.999	1	1
10	615.468	487.996	641.89	663.155	1550.288	1	0.999	1	1
11	625.753	610.145	642.65	624.982	1587.607	0.999	0.999	1	1
12	527.365	617.837	630.273	619.562	1525.08	1	0.999	1	0.999
13	639.311	526.805	644.662	620.762	1509.645	1	0.999	1	1
14	384.291	532.217	643.347	630.673	1582.368	1	0.999	1	1
15	553.153	394.893	636.949	633.685	1574.851	1	0.999	1	1
16	596.918	537.02	644.924	629.171	1599.518	1	0.999	1	1
17	545.373	616.356	635.694	633.552	1554.381	1	0.999	0.999	1
18	609.425	540.02	638.741	661.677	1637.67	1	0.999	1	1
19	628.413	482.853	638.16	620.377	1522.854	1	0.999	1	1
20	592.25	492.466	629.014	618.988	1655.669	1	1	1	1
21	426.988	582.337	644.841	637.091	1677.881	1	0.999	1	1
22	388.896	384.823	631.671	628.401	1492.637	1	0.999	1	1
23	554.291	406.248	644.019	620.502	1592.3	1	0.999	1	1
24	531.979	462.744	629.573	619.742	1571.614	1	0.999	1	1
25	636.029	481.105	626.543	611.389	1607.806	1	0.999	1	1
26	536.211	582.52	631.167	626.923	1522.666	1	0.999	1	1
27	508.281	392.939	640.934	630.422	1647.54	1	1	1	1
28	542.902	425.198	619.733	651.31	1655.794	1	0.999	1	1
29	534.997	639.512	622.857	608.299	1503.014	1	0.999	1	0.999
30	537.401	421.882	642.51	628.749	1517.925	1	0.999	1	1
31	528.6	582.256	644.545	632.218	1614.841	1	0.999	1	1
32	660.6	472.72	639.274	626.843	1589.891	1	0.999	1	1
33	390.955	568.587	617.351	626.401	1493.417	1	0.999	1	1
34	488.806	652.963	633.468	623.396	1622.209	1	0.999	0.999	1
35	429.528	600.078	643.892	631.862	1720.239	1	1	1	1
36	646.146	399.167	632.393	617.91	1635.582	1	0.999	1	1
37	561.246	498.827	634.254	614.834	1547.343	1	0.999	1	1
38	554.427	506.401	632.191	621.199	1596.727	1	0.999	1	1
39	483.163	454.367	631.23	613.521	1530.376	1	0.999	1	1

Appendix 7

HM2116ANL Electrical Test Data Before Operational Life

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	540.62	513.58	636.75	626.05	1,581.57	1.00	1.00	1.00	1.00
STD DEV =	77.04	80.07	7.52	10.42	57.79	0.00	0.00	0.00	0.00
Cpu			31.19	22.83		58.92	21.67	41.97	30.12
Cpl	2.30	2.10			3.76	58.85	19.83	41.86	29.96
Cpk	2.30	2.10	31.19	22.83	3.76	58.85	19.83	41.86	29.96
DATA	-	-	-	-	-	-	-	-	-
40	574.228	493.679	631.17	630.078	1571.12	1	0.999	1	1
41	572.281	617.413	629.952	617.3	1591.382	1	1	1	1
42	385.535	460.883	633.513	619.627	1543.304	1	0.999	1	1
43	467.76	501.3	641.779	626.882	1521.674	1	0.999	1	1
44	422.337	420.329	640.566	650.639	1617.155	1	0.999	1	1
45	636.784	477.169	640.49	628.776	1567.298	1	0.999	1	1
46	544.395	535.179	641.434	626.984	1588.776	1	0.999	1	1
47	606.418	659.054	645.705	636.925	1698.607	1	0.999	1	1
48	582.923	596.373	627.552	608.347	1535.896	1	0.999	1	0.999
49	538.192	632.615	634.401	618.422	1706.095	1	1	1	1
50	621.501	386.426	632.099	621.497	1508.15	1	0.999	1	1
51	383.069	399.863	633.427	614.74	1542.294	1	0.999	1	1
52	430.82	479.768	634.979	616.18	1680.027	1	0.999	1	1
53	511.491	505.886	627.779	614.136	1553.586	1	0.999	1	1
54	584.659	553.507	636.582	626.434	1596.752	1	0.999	1	1
55	558.124	459.855	624.747	620.845	1511.613	1	0.999	1	1
56	589.766	541.112	632.605	625.39	1678.352	1	0.999	1	1
57	554.022	564.76	639.087	619.829	1509.672	1	0.999	1	1
58	512.589	450.458	635.325	615.805	1550.628	1	0.999	1	1
59	434.333	656.054	628.423	621.091	1678.354	1	0.999	1	1
60	537.56	546.302	639.665	628.314	1581.431	1	0.999	1	1
61	561.391	617.138	639.763	630.722	1546.251	1	0.999	1	1
62	607.274	635.637	638.581	634.718	1480.735	1	0.999	1	1
63	623.28	484.523	626.883	613.913	1566.537	1	0.999	1	1
64	635.07	597.795	637.099	621.031	1605.903	1	0.999	1	1
65	526.257	444.668	642.087	631.566	1572.33	1	0.999	1	1
66	546.438	419.543	634.751	617.915	1633.453	1	0.999	1	1
67	654.439	535.815	637.811	648.883	1464.476	1	0.999	1	0.999
68	657.239	489.366	637.146	628.165	1640.418	1	1	1	1
69	497.262	550.457	638.331	634.823	1636.412	1	1	1	1
70	438.867	598.27	630.035	618.254	1569.238	1	0.999	1	1
71	526.97	426.51	627.315	613.105	1508.408	1	0.999	1	1
72	577.889	443.851	651.567	625.296	1511.125	1	0.999	1	1
73	461.436	401.693	655.168	631.709	1547.862	1	0.999	1	1
74	403.655	495.149	655.881	622.387	1632.343	1	0.999	1	1
75	607.623	477.109	646.572	622.896	1528.39	1	0.999	1	1
76	544.462	383.515	647.198	627.848	1593.962	1	0.999	1	1
77	446.315	393.586	649.827	623.209	1595.987	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	697.22	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	22.89	0.00	60s/0.5mA
Cpu	41.97	41.97	58.92	30.12	58.92	58.92	23.34	7.57	
Cpl	41.86	41.86	58.85	29.96	58.85	58.85			
Cpk	41.86	41.86	58.85	29.96	58.85	58.85	23.34	7.57	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	674.685	0.041	Pass
2	1	1	1	1	1	1	717.202	0.04	Pass
3	1	1	1	1	1	1	689.755	0.041	Pass
4	1	1	1	1	1	1	666.861	0.04	Pass
5	1	1	1	1	1	1	685.076	0.041	Pass
6	1	1	1	1	1	1	663.658	0.04	Pass
7	1	1	1	1	1	1	674.139	0.04	Pass
8	1	1	1	1	1	1	689.555	0.04	Pass
9	1	1	0.999	1	1	1	660.193	0.04	Pass
10	1	1	1	1	1	1	671.762	0.041	Pass
11	1	1	1	1	1	1	710.755	0.04	Pass
12	0.999	1	1	1	1	1	729.667	0.04	Pass
13	1	1	1	1	1	1	672.817	0.041	Pass
14	1	1	1	1	1	1	686.572	0.04	Pass
15	1	1	1	1	1	1	740.808	0.038	Pass
16	1	1	1	1	0.999	1	704.424	0.041	Pass
17	1	0.999	1	1	1	1	673.459	0.041	Pass
18	1	1	1	1	1	1	708.887	0.041	Pass
19	1	1	1	1	1	1	679.511	0.041	Pass
20	1	1	1	1	1	1	716.361	0.039	Pass
21	1	1	1	1	1	1	680.946	0.041	Pass
22	1	1	1	1	1	1	666.085	0.041	Pass
23	1	1	1	1	1	1	682.904	0.041	Pass
24	1	1	1	1	1	1	657.471	0.04	Pass
25	1	1	1	0.999	1	1	699.036	0.04	Pass
26	1	1	1	1	1	1	737.052	0.039	Pass
27	1	1	1	1	1	1	740.593	0.039	Pass
28	1	1	1	1	1	1	707.917	0.038	Pass
29	1	1	1	1	1	1	681.796	0.041	Pass
30	1	1	1	1	1	0.999	688.034	0.042	Pass
31	1	1	1	0.999	1	1	688.004	0.04	Pass
32	1	1	1	0.999	1	1	702.345	0.04	Pass
33	1	1	1	0.999	1	1	722.18	0.04	Pass
34	0.999	1	1	1	1	1	673.906	0.043	Pass
35	1	0.999	1	1	1	1	706.935	0.04	Pass
36	1	1	1	1	1	1	693.751	0.041	Pass
37	1	1	1	1	1	1	728.874	0.039	Pass
38	1	1	1	1	1	1	688.015	0.041	Pass
39	1	1	1	1	1	1	682.046	0.041	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	697.22	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	22.89	0.00	60s/0.5mA
Cpu	41.97	41.97	58.92	30.12	58.92	58.92	23.34	7.57	
Cpl	41.86	41.86	58.85	29.96	58.85	58.85			
Cpk	41.86	41.86	58.85	29.96	58.85	58.85	23.34	7.57	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	706.37	0.04	Pass
41	1	1	1	1	1	1	672.414	0.041	Pass
42	1	1	1	1	1	1	727.152	0.04	Pass
43	1	1	1	1	1	1	733.521	0.04	Pass
44	1	1	1	1	1	1	674.052	0.041	Pass
45	1	1	1	1	1	1	686.776	0.041	Pass
46	1	1	1	1	1	1	709.269	0.041	Pass
47	1	1	1	1	1	1	681.084	0.041	Pass
48	1	1	1	1	1	1	695.984	0.04	Pass
49	1	1	1	1	1	1	704.996	0.042	Pass
50	1	1	1	1	1	1	679.169	0.042	Pass
51	1	1	1	1	1	1	726.614	0.04	Pass
52	1	1	1	1	1	1	737.675	0.04	Pass
53	1	1	1	1	1	1	679.05	0.04	Pass
54	1	1	1	1	1	1	676.804	0.041	Pass
55	1	1	1	1	1	1	685.679	0.041	Pass
56	1	1	1	1	1	1	690.228	0.041	Pass
57	1	1	1	1	1	1	684.373	0.041	Pass
58	1	1	1	1	1	1	687.648	0.041	Pass
59	1	1	1	1	1	1	731.592	0.04	Pass
60	1	1	1	1	1	1	684.258	0.041	Pass
61	1	1	1	1	1	1	740.268	0.039	Pass
62	1	1	1	1	1	1	704.636	0.039	Pass
63	1	1	1	1	1	1	739.926	0.039	Pass
64	1	1	1	1	1	1	677.191	0.041	Pass
65	1	1	1	1	1	1	699.712	0.04	Pass
66	1	1	1	1	1	1	688.063	0.041	Pass
67	1	1	1	1	1	1	686.719	0.041	Pass
68	1	1	1	1	1	1	685.414	0.041	Pass
69	1	1	1	1	1	1	717.681	0.04	Pass
70	1	1	1	1	1	1	704.866	0.041	Pass
71	1	1	1	1	1	1	697.856	0.041	Pass
72	1	1	1	1	1	1	687.688	0.041	Pass
73	1	1	1	1	1	1	702.159	0.04	Pass
74	1	1	1	1	1	1	695.011	0.041	Pass
75	1	1	1	1	1	1	684.847	0.041	Pass
76	1	1	1	1	1	1	767.458	0.04	Pass
77	1	1	1	1	1	1	708.06	0.041	Pass

