



Efficiency Through Technology

**RELIABILITY REPORT
2014**

Power Semiconductor Devices

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QUALITY AND RELIABILITY

IXYS is committed to setting a new standard for excellence in Power Semiconductors. Reflecting our dedication to industry leadership in the manufacture of medium to high power devices, reliability has assumed a primary position in raw material selection, design, and process technology.

Reliability utilizes information derived from applied research, engineering design, analysis of field applications and accelerated stress testing and integrates this knowledge to optimize device design and manufacturing processes.

All areas that impact reliability have received considerable attention in order to achieve our goal to be the # 1 Reliability Supplier of Power Semiconductor products. We believe IXYS products should be the most reliable components in your system.

We have committed significant resources to continuously improve and optimize our device design, wafer fab processes, assembly processes and test capabilities. As a result of this investment, IXYS has realized a dramatic improvement in reliability performance on all standardized tests throughout the product line.

Excellence in product reliability is "built-in", not tested-in. Moreover, it requires a total systems approach, involving all parties: from design to raw materials to manufacturing.

In addition to qualifying new products released to the market, life and environmental tests are periodically performed on standard products to maintain feedback on assembly and fabrication performance to assure product reliability. Further information on reliability of power devices is provided on www.ixys.com.

RELIABILITY TESTS

High Temperature Reverse Bias (HTRB)

Failure Modes: Gradual degradation of break-down characteristics due to presence of foreign materials and polar/ionic contaminants disturbing the electric field termination structure.

Sensitive Parameters: BV_{DSS} , BV_{CES} , V_{DRRM} , V_{RRM} , I_{DSS} , I_{CES} , I_{DRM} , I_{RRM} , V_{TH} .

High Temperature Gate Bias (HTGB)

Failure Modes: Rupture of the gate oxide due to localized thickness variations, structural anomalies, particulates in the oxide, channel inversion due to presence of mobile ions in the gate oxide.

Sensitive Parameters: I_{GSS} , I_{GES} , V_{TH} , I_{DSS} , I_{CES} .

Temperature Cycle (TC)

Failure modes: Thermal fatigue of silicon-metal and metal-metal interfaces due to heating and cooling, causing thermal and electrical performance degradation.

Sensitive Parameters: R_{thJC} , $R_{DS(on)}$, $V_{CE(sat)}$, V_T , V_F .

Humidity Test

Failure Modes: Degradation of electrical leakage characteristics due to moisture penetration into plastic packages.

Sensitive Parameters: BV_{DSS} , BV_{CES} , V_{DRRM} , V_{RRM} , I_{DSS} , I_{CES} , I_{DRM} , I_{RRM} , I_{GSS} , I_{GES} , V_{TH} .

Power Cycle (PC)

Failure Modes: Thermal fatigue of silicon-metal and metal-metal interfaces due to heating and cooling can cause thermal and electrical performance degradation.

Sensitive Parameters: R_{thJC} , $R_{DS(on)}$, $V_{CE(sat)}$, V_T , V_F , I_{DSS} , I_{CES} , I_{DRM} , I_{RRM} , BV_{DSS} , BV_{CES} , V_{DRRM} , V_{RRM} .

Steady State Temperature Humidity Bias Life Test (H³TRB)

Failure Modes: Degradation of electrical leakage characteristics due to moisture penetration into plastic packages.

Sensitive Parameters: BV_{DSS} , BV_{CES} , V_{DRRM} , V_{RRM} , I_{DSS} , I_{CES} , I_{DRM} , I_{RRM} , I_{GSS} , I_{GES} , V_{TH} .

High Accelerated Stress Test (HAST)

Failure Modes: Degradation of electrical leakage characteristics due to moisture penetration into plastic packages.

Sensitive Parameters: BV_{DSS} , BV_{CES} , V_{DRRM} , V_{RRM} , I_{DSS} , I_{CES} , I_{DRM} , I_{RRM} , I_{GSS} , I_{GES} , V_{TH} .

TERMS IN TABLES

SUMMARY TABLES 1 AND 2:

AF: acceleration factor

$$AF = \exp \left\{ Ea \cdot \left[\frac{T_2 - T_1}{T_2 \cdot T_1} \right] / k \right\} \quad (1)$$

Ea: activation energy; @ HTRB Ea = 1.0 eV

@ HTGB Ea = 0.4 eV

k: Boltzmann's constant $8.6 \cdot 10^{-5}$ eV/K

T₁: abs. application junction temperature (273+T_j) K

T₂: abs. test junction temperature (273+T_j) K

UCL: upper confidence limit (60%)

Total Failures @ 60% UCL:

$$N = r + dr \quad (2)$$

r: number of failed devices

dr: additional term, depending on both r and UCL

MTTF: Mean Time To Failures = 1/Failure Rate

FIT: 1 FIT = 1 failure / 10^9 hrs

TABLES 3:

ΔT: max T_j - min T_j during Test

DEFINITION OF FAILURE

Failure criteria are defined according to IEC 60747 standard series

Summary of Tables 1A - 1H: HTRB

	Table 1A MOSFET/IGBT discrete device	Table 1B MOSFET/IGBT Module	Table 1C Thyr./Diode Module	Table 1D Controller/ Rec. Bridge	Table 1E FRED	Table 1F Schottky Diode	Table 1G Thyr./Diode discrete device	Table 1H