Appendix 8

HM2116ANL Operational Life1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	529.30	524.40	620.64	552.32	1,580.33	1.00	1.00	1.00	1.00
STD DEV =	86.23	80.68	10.62	12.52	59.13	0.00	0.00	0.00	0.00
Cpu			22.57	20.96		24.97	24.24	34.52	24.97
Cpl	2.01	2.13			3.67	24.77	22.14	34.39	24.77
Cpk	2.01	2.13	22.57	20.96	3.67	24.77	22.14	34.39	24.77
DATA	-	-	-	-	-	-	-	-	-
1	499.356	492.877	615.299	597.11	1598.154	1	0.999	1	1
2	580.227	491.442	620.841	563.611	1642.06	1	0.999	1	1
3	623.404	408.992	611.695	555.473	1585.664	1	0.999	1	1
4	611.101	407.079	622.1	557.362	1603.332	1	0.999	1	1
5	642.025	558.873	631.038	569.809	1626.226	1	0.999	1	1
6	603.22	488.103	611.688	587.593	1484.788	1	0.999	1	1
7	636.535	610.001	619.65	551.799	1537.449	1	0.999	0.999	1
8	513.133	421.983	640.696	575.08	1619.132	1	0.999	1	1
9	618.949	645.531	634.819	571.647	1558.535	1	0.999	1	1
10	504.355	622.614	640.743	571.38	1602.592	1	0.999	1	1
11	639.6	397.323	616.39	558.915	1580.989	1	0.999	1	1
12	384.974	403.573	617.387	552.733	1443.433	1	1	1	1
13	618.52	657.825	627.253	560.556	1512.231	1	0.999	1	1
14	393.766	596.63	633.026	560.306	1489.085	1	0.999	1	1
15	425.742	642.34	627.42	558.33	1557.225	1	0.999	1	0.999
16	526.178	640.836	627.121	555.418	1559.627	1	0.999	1	0.999
17	472.133	414.1	647.15	564.856	1600.111	0.999	0.999	1	0.999
18	428.776	584.125	646.961	582.743	1612.303	0.999	0.999	1	0.999
19	583.094	601.257	630.847	560.22	1589.166	0.999	0.999	1	0.999
20	494.54	553.62	621.287	562.417	1597.144	0.999	0.999	1	1
21	603.701	584.189	609.996	536.731	1548.653	0.999	0.999	1	1
22	567.311	582.325	604.418	564.61	1686.039	1	0.999	1	1
23	439.173	578.145	612.169	531.297	1678.303	1	0.999	0.999	1
24	655.161	633.945	626.084	557.462	1608.504	1	0.999	1	1
25	568.249	422.596	621.547	546.937	1550.416	1	0.999	1	1
26	578.12	508.447	622.574	555.582	1614.353	1	1	1	1
27	581.618	652.068	619.507	544.669	1566.537	1	0.999	1	1
28	535.89	424.614	609.485	534.871	1577.313	1	0.999	1	1
29	388.315	401.143	619.536	553.309	1698.646	1	0.999	1	1
30	575.265	509.14	613.621	541.667	1586.222	1	0.999	1	1
31	543.192	462.519	621.98	548.815	1662.307	1	0.999	1	1
32	480.786	622.684	625.173	547.116	1621.153	1	0.999	1	1
33	617.45	429.771	620.516	542.422	1610.652	1	0.999	1	1
34	392.273	450.455	596.952	541.521	1514.539	1	0.999	1	1
35	560.951	434.443	612.312	549.214	1557.239	1	0.999	1	1
36	457.94	537.887	624.115	548.118	1523.838	1	0.999	1	1
37	566.879	476.964	617.188	537.795	1514.329	1	0.999	1	1
38	619.574	516.042	620.141	545.405	1705.342	1	1	1	1
39	390.514	492.752	607.364	537.167	1547.321	1	0.999	1	1

Appendix 8

HM2116ANL Operational Life1000hrs Electrical Test Data

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	529.30	524.40	620.64	552.32	1,580.33	1.00	1.00	1.00	1.00
STD DEV =	86.23	80.68	10.62	12.52	59.13	0.00	0.00	0.00	0.00
Cpu			22.57	20.96		24.97	24.24	34.52	24.97
Cpl	2.01	2.13			3.67	24.77	22.14	34.39	24.77
Cpk	2.01	2.13	22.57	20.96	3.67	24.77	22.14	34.39	24.77
DATA	-	-	-	-	-	-	-	-	-
40	641.184	479.785	616.226	551.644	1502.083	1	0.999	1	1
41	557.266	568.524	606.212	540.689	1546.88	1	0.999	1	1
42	605.355	638.578	603.401	533.321	1504.013	1	0.999	1	1
43	601.688	607.242	606.885	544.489	1678.416	1	1	1	1
44	398.477	473.963	628.448	566.846	1646.008	1	0.999	1	1
45	573.656	479.719	620.805	560.247	1590.674	1	0.999	1	1
46	568.23	604.798	631.715	556.964	1633.276	1	0.999	1	0.999
47	489.395	610.52	620.695	548.065	1591.046	0.999	0.999	1	1
48	398.59	572.288	622.035	556.543	1577.132	1	0.999	1	1
49	511.439	464.936	618.985	551.658	1553.35	1	0.999	1	1
50	505.698	523.402	624.118	561.462	1568.075	1	0.999	1	1
51	437.096	570.034	636.955	556.374	1534.245	1	0.999	1	1
52	628.59	483.402	624.16	548.09	1663.74	1	1	1	1
53	640.55	609.258	611.722	543.242	1556.336	1	1	1	1
54	403.001	486.143	633.749	560.946	1448.954	1	0.999	1	1
55	568.733	432.664	626.644	552.858	1670.451	1	0.999	1	1
56	555.126	609.955	605.973	545.478	1606.768	1	0.999	1	1
57	502.539	380.404	621.98	542.11	1532.284	1	0.999	1	1
58	403.961	538.635	619.42	543.228	1531.525	1	0.999	1	1
59	653.351	430.947	615.788	546.399	1684.477	1	0.999	1	1
60	480.101	473.708	619.971	552.634	1570.012	1	0.999	1	1
61	388.419	538.08	626.465	555.676	1555.142	1	0.999	1	1
62	566.801	614.821	620.13	549.661	1539.307	1	0.999	1	1
63	568.713	529.067	608.171	530.12	1459.286	1	0.999	1	1
64	391.138	506.056	630.937	557.783	1613.253	1	0.999	1	1
65	558.251	539.227	636.169	552.574	1606.482	1	0.999	1	1
66	403.726	442.552	614.212	536.693	1579.119	1	0.999	1	1
67	591.258	492.159	609.398	533.05	1540.255	1	0.999	1	1
68	619.741	506.17	632.279	543.913	1600.61	1	0.999	1	1
69	638.54	657.949	605.747	541.795	1510.982	1	0.999	1	1
70	630.942	481.463	643.686	545.606	1575.863	1	0.999	1	1
71	505.075	434.177	619.841	560.015	1532.016	1	0.999	1	1
72	392.813	467.025	622.713	542.663	1671.244	1	0.999	1	1
73	556.239	485.57	603.014	542.37	1648.968	1	0.999	0.999	1
74	616.284	604.414	611.774	544.112	1654.479	1	0.999	1	1
75	424.376	647.588	602.488	562.246	1530.503	1	1	1	1
76	380.35	640.194	616.711	537.125	1505.452	1	0.999	1	1
77	477.617	393.987	621.897	547.79	1601.987	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	662.78	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	20.24	0.00	60s/0.5mA
Cpu	27.14	30.12	27.14	34.52	34.52	34.52	26.96	10.46	
Cpl	26.97	29.96	26.97	34.39	34.39	34.39			
Cpk	26.97	29.96	26.97	34.39	34.39	34.39	26.96	10.46	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	637.215	0.041	Pass
2	1	1	1	1	1	1	662.606	0.04	Pass
3	1	1	1	1	1	1	683.536	0.039	Pass
4	1	1	1	1	1	1	636.889	0.041	Pass
5	1	1	1	1	1	1	691.492	0.04	Pass
6	1	1	1	1	1	1	679.919	0.04	Pass
7	1	1	1	1	1	1	640.606	0.04	Pass
8	1	1	1	1	1	1	660.847	0.04	Pass
9	1	1	1	1	1	0.999	655.452	0.04	Pass
10	1	1	1	1	1	1	714.971	0.04	Pass
11	0.999	1	1	1	0.999	1	658.246	0.04	Pass
12	0.999	1	1	1	0.999	1	662.855	0.04	Pass
13	0.999	1	0.999	1	1	1	715.27	0.038	Pass
14	1	1	1	1	1	1	663.774	0.04	Pass
15	1	1	1	1	1	1	697.75	0.039	Pass
16	1	1	1	1	1	1	644.42	0.04	Pass
17	1	1	1	1	1	1	667.764	0.039	Pass
18	1	1	1	1	1	1	650.577	0.041	Pass
19	1	1	1	1	1	1	663.904	0.04	Pass
20	1	1	1	1	1	1	649.102	0.04	Pass
21	1	1	1	1	1	1	688.082	0.039	Pass
22	1	1	1	0.999	1	1	644.996	0.039	Pass
23	1	0.999	1	0.999	1	1	651.113	0.04	Pass
24	1	1	1	1	1	1	653.302	0.041	Pass
25	1	1	1	1	1	1	688.184	0.04	Pass
26	1	1	1	1	1	1	654.107	0.04	Pass
27	1	1	1	1	1	1	633.345	0.04	Pass
28	1	1	1	1	1	1	706.071	0.039	Pass
29	1	1	1	1	1	1	685.851	0.04	Pass
30	1	1	1	1	1	1	632.681	0.041	Pass
31	1	1	1	1	1	1	643.94	0.039	Pass
32	1	1	1	1	1	1	638.728	0.039	Pass
33	1	1	1	1	1	1	658.595	0.04	Pass
34	1	1	1	1	1	1	645.46	0.041	Pass
35	1	1	1	1	1	1	645.824	0.041	Pass
36	1	1	1	1	1	1	638.744	0.04	Pass
37	0.999	1	0.999	1	1	1	684.996	0.039	Pass
38	1	1	0.999	1	1	1	657.44	0.04	Pass
39	1	1	0.999	1	1	1	660.031	0.041	Pass

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	662.78	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	20.24	0.00	60s/0.5mA
Cpu	27.14	30.12	27.14	34.52	34.52	34.52	26.96	10.46	
Cpl	26.97	29.96	26.97	34.39	34.39	34.39			
Cpk	26.97	29.96	26.97	34.39	34.39	34.39	26.96	10.46	
DATA	-	-	-	-	-	-	-	-	
40	1	1	1	1	1	1	683.993	0.04	Pass
41	1	1	1	1	1	0.999	647.929	0.04	Pass
42	1	1	1	1	1	0.999	677.624	0.039	Pass
43	1	1	1	1	1	1	674.288	0.039	Pass
44	1	1	1	1	1	1	672.021	0.04	Pass
45	1	1	1	1	1	1	641.316	0.04	Pass
46	1	1	1	1	1	1	671.138	0.04	Pass
47	1	0.999	1	1	1	1	682.588	0.04	Pass
48	1	1	1	1	1	1	648.228	0.041	Pass
49	1	1	1	1	1	1	672.824	0.04	Pass
50	1	1	1	1	1	1	642.652	0.041	Pass
51	1	1	1	1	1	1	645.717	0.04	Pass
52	1	1	1	1	1	1	677.373	0.04	Pass
53	1	1	1	1	1	1	671.571	0.039	Pass
54	1	1	1	1	1	1	654.212	0.04	Pass
55	1	1	1	1	1	1	646.488	0.04	Pass
56	1	1	1	1	0.999	1	639.341	0.041	Pass
57	1	1	0.999	1	1	1	668.226	0.04	Pass
58	1	1	1	1	1	1	639.616	0.04	Pass
59	1	1	1	1	1	1	645.051	0.04	Pass
60	1	1	1	1	1	1	680.392	0.041	Pass
61	1	1	1	1	1	1	650.319	0.04	Pass
62	1	1	1	1	1	1	654.525	0.04	Pass
63	1	1	1	1	1	1	681.092	0.039	Pass
64	0.999	1	1	1	1	1	696.233	0.04	Pass
65	1	1	1	1	1	1	687.487	0.039	Pass
66	1	1	1	1	1	1	645.808	0.04	Pass
67	1	1	1	1	1	1	698.225	0.039	Pass
68	1	1	1	1	1	1	683.58	0.04	Pass
69	1	1	1	1	1	1	643.082	0.04	Pass
70	1	0.999	1	1	1	1	656.363	0.04	Pass
71	1	0.999	1	0.999	1	1	643.415	0.04	Pass
72	1	1	1	1	1	1	658.914	0.04	Pass
73	1	1	1	1	1	1	652.317	0.04	Pass
74	1	1	1	1	1	1	671.293	0.04	Pass
75	1	1	1	1	1	1	647.611	0.04	Pass
76	1	1	1	1	1	1	643.642	0.04	Pass
77	1	1	1	1	1	1	689.258	0.039	Pass

Appendix 9

HM2116ANL Terminal Strength Pictures


Sample 1#

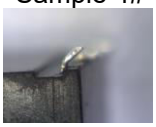

Sample 2#


Sample 3#

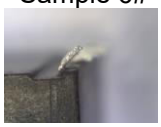

Sample 4#

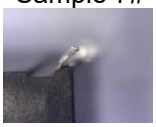

Sample 5#


Sample 6#

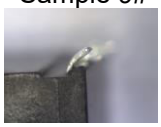

Sample 7#


Sample 8#

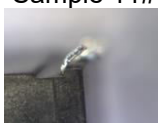

Sample 9#


Sample 10#


Sample 11#


Sample 12#


Sample 13#

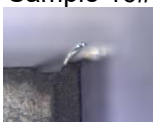

Sample 14#


Sample 15#

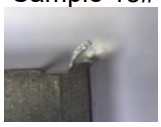

Sample 16#


Sample 17#

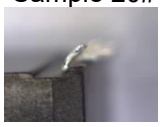

Sample 18#

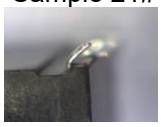

Sample 19#


Sample 20#

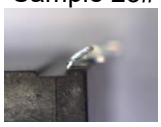

Sample 21#

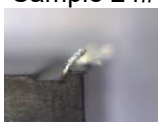

Sample 22#


Sample 23#

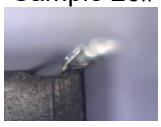

Sample 24#

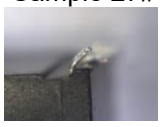

Sample 25#


Sample 26#


Sample 27#


Sample 28#


Sample 29#


Sample 30#

Appendix 10

HM2116ANL Electrical Test Data Before Resistance To Soldering Heat

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	545.98	508.31	634.61	625.88	1,546.68	1.00	1.00	1.00	1.00
STD DEV =	86.35	80.88	6.84	22.75	55.15	0.00	0.00	0.00	0.00
Cpu			34.38	10.46		37.20	23.22	37.20	22.33
Cpl	2.07	2.05			3.73	37.08	21.22	37.08	22.11
Cpk	2.07	2.05	34.38	10.46	3.73	37.08	21.22	37.08	22.11
DATA	-	-	-	-	-	-	-	-	-
1	385.556	490.925	646.381	642.446	1633.235	1	1	1	1
2	590.436	450.09	635.007	618.944	1577.476	1	0.999	1	1
3	518.914	408.715	632.034	630.289	1561.48	1	0.999	1	1
4	529.164	576.994	631.254	623.592	1571.887	1	0.999	1	1
5	620.295	491.607	635.803	630.101	1587.243	0.999	0.999	1	1
6	381.484	469.738	638.022	622.998	1502.347	1	1	1	1
7	623.66	596.668	630.706	616.494	1589.516	1	0.999	1	1
8	601.645	406.999	625.136	607.727	1592.978	1	0.999	1	1
9	621.838	491.557	637.347	619.665	1598.47	1	0.999	1	1
10	522.929	649.783	633.119	607.85	1547.268	1	0.999	1	1
11	652.884	620.817	635.379	636.841	1575.465	1	0.999	1	1
12	450.68	650.016	635.318	621.764	1544.994	1	0.999	1	1
13	453.548	599.049	639.738	649.568	1601.77	1	0.999	1	1
14	623.068	423.411	631.512	611.039	1536.56	1	0.999	1	1
15	437.645	600.022	644.261	628.366	1690.279	1	0.999	1	1
16	643.552	589.859	626.767	605.037	1486.543	1	0.999	0.999	1
17	581.039	414.854	642.807	622.154	1474.787	1	0.999	1	0.999
18	548.902	461.966	648.37	629.432	1588.54	1	0.999	1	1
19	474.698	509.647	634.91	619.22	1471.264	1	0.999	1	0.999
20	444.115	613.025	640.543	620.855	1540.256	1	0.999	1	1
21	407.059	408.019	630.294	614.884	1444.56	1	0.999	1	1
22	430.369	533.439	637.385	728.064	1579.684	1	0.999	1	1
23	599.365	457.233	631.246	660.504	1593.491	1	0.999	1	1
24	600.287	392.455	633.106	621.194	1493.627	1	1	1	1
25	638.835	383.681	632.473	615.254	1471.252	1	0.999	1	1
26	656.275	594.466	644.605	629.619	1501.626	1	0.999	1	1
27	588.865	478.393	621.666	606.907	1523.608	1	0.999	1	1
28	609.217	473.786	634.487	617.266	1500.05	1	0.999	1	0.999
29	633.18	484.425	616.876	606.55	1534.475	1	0.999	1	1
30	509.806	527.634	631.647	611.817	1485.723	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	694.58	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	17.75	0.00	60s/0.5mA
Cpu	37.20	37.20	26.82	37.20	37.20	37.20	30.15	11.81	
Cpl	37.08	37.08	26.64	37.08	37.08	37.08			
Cpk	37.08	37.08	26.64	37.08	37.08	37.08	30.15	11.81	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	706.742	0.041	Pass
2	1	1	1	1	1	1	679.685	0.041	Pass
3	1	1	1	1	1	1	702.084	0.041	Pass
4	1	1	1	1	1	1	691.661	0.041	Pass
5	1	1	1	1	1	1	680.207	0.04	Pass
6	1	1	1	1	1	1	669.179	0.041	Pass
7	1	1	1	1	1	1	695.783	0.04	Pass
8	1	1	1	1	1	1	680.451	0.04	Pass
9	1	1	1	1	1	1	696.393	0.041	Pass
10	1	1	1	1	1	1	682.13	0.041	Pass
11	0.999	1	0.999	1	1	1	694.817	0.041	Pass
12	1	1	1	1	1	1	681.091	0.04	Pass
13	1	1	1	1	1	1	734.483	0.041	Pass
14	1	1	1	1	1	1	678.617	0.04	Pass
15	1	1	1	1	1	1	697.684	0.041	Pass
16	1	1	1	1	0.999	1	700.235	0.04	Pass
17	1	1	1	1	1	1	687.233	0.042	Pass
18	1	1	1	1	1	1	706.878	0.041	Pass
19	1	1	1	1	1	1	700.801	0.04	Pass
20	1	1	0.999	1	1	1	691.098	0.041	Pass
21	1	1	1	1	1	1	684.267	0.041	Pass
22	1	0.999	1	1	1	1	697.558	0.041	Pass
23	1	1	1	1	1	1	671.684	0.041	Pass
24	1	1	1	1	1	0.999	747.142	0.04	Pass
25	1	1	1	0.999	1	1	698.772	0.04	Pass
26	1	1	1	1	1	1	678.996	0.04	Pass
27	1	1	1	1	1	1	722.951	0.04	Pass
28	1	1	1	1	1	1	717.398	0.04	Pass
29	1	1	1	1	1	1	673.501	0.041	Pass
30	1	1	1	1	1	1	687.851	0.041	Pass

Appendix 11

HM2116ANL Electrical Test Data After Resistance To Soldering Heat

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	480.22	521.63	662.06	664.30	1,569.90	1.00	1.00	1.00	1.00
STD DEV =	72.86	82.11	7.75	6.42	51.63	0.00	0.00	0.00	0.00
Cpu			29.16	35.08		37.20	38.93	26.82	37.20
Cpl	2.15	2.08			4.13	37.08	35.34	26.64	37.08
Cpk	2.15	2.08	29.16	35.08	4.13	37.08	35.34	26.64	37.08
DATA	-	-	-	-	-	-	-	-	-
1	609.845	522.109	678.838	675.085	1573.1	1	0.999	1	1
2	388.012	530.737	646.566	650.093	1525.801	1	0.999	1	1
3	539.094	481.784	658.232	673.365	1657.693	1	0.999	1	1
4	599.985	381.451	664.016	662.86	1586.536	1	0.999	1	1
5	470.922	508.632	677.172	674.421	1550.702	1	0.999	1	1
6	515.891	598.277	645.958	655.486	1497.817	0.999	0.999	1	1
7	443.121	596.869	647.197	653.097	1599.13	1	0.999	1	1
8	572.471	641.82	663.194	662.416	1549.957	1	0.999	1	1
9	385.225	450.321	667.353	661.472	1464.816	1	0.999	1	1
10	392.521	485.156	650.13	656.63	1589.298	1	0.999	1	1
11	484.867	461.213	655.99	657.127	1487.19	1	0.999	1	1
12	522.816	413.405	663.489	667.439	1559.027	1	0.999	1	1
13	387.989	508.881	667.493	659.696	1558.503	1	0.999	1	0.999
14	546.749	587.184	652.516	661.349	1583.346	1	0.999	1	1
15	408.725	409.9	663.961	658.757	1531.644	1	0.999	1	1
16	574.605	562.329	666.731	667.988	1531.358	1	0.999	1	1
17	546.436	617.216	661.253	669.286	1553.089	1	0.999	0.999	1
18	485.284	396.738	661.304	661.33	1660.87	1	1	1	1
19	474.12	509.03	661.812	661.385	1575.326	1	0.999	1	1
20	432.597	485.298	659.46	663.806	1556.954	1	0.999	1	1
21	429.167	639.634	661.667	664.041	1535.413	1	0.999	1	1
22	521.667	534.167	666.138	663.945	1560.433	1	0.999	0.999	1
23	381.85	574.285	666.364	671.546	1648.86	1	0.999	1	1
24	390.005	401.814	672.568	670.135	1655.159	1	0.999	1	1
25	580.576	427.852	665.823	666.704	1543.091	1	0.999	1	1
26	464.7	637.408	661.026	670.339	1656.968	1	0.999	1	1
27	390.369	611.927	665.546	664.922	1571.481	1	0.999	1	1
28	567.299	439.306	665.577	674.285	1549.283	1	0.999	1	1
29	412.932	588.819	660.952	659.899	1656.65	1	0.999	1	1
30	486.873	645.471	663.408	669.959	1527.469	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	669.88	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.60	0.00	60s/0.5mA
Cpu	37.20	26.82	26.82	37.20	37.20	26.82	22.08	10.42	
Cpl	37.08	26.64	26.64	37.08	37.08	26.64			
Cpk	37.08	26.64	26.64	37.08	37.08	26.64	22.08	10.42	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	663.501	0.041	Pass
2	1	1	1	1	1	1	697.261	0.04	Pass
3	1	1	1	1	1	1	703.059	0.04	Pass
4	1	1	1	1	1	1	737.138	0.04	Pass
5	1	1	1	1	1	1	670.736	0.041	Pass
6	1	1	1	1	1	1	652.634	0.041	Pass
7	1	0.999	1	1	1	1	695.855	0.04	Pass
8	1	1	1	0.999	1	1	647.631	0.041	Pass
9	1	1	1	1	1	1	725.267	0.04	Pass
10	1	1	1	1	1	1	689.5	0.04	Pass
11	1	1	1	1	1	1	661.625	0.041	Pass
12	1	1	1	1	1	1	651.476	0.04	Pass
13	1	1	1	1	1	0.999	668.201	0.04	Pass
14	1	1	1	1	1	1	649.729	0.041	Pass
15	1	0.999	1	1	1	1	661.103	0.04	Pass
16	1	1	0.999	1	1	1	647.308	0.042	Pass
17	0.999	1	1	1	1	1	656.723	0.041	Pass
18	1	1	1	1	0.999	1	647.591	0.041	Pass
19	1	1	1	1	1	1	692.401	0.04	Pass
20	1	1	1	1	1	1	652.492	0.041	Pass
21	1	1	1	1	1	1	633.716	0.042	Pass
22	1	1	1	1	1	1	666.445	0.041	Pass
23	1	1	0.999	1	1	1	651.116	0.041	Pass
24	1	1	1	1	1	1	687.645	0.041	Pass
25	1	1	1	1	1	0.999	677.42	0.042	Pass
26	1	1	1	1	1	1	665.876	0.041	Pass
27	1	1	1	1	1	1	694.02	0.041	Pass
28	1	1	1	1	1	1	656.775	0.041	Pass
29	1	1	1	1	1	1	647.41	0.041	Pass
30	1	1	1	1	1	1	644.88	0.041	Pass

Appendix 12

HM2116ANL Solderability Report

YAGEO PULSE GROUP

No#: 20250626023

PULSE TEST REPORT			
PRODUCT: HM2116ANL	**REVISION:** A	**DATE:** Jun 26th 2025	**PREPARED BY:** Jufang Yang

1. **TEST REQUIRED**
   - Solderability Test

2. **SAMPLE SIZE**
   - 45units

3. **TEST CONDITION**
   - Per J-STD-002E
     a) Method B, 4hrs @ 155C dry heat @ 235C
     b) Method B @ 215C category 3.
     c) Method D category 3 @ 260C.

4. **EQUIPMENT/INSTRUMENT USED**
   - 2 gallon glass container with non corrosive basket
   - Solder pot
   - Microscope
   - Digital Thermometer

5. **TEST RESULT**
   - The test result is PASS as both sample test area grater than 95% smooth solver coverage and test pictures as below table.

TABLE 1: result of a) Method B, 4hrs @ 155C dry heat @ 235C

 Sample 1	 Sample 2	 Sample 3
 Sample 4	 Sample 5	 Sample 6

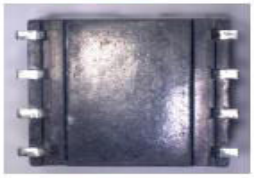
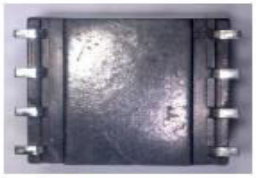
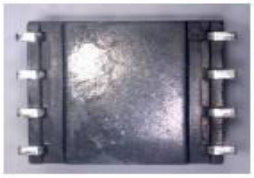
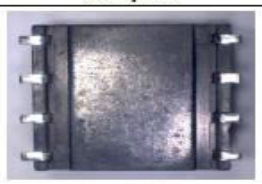
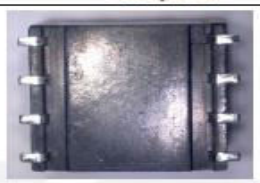
Export Process Zone, High-Tech Industrial Development Zone, Mianyang, Sichuan,PR China
TEL#: (86-816)7077888-2012 FAX#(86)816 7077888-1008

Appendix 12

HM2116ANL Solderability Report

YAGEO PULSE GROUP

No#: 20250626023

 Sample 7	 Sample 8	 Sample 9
 Sample 10	 Sample 11	 Sample 12
 Sample 13	 Sample 14	 Sample 15

Sampling partial view

TABLE 2: result of Method B @ 215C category 3.

 Sample 1	 Sample 2	 Sample 3
 Sample 4	 Sample 5	 Sample 6

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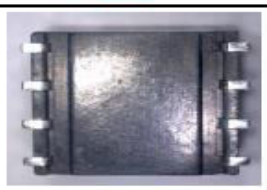
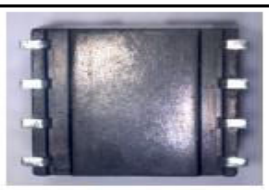
Appendix 12

HM2116ANL Solderability Report

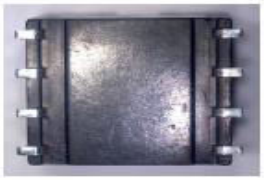
YAGEO PULSE GROUP

No#: 20250626023

 Sample 7	 Sample 8	 Sample 9
 Sample 10	 Sample 11	 Sample 12
 Sample 13	 Sample 14	 Sample 15

Sampling partial view

TABLE 3: result of c) Method D category 3 @ 260C.

 Sample 1	 Sample 2	 Sample 3
 Sample 4	 Sample 5	 Sample 6

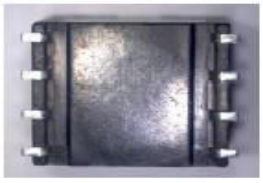
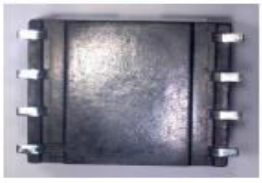
Export Process Zone, High-Tech Industrial Development Zone, Mianyang, Sichuan,PR China
TEL#: (86-816)7077888-2012 FAX#(86)816 7077888-1008

Appendix 12

HM2116ANL Solderability Report

YAGEO PULSE GROUP

No#: 20250626023

 Sample 7	 Sample 8	 Sample 9
 Sample 10	 Sample 11	 Sample 12
 Sample 13	 Sample 14	 Sample 15

Sampling partial view

Prepared by: Jufang Yang
Pulse MPO Lab Technician

Reviewed by: Colin Zhang
Pulse MPO Lab Engineer

MIANYANG PULSE ELECTRONICS CO.,LTD RELIABILITY LABORATORY

----------End of the Report----------

Export Process Zone, High-Tech Industrial Development Zone, Mianyang, Sichuan,PR China
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Appendix 13

HM2116ANL Electrical Test Data Before Vibration &Mechanical Shock

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	520.50	529.41	635.97	626.32	1,569.70	1.00	1.00	1.00	1.00
STD DEV =	88.59	91.11	6.91	12.13	56.93	0.00	0.00	0.00	0.00
Cpu			33.95	19.61		37.20	18.63	37.20	22.33
Cpl	1.92	1.90			3.75	37.08	17.14	37.08	22.11
Cpk	1.92	1.90	33.95	19.61	3.75	37.08	17.14	37.08	22.11
DATA	-	-	-	-	-	-	-	-	-
1	442.022	485.723	636.875	623.368	1561.723	1	0.999	1	1
2	384.932	427.62	645.229	645.207	1552.846	1	0.999	1	1
3	561.289	580.728	631.925	639.379	1489.147	1	0.999	1	0.999
4	602.247	639.871	639.945	628.841	1570.236	1	0.999	1	1
5	391.613	657.566	633.109	617.533	1513.393	1	0.999	1	1
6	481.995	457.244	637.629	627.816	1503.453	1	0.999	1	1
7	413.875	559.108	635.139	617.345	1568.73	1	0.999	1	1
8	422.785	531.852	634.53	614.444	1619.621	1	0.999	1	1
9	453.989	574.969	631.022	622.021	1609.635	0.999	0.999	1	1
10	586.682	653.321	639.063	621.103	1574.354	1	1	1	1
11	390.766	580.1	634.448	614.714	1498.943	1	0.999	1	1
12	463.153	641.144	634.621	621.805	1628.875	1	0.999	1	1
13	636.331	636.174	640.323	630.971	1741.159	1	1	1	1
14	557.323	502.484	626.667	631.516	1564.793	1	0.999	1	1
15	603.972	661.317	622.934	611.593	1551.531	1	0.999	1	1
16	456.255	389.146	645.537	630.254	1572.412	1	0.999	0.999	1
17	626.115	382.925	627.288	610.03	1520.723	1	0.999	1	1
18	551.497	454.735	632.603	624.574	1587.479	1	0.999	1	1
19	648.752	424.618	631.491	620.585	1610.692	1	0.999	1	1
20	535.82	402.304	637.719	624.333	1565.195	1	0.999	1	1
21	433.524	466.521	632.496	618.497	1614.32	1	1	1	1
22	421.503	485.506	649.789	626.819	1537.881	1	0.999	1	1
23	626.732	587.802	637.972	629.64	1630.427	1	1	1	1
24	442.74	642.348	646.633	638.168	1669.985	1	0.999	1	1
25	588	572.784	640.622	635.627	1488.818	1	0.999	1	0.999
26	543.752	410.162	624.719	612.64	1538.747	1	0.999	1	1
27	654.077	496.041	627.287	615.857	1567.753	1	0.999	1	1
28	605.636	408.082	632.634	620.534	1587.886	1	0.999	1	1
29	460.249	543.998	637.734	646.181	1586.121	1	0.999	1	1
30	627.386	626.219	651.06	668.267	1463.989	1	1	1	0.999

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	703.49	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	23.88	0.00	60s/0.5mA
Cpu	26.82	37.20	26.82	37.20	26.82	37.20	22.28	8.91	
Cpl	26.64	37.08	26.64	37.08	26.64	37.08			
Cpk	26.64	37.08	26.64	37.08	26.64	37.08	22.28	8.91	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	704.313	0.04	Pass
2	1	1	1	1	1	1	706.466	0.042	Pass
3	1	1	1	1	1	1	740.553	0.039	Pass
4	1	1	1	1	1	1	694.536	0.04	Pass
5	1	1	1	1	1	1	680.454	0.04	Pass
6	1	1	1	1	1	1	683.073	0.041	Pass
7	1	1	1	1	1	1	696.825	0.041	Pass
8	1	1	1	1	0.999	1	680.116	0.04	Pass
9	1	1	0.999	1	1	1	685.666	0.041	Pass
10	1	1	1	1	1	1	685.42	0.041	Pass
11	0.999	1	1	1	1	1	687.279	0.041	Pass
12	1	1	1	1	1	1	752.134	0.039	Pass
13	1	1	1	1	0.999	1	713.39	0.041	Pass
14	1	1	1	1	1	1	694.774	0.04	Pass
15	1	1	1	1	1	1	732.911	0.04	Pass
16	1	1	1	0.999	1	1	702.813	0.04	Pass
17	1	1	1	1	1	0.999	678.73	0.04	Pass
18	1	0.999	1	1	1	1	730.011	0.04	Pass
19	1	1	1	1	1	1	687.936	0.041	Pass
20	1	1	0.999	1	1	1	674.973	0.041	Pass
21	1	1	1	1	1	1	751.81	0.039	Pass
22	1	1	1	1	1	1	698.128	0.041	Pass
23	1	1	1	1	1	1	684.027	0.041	Pass
24	0.999	1	1	1	1	1	759.642	0.039	Pass
25	1	1	1	1	1	1	705.209	0.04	Pass
26	1	1	1	1	1	1	714.206	0.041	Pass
27	1	1	1	1	1	1	683.947	0.04	Pass
28	1	1	1	1	1	1	722.26	0.04	Pass
29	1	1	1	1	1	1	693.68	0.04	Pass
30	1	1	1	1	1	1	679.427	0.04	Pass

Appendix 14

HM2116ANL Electrical Test Data After Vibration &Mechanical Shock

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	354.04	348.01	661.87	662.70	1,559.97	1.00	1.00	1.00	1.00
STD DEV =	59.62	53.94	7.73	6.54	51.81	0.00	0.00	0.00	0.00
Cpu			29.24	34.52		37.20	27.97	26.82	26.82
Cpl	1.92	2.09			4.05	37.08	25.48	26.64	26.64
Cpk	1.92	2.09	29.24	34.52	4.05	37.08	25.48	26.64	26.64
DATA	-	-	-	-	-	-	-	-	-
1	434.904	319.14	664.458	672.21	1647.724	1	0.999	1	1
2	414.983	314.223	662.233	671.73	1656.746	1	0.999	1	1
3	320.446	397.339	675.396	674.217	1652.726	1	0.999	1	1
4	456.836	311.799	666.325	668.12	1539.768	1	0.999	1	1
5	315.821	472.307	668.376	665.651	1558.467	1	0.999	1	1
6	342.948	322.796	663.271	660.264	1531.773	1	0.999	1	1
7	416.791	345.122	663.103	662.706	1553.728	1	0.999	1	1
8	369.623	349.799	667.318	661.507	1527.233	1	0.999	1	1
9	337.939	465.154	679.797	674.482	1570.921	1	0.999	1	1
10	379.114	455.001	657.446	659.304	1587.033	1	0.999	1	1
11	286.856	384.381	651.544	655.12	1464.126	1	0.999	1	1
12	327.05	317.647	663.413	663.972	1608.863	0.999	0.999	1	1
13	340.342	250.338	659.489	665.024	1563.073	1	0.999	1	1
14	309.129	277.162	655.29	656.377	1579.875	1	1	1	1
15	324.42	321.975	667.305	658.839	1555.806	1	0.999	1	1
16	284.636	305.501	665.291	664.878	1556.609	1	0.999	0.999	1
17	279.426	275.293	656.69	658.233	1484.019	1	0.999	1	1
18	394.8	321.09	650.543	658.059	1584.435	1	0.999	1	1
19	303.134	370.155	661.703	660.675	1459.348	1	0.999	1	0.999
20	559.093	364.642	663.634	662.841	1544.822	1	0.999	1	1
21	316.497	325.481	649.268	647.058	1597.178	1	0.999	1	1
22	387.45	378.561	650.599	659.981	1492.8	1	0.999	0.999	1
23	318.389	369.107	676.626	674.018	1546.157	1	0.999	1	1
24	321.346	349.721	662.069	663.751	1581.195	1	1	1	1
25	322.744	357.455	658.646	667.148	1653.588	1	0.999	1	0.999
26	320.414	356.022	648.606	652.338	1520.345	1	0.999	1	1
27	367.065	413.043	665.387	661.024	1557.348	1	0.999	1	1
28	345.638	265.948	655.373	656.256	1580.348	1	0.999	1	1
29	414.91	366.238	657.916	657.154	1484.754	1	0.999	1	1
30	308.317	317.952	668.883	668.116	1558.211	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	670.24	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	24.39	0.00	60s/0.5mA
Cpu	26.82	37.20	26.82	37.20	26.82	37.20	22.27	10.58	
Cpl	26.64	37.08	26.64	37.08	26.64	37.08			
Cpk	26.64	37.08	26.64	37.08	26.64	37.08	22.27	10.58	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	651.899	0.041	Pass
2	1	1	1	1	1	1	666.218	0.041	Pass
3	1	1	1	1	1	1	687.229	0.041	Pass
4	1	1	1	1	1	1	674.308	0.041	Pass
5	1	1	1	1	1	1	668.57	0.04	Pass
6	1	1	1	1	1	1	637.307	0.042	Pass
7	1	1	1	1	1	1	648.84	0.041	Pass
8	1	1	1	1	1	1	659.512	0.041	Pass
9	1	1	1	1	1	1	657.733	0.041	Pass
10	0.999	1	1	1	1	1	652.223	0.041	Pass
11	1	1	1	1	1	1	648.183	0.041	Pass
12	1	1	0.999	1	1	1	711.811	0.04	Pass
13	1	1	1	1	0.999	1	645.05	0.04	Pass
14	1	1	1	1	1	1	653.233	0.04	Pass
15	1	1	1	1	1	1	669.878	0.041	Pass
16	1	0.999	1	1	1	1	651.924	0.041	Pass
17	1	1	1	0.999	1	0.999	662.763	0.04	Pass
18	1	1	1	1	1	1	686.862	0.04	Pass
19	1	1	1	1	1	1	724.49	0.04	Pass
20	1	1	1	1	1	1	647.318	0.04	Pass
21	1	1	1	1	1	1	697.255	0.04	Pass
22	1	1	1	1	1	1	653.535	0.041	Pass
23	1	1	1	1	1	1	671.065	0.041	Pass
24	1	1	1	1	0.999	1	735.953	0.039	Pass
25	1	1	1	1	1	1	701.689	0.04	Pass
26	1	1	1	1	1	1	699.717	0.04	Pass
27	1	1	0.999	1	1	1	671.181	0.041	Pass
28	0.999	1	1	1	1	1	651.727	0.041	Pass
29	1	1	1	1	1	1	664.057	0.041	Pass
30	1	1	1	1	1	1	655.782	0.041	Pass

Appendix 15

HM2116ANL Electrical Characterization Test Data

Parameter	OCL of 1st lot				OCL of 2nd lot				OCL of 3rd lot		
Condition:	-40C	25C	125C		-40C	25C	125C		-40C	25C	125C
Pin	1-3	1-3	1-3		1-3	1-3	1-3		1-3	1-3	1-3
Unit	uH	uH	uH		uH	uH	uH		uH	uH	uH
HighLimit											
LowLimit	618	930	618		618	930	618		618	930	618
Average =	1,053.90	1,592.63	1,843.46		1,052.86	1,595.86	1,849.45		1,035.38	1,623.94	1,881.26
STD DEV =	25.76	86.90	126.68		23.89	61.02	87.14		18.15	45.19	46.90
Cpu											
Cpl	5.64	2.54	3.22		6.07	3.64	4.71		7.67	5.12	8.98
Cpk	5.64	2.54	3.22		6.07	3.64	4.71		7.67	5.12	8.98
DATA	-	-	-		-	-	-		-	-	-
1	1066	1719	2007	31	1091	1555	1782	61	1031	1596	1899
2	1074	1590	1822	32	1005	1512	1737	62	1038	1687	1843
3	1011	1486	1661	33	1086	1524	1693	63	1045	1553	1811
4	1039	1498	1778	34	1087	1561	1926	64	1005	1698	1851
5	1052	1781	2099	35	1087	1599	1781	65	1037	1694	1897
6	1070	1693	1928	36	1079	1642	1874	66	1049	1611	1896
7	1040	1722	2011	37	1075	1671	1952	67	1041	1627	1957
8	1060	1524	1772	38	981	1457	1919	68	1048	1581	1905
9	1096	1689	2001	39	1040	1540	1727	69	1036	1655	1888
10	1060	1612	1840	40	1053	1625	1745	70	1053	1552	1868
11	1068	1708	2027	41	1043	1608	1877	71	1034	1635	1833
12	1015	1463	1835	42	1063	1483	1625	72	1031	1631	1910
13	1024	1480	1643	43	1058	1592	1789	73	1053	1564	1810
14	1090	1545	1820	44	1074	1621	1916	74	1042	1627	1901
15	1058	1615	1762	45	1082	1591	1942	75	1002	1684	1931
16	1003	1531	1671	46	1049	1695	1807	76	1059	1618	1913
17	1039	1531	1772	47	1045	1561	1808	77	1046	1686	1952
18	1039	1502	1709	48	1058	1593	1791	78	1002	1629	1803
19	1047	1482	1688	49	1033	1681	1856	79	1033	1699	1794
20	1107	1713	1892	50	1049	1697	1880	80	1060	1612	1865
21	1076	1640	1876	51	1036	1564	1797	81	1053	1639	1905
22	1038	1602	2076	52	1055	1569	1952	82	1039	1587	1869
23	1050	1564	1806	53	1046	1688	1933	83	1038	1610	1940
24	1069	1649	1879	54	1035	1561	1830	84	986	1576	1823
25	1066	1595	1843	55	1041	1594	1930	85	1034	1571	1958
26	1061	1594	1760	56	1055	1641	1911	86	1030	1590	1894
27	1058	1610	1911	57	1033	1661	1955	87	1046	1676	1916
28	1070	1582	1862	58	1058	1569	1934	88	1032	1566	1918
29	997	1455	1625	59	1044	1563	1880	89	1005	1605	1819
30	1077	1607	1932	60	1047	1658	1936	90	1054	1660	1869

Appendix 16

HM2116ANL Terminal Strength Test

Specimens#	Test Condition	Test Result	Remark
1	1.8kg/f @60s holding	*Pass*	N/A
2	1.8kg/f @60s holding	*Pass*	N/A
3	1.8kg/f @60s holding	*Pass*	N/A
4	1.8kg/f @60s holding	*Pass*	N/A
5	1.8kg/f @60s holding	*Pass*	N/A
6	1.8kg/f @60s holding	*Pass*	N/A
7	1.8kg/f @60s holding	*Pass*	N/A
8	1.8kg/f @60s holding	*Pass*	N/A
9	1.8kg/f @60s holding	*Pass*	N/A
10	1.8kg/f @60s holding	*Pass*	N/A
11	1.8kg/f @60s holding	*Pass*	N/A
12	1.8kg/f @60s holding	*Pass*	N/A
13	1.8kg/f @60s holding	*Pass*	N/A
14	1.8kg/f @60s holding	*Pass*	N/A
15	1.8kg/f @60s holding	*Pass*	N/A
16	1.8kg/f @60s holding	*Pass*	N/A
17	1.8kg/f @60s holding	*Pass*	N/A
18	1.8kg/f @60s holding	*Pass*	N/A
19	1.8kg/f @60s holding	*Pass*	N/A
20	1.8kg/f @60s holding	*Pass*	N/A
21	1.8kg/f @60s holding	*Pass*	N/A
22	1.8kg/f @60s holding	*Pass*	N/A
23	1.8kg/f @60s holding	*Pass*	N/A
24	1.8kg/f @60s holding	*Pass*	N/A
25	1.8kg/f @60s holding	*Pass*	N/A
26	1.8kg/f @60s holding	*Pass*	N/A
27	1.8kg/f @60s holding	*Pass*	N/A
28	1.8kg/f @60s holding	*Pass*	N/A
29	1.8kg/f @60s holding	*Pass*	N/A
30	1.8kg/f @60s holding	*Pass*	N/A

Appendix 17

HM2116ANL Electrical Test Data Before Board Flex

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	552.61	540.03	636.11	624.15	1,580.74	1.00	1.00	1.00	1.00
STD DEV =	78.45	74.19	9.32	13.71	48.07	0.00	0.00	0.00	0.00
Cpu			25.17	17.40		26.82	18.63	26.82	37.20
Cpl	2.31	2.38			4.51	26.64	17.14	26.64	37.08
Cpk	2.31	2.38	25.17	17.40	4.51	26.64	17.14	26.64	37.08
DATA	-	-	-	-	-	-	-	-	-
1	549.566	413.408	638.069	617.906	1566.772	1	0.999	1	1
2	658.411	592.625	640.969	635.382	1529.7	1	0.999	1	1
3	576.124	648.067	632.109	672.691	1595.836	1	0.999	1	1
4	594.236	534.136	634.456	621.725	1564.623	1	0.999	1	1
5	644.139	506.413	636.781	622.639	1548.861	0.999	0.999	1	1
6	545.248	606.578	627.465	613.188	1611.958	1	0.999	1	1
7	620.4	471.005	619.387	605.372	1530.779	1	0.999	1	1
8	627.79	655.663	623.94	614.306	1681.258	1	1	1	1
9	641.04	637.059	631.875	624.681	1533.97	1	0.999	1	1
10	557.511	488.621	633.81	616.872	1611.061	1	0.999	1	1
11	649.573	532.854	638.895	610.984	1633.944	1	0.999	0.999	1
12	407.963	574.582	630.863	623.031	1588.666	1	0.999	1	1
13	601.543	602.848	636.247	612.503	1516.225	1	0.999	1	1
14	547.473	601.195	635.421	617.533	1568.659	1	0.999	1	1
15	448.605	505.884	639.84	653.679	1619.634	1	0.999	1	1
16	453.004	434.662	621.785	608.669	1618.573	1	1	1	1
17	638.75	646.979	630.579	614.451	1551.697	0.999	0.999	0.999	1
18	485.853	476.169	629.067	621.482	1564.013	1	0.999	1	1
19	416.022	596.994	635.435	615.054	1471.029	1	0.999	1	0.999
20	522.375	417.489	636.809	625.544	1633.225	1	0.999	1	1
21	444.589	539.872	653.977	637.386	1564.919	1	1	1	1
22	421.194	628.728	649.417	631.8	1612.897	1	0.999	1	1
23	634.742	519.739	635.72	634.809	1619.421	1	1	1	1
24	499.996	471.45	665.897	636.977	1608.53	1	0.999	1	1
25	460.708	490.985	636.842	621.705	1541.019	1	0.999	1	1
26	605.763	554.749	637.299	627.949	1599.979	1	1	1	1
27	551.885	406.93	640.209	622.756	1617.257	1	0.999	1	1
28	531.85	533.612	643.972	631.086	1653.975	1	0.999	1	1
29	612.013	485.107	643.548	624.255	1583.48	1	0.999	1	1
30	630.015	626.636	622.708	608.138	1480.381	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	694.88	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	17.62	0.00	60s/0.5mA
Cpu	37.20	37.20	37.20	26.82	37.20	26.82	30.37	9.75	
Cpl	37.08	37.08	37.08	26.64	37.08	26.64			
Cpk	37.08	37.08	37.08	26.64	37.08	26.64	30.37	9.75	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	685.941	0.039	Pass
2	1	1	1	1	1	1	701.005	0.041	Pass
3	1	1	1	1	1	1	690.423	0.04	Pass
4	1	1	1	1	1	1	678.752	0.041	Pass
5	1	1	1	1	1	1	735.207	0.04	Pass
6	1	1	1	0.999	1	1	694.779	0.041	Pass
7	1	1	1	1	1	1	736.612	0.04	Pass
8	1	1	1	1	1	0.999	718.579	0.04	Pass
9	1	1	1	1	1	1	670.558	0.041	Pass
10	1	1	0.999	1	1	1	715.841	0.04	Pass
11	1	1	1	1	0.999	1	699.215	0.041	Pass
12	1	1	1	1	1	1	733.529	0.041	Pass
13	1	1	1	1	1	1	699.393	0.041	Pass
14	0.999	1	1	1	1	1	694.685	0.04	Pass
15	1	1	1	0.999	1	1	680.514	0.041	Pass
16	1	1	1	1	1	1	677.325	0.042	Pass
17	1	1	1	1	1	0.999	698.299	0.041	Pass
18	1	0.999	1	1	1	1	678.614	0.04	Pass
19	1	1	1	1	1	1	684.595	0.04	Pass
20	1	1	1	1	1	1	695.07	0.041	Pass
21	1	1	1	1	1	1	706.557	0.041	Pass
22	1	1	1	1	1	1	672.786	0.041	Pass
23	1	1	1	1	1	1	679.823	0.04	Pass
24	1	1	1	1	1	1	677.238	0.04	Pass
25	1	1	1	1	1	1	678.191	0.042	Pass
26	1	1	1	1	1	1	698.554	0.04	Pass
27	1	1	1	1	1	1	693.607	0.041	Pass
28	1	1	1	1	1	1	688.787	0.041	Pass
29	1	1	1	1	1	1	690.83	0.041	Pass
30	1	1	1	1	1	1	691.178	0.04	Pass

Appendix 18

HM2116ANL Electrical Test Data After Board Flex

Parameter	OPSH	OPSH	DCR	DCR	OCL	TRP	TRP	TRP	TRP
Pin	1-3,5,7	3-5,7	1-4	5-8	1-4	1-4	8-5	1-2	3-4
Unit	M ohms	M ohms	m ohms	m ohms	uH	*1	*1	*1	*1
HighLimit			1340	1340		1.02	1.02	1.02	1.02
LowLimit	10	10			930	0.98	0.98	0.98	0.98
Average =	336.88	341.95	665.78	666.95	1,569.30	1.00	1.00	1.00	1.00
STD DEV =	50.06	44.89	7.88	7.26	53.00	0.00	0.00	0.00	0.00
Cpu			28.53	30.92		37.20	38.93	37.20	37.20
Cpl	2.18	2.47			4.02	37.08	35.34	37.08	37.08
Cpk	2.18	2.47	28.53	30.92	4.02	37.08	35.34	37.08	37.08
DATA	-	-	-	-	-	-	-	-	-
1	305.818	293.668	666.909	662.062	1568.152	1	0.999	1	1
2	364.92	356.119	675.048	672.382	1652.371	1	0.999	1	1
3	322.155	319.417	666.244	665.102	1565.546	1	0.999	1	1
4	281.994	333.75	661.999	663.884	1655.4	1	0.999	1	1
5	334.374	400.509	666.752	671.197	1536.899	1	0.999	1	1
6	410.702	360.116	643.982	650.705	1521.748	1	0.999	1	1
7	305.587	352.818	661.606	663.563	1655.886	1	0.999	1	1
8	393.933	377.813	655.339	654.939	1585.099	1	0.999	1	1
9	424.424	424.541	666.369	672.59	1458.687	1	0.999	1	1
10	339.864	334.676	668.546	669.222	1582.376	0.999	0.999	1	1
11	311.115	337.845	665.014	659.033	1610.85	1	0.999	1	1
12	396.896	375.886	673.074	668.506	1645.813	1	0.999	1	1
13	267.417	294.793	687.344	678.642	1546.859	1	0.999	1	1
14	325.058	352.574	657.746	657.805	1465.234	1	0.999	1	1
15	277.383	303.175	667.584	670.918	1544.962	1	0.999	1	0.999
16	340.082	326.139	673.155	663.279	1555.814	1	0.999	1	1
17	342.713	353.428	654.232	669.98	1492.995	1	0.999	1	1
18	283.425	265.48	668.549	669.498	1524.854	1	0.999	1	1
19	214.803	263.159	669.031	660.858	1528.587	1	0.999	1	1
20	369.139	365.578	658.889	654.786	1597.678	1	0.999	1	1
21	285.282	299.29	666.65	669.48	1653.975	1	0.999	1	1
22	366.573	400.678	659.701	665.624	1586.987	1	1	1	1
23	308.25	307.096	665.957	677.658	1551.695	1	0.999	1	1
24	378.646	337.31	679.991	682.133	1569.425	1	0.999	1	1
25	338.808	400.031	668.574	664.347	1525.749	1	0.999	0.999	1
26	426.612	373.663	669.335	669.23	1546.875	1	0.999	1	1
27	318.327	340.723	665.901	678.502	1646.646	1	0.999	1	1
28	337.876	283.803	661.078	670.524	1581.527	1	0.999	1	1
29	416.585	440.396	661.004	668.339	1563.917	1	0.999	1	1
30	317.738	284.135	667.838	663.766	1556.255	1	0.999	1	1

Parameter	TRP	TRP	TRP	TRP	TRP	TRP	LL	Cp	Hipot
Pin	1-2	6-5	8-7	3-4	8-7	6-5	1-4	1,2,3-5,6,7	
Unit	*1	*1	*1	*1	*1	*1	nH	nF	
HighLimit	1.02	1.02	1.02	1.02	1.02	1.02	2300	0.06	
LowLimit	0.98	0.98	0.98	0.98	0.98	0.98			
Average =	1.00	1.00	1.00	1.00	1.00	1.00	678.78	0.04	3000VAC/
STD DEV =	0.00	0.00	0.00	0.00	0.00	0.00	27.62	0.00	60s/0.5mA
Cpu	26.82	26.82	37.20	37.20	26.82	37.20	19.57	8.43	
Cpl	26.64	26.64	37.08	37.08	26.64	37.08			
Cpk	26.64	26.64	37.08	37.08	26.64	37.08	19.57	8.43	
DATA	-	-	-	-	-	-	-	-	
1	1	1	1	1	1	1	696.486	0.04	Pass
2	1	1	1	1	1	1	689.121	0.041	Pass
3	1	1	1	1	1	1	651.231	0.041	Pass
4	1	1	1	1	1	1	671.994	0.04	Pass
5	1	1	1	1	1	1	685.309	0.041	Pass
6	1	1	1	1	1	1	705.799	0.04	Pass
7	1	1	1	1	1	1	707.697	0.04	Pass
8	1	1	1	1	1	1	695.425	0.04	Pass
9	1	1	1	1	1	1	733.663	0.039	Pass
10	1	1	1	1	1	1	740.122	0.04	Pass
11	1	1	1	1	1	1	714.27	0.041	Pass
12	1	1	1	0.999	1	1	659.75	0.041	Pass
13	1	1	1	1	1	1	678.122	0.042	Pass
14	1	1	1	1	0.999	1	653.748	0.041	Pass
15	1	0.999	1	1	1	1	663.498	0.041	Pass
16	0.999	1	1	1	1	1	677.828	0.041	Pass
17	1	1	1	1	1	0.999	663.017	0.041	Pass
18	1	1	1	1	1	1	651.824	0.042	Pass
19	1	1	1	1	1	1	637.514	0.042	Pass
20	1	1	1	1	1	1	699.776	0.04	Pass
21	1	1	0.999	1	1	1	652.037	0.041	Pass
22	1	0.999	1	1	0.999	1	657.462	0.041	Pass
23	0.999	1	1	1	1	1	657.78	0.042	Pass
24	1	1	1	1	1	1	665.32	0.041	Pass
25	1	1	1	1	1	1	667.131	0.041	Pass
26	1	1	1	1	1	1	656.105	0.041	Pass
27	1	1	1	1	1	1	655.694	0.041	Pass
28	1	1	1	1	1	1	741.357	0.039	Pass
29	1	1	1	1	1	1	656.324	0.041	Pass
30	1	1	1	1	1	1	678.065	0.041	Pass

Appendix 19

Flammability Report

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PROSPECTOR® CLICK TO CONTINUE
View additional material information including performance and processing data

Component - Plastics E150608

Guide Information

WAH HONG INDUSTRIAL CORP
11ST FL-6 235 CHUNG CHENG 4TH RD, KAOHSIUNG 801 TW

WH-9100(G1)(G2)
Diallyl Phthalate (DAP), molding compound, furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.37	V-0	2	0	130	130	130
	0.8	V-0	2	0	130	130	130
	3.0	V-0	0	0	130	130	130

Comparative Tracking Index (CTI): 0
Dielectric Strength (kV/mm): 30
High-Voltage Arc Tracking Rate (HVTR): 0
Dimensional Stability (%): -
Inclined Plane Tracking (IPT) kV: -
Volume Resistivity (10^x ohm-cm): 14
Surface Resistivity (10^x ohms/square):
High Volt, Low Current Arc Resis (D495): 4

(G1) - The GWIT rating observed from representative Thickness & Color including: Thickness at 0.8mm are 960C (NC); 960C (BK) .
(G2) - The GWFI rating observed from representative Thickness & Color including: Thickness at 0.8mm are 960C (NC); 960C (BK) .

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

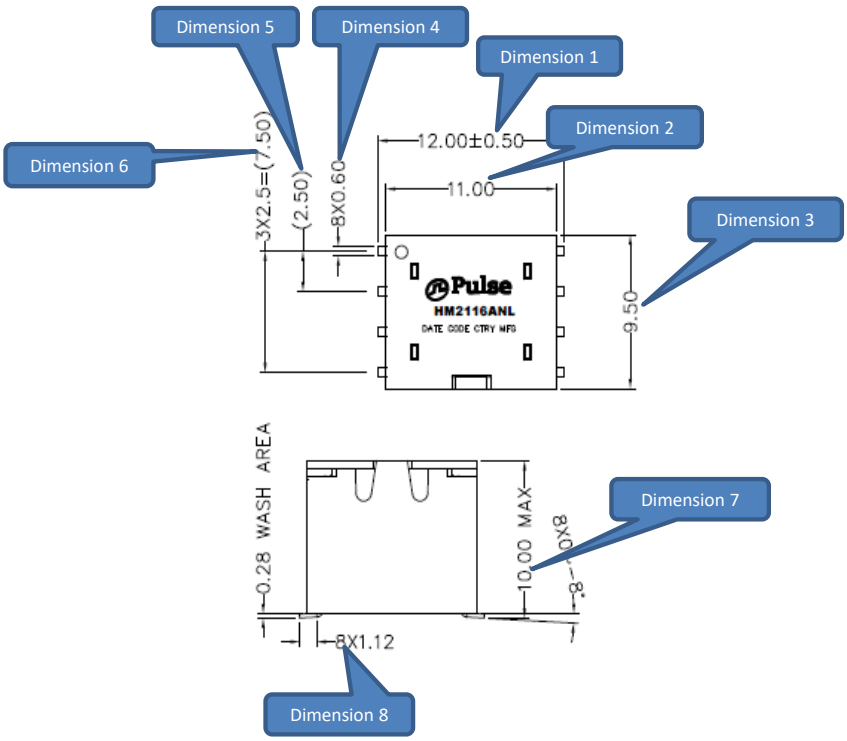
Report Date: 1998-08-18
Last Revised: 2019-05-15

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.37	V-0 (ALL)
			0.8	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	0.8	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	0.8	960
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	CTI600
		Material Group		I
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

Appendix 20

HM2116ANL Dimension Drawing



Appendix 21

HM2116ANL Dimension Test Data

Parameter	1	2	3	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	5	6	7	8
HighLimit	12.5	11.25	9.75	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	2.75	7.75	10	1.37
LowLimit	11.5	10.75	9.25	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	2.25	7.25		0.87
Average =	12.02	11.00	9.50	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	2.50	7.51	9.49	1.11
STD DEV =	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Cpu	16.30	5.37	7.60	9.56	11.72	9.86	10.95	9.85	8.78	9.80	10.33	7.15	7.73	10.63	5.37
Cpl	17.33	5.33	7.30	10.38	12.53	10.62	11.87	10.41	9.49	10.68	11.19	7.40	8.04		5.01
Cpk	16.30	5.33	7.30	9.56	11.72	9.86	10.95	9.85	8.78	9.80	10.33	7.15	7.73	10.63	5.01
DATA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	12.02	10.99	9.5	0.6	0.6	0.6	0.61	0.62	0.61	0.62	0.6	2.5	7.5	9.5	1.13
2	12.01	10.98	9.51	0.61	0.61	0.62	0.62	0.6	0.6	0.61	0.62	2.52	7.52	9.5	1.09
3	12.03	10.99	9.48	0.6	0.6	0.6	0.6	0.6	0.62	0.6	0.6	2.51	7.5	9.51	1.12
4	12.01	10.99	9.51	0.61	0.61	0.61	0.61	0.62	0.6	0.61	0.61	2.49	7.5	9.49	1.12
5	12	11.01	9.48	0.61	0.62	0.61	0.61	0.61	0.61	0.62	0.6	2.52	7.5	9.48	1.11
6	12.01	10.98	9.5	0.61	0.62	0.62	0.62	0.61	0.62	0.61	0.62	2.52	7.49	9.47	1.13
7	12.01	11.02	9.5	0.61	0.62	0.6	0.62	0.6	0.6	0.61	0.61	2.49	7.5	9.51	1.12
8	12.02	11.02	9.5	0.6	0.62	0.62	0.6	0.6	0.62	0.62	0.61	2.49	7.51	9.47	1.1
9	12.02	10.99	9.48	0.62	0.6	0.6	0.61	0.6	0.61	0.61	0.6	2.51	7.49	9.47	1.09
10	12.03	10.98	9.48	0.62	0.61	0.6	0.62	0.6	0.6	0.6	0.61	2.51	7.49	9.5	1.1
11	12	11.01	9.48	0.6	0.61	0.62	0.61	0.6	0.6	0.62	0.61	2.51	7.5	9.48	1.13
12	12.02	10.99	9.49	0.6	0.6	0.61	0.61	0.6	0.62	0.62	0.62	2.51	7.52	9.51	1.13
13	12.01	11.01	9.49	0.62	0.62	0.6	0.61	0.62	0.62	0.6	0.6	2.5	7.51	9.51	1.13
14	12.01	11.01	9.51	0.62	0.6	0.61	0.6	0.62	0.62	0.61	0.61	2.52	7.5	9.51	1.13
15	12	11.02	9.49	0.6	0.61	0.62	0.61	0.61	0.62	0.6	0.61	2.49	7.5	9.51	1.09
16	12.02	11	9.5	0.62	0.61	0.6	0.61	0.61	0.61	0.62	0.6	2.49	7.51	9.49	1.12
17	12.03	11.01	9.48	0.61	0.61	0.61	0.61	0.6	0.6	0.6	0.62	2.49	7.51	9.47	1.13
18	12	10.99	9.51	0.62	0.6	0.62	0.62	0.6	0.6	0.6	0.61	2.5	7.52	9.5	1.11
19	12.03	11.02	9.51	0.62	0.6	0.6	0.62	0.61	0.6	0.62	0.62	2.51	7.52	9.5	1.09
20	12.01	10.98	9.5	0.61	0.61	0.62	0.61	0.61	0.62	0.61	0.6	2.49	7.51	9.47	1.1
21	12.01	10.98	9.5	0.62	0.61	0.61	0.61	0.61	0.6	0.62	0.62	2.5	7.5	9.51	1.1
22	12.02	11.02	9.49	0.6	0.61	0.61	0.61	0.6	0.6	0.61	0.62	2.52	7.52	9.5	1.09
23	12.01	10.99	9.5	0.6	0.6	0.6	0.61	0.62	0.62	0.62	0.62	2.52	7.5	9.49	1.11
24	12.01	11	9.51	0.62	0.6	0.6	0.62	0.6	0.62	0.61	0.61	2.49	7.51	9.47	1.09
25	12.01	11.01	9.51	0.62	0.6	0.61	0.6	0.62	0.62	0.61	0.61	2.5	7.49	9.49	1.13
26	12.03	10.98	9.49	0.62	0.61	0.62	0.6	0.62	0.6	0.6	0.61	2.5	7.49	9.48	1.12
27	12.01	11.02	9.48	0.6	0.61	0.6	0.6	0.6	0.6	0.62	0.61	2.51	7.49	9.51	1.09
28	12.03	11.02	9.5	0.6	0.61	0.61	0.62	0.6	0.61	0.6	0.6	2.49	7.51	9.47	1.09
29	12.03	10.98	9.49	0.61	0.61	0.62	0.6	0.6	0.6	0.62	0.62	2.51	7.52	9.51	1.12
30	12.01	10.98	9.48	0.61	0.61	0.61	0.6	0.6	0.62	0.6	0.6	2.52	7.52	9.47	1.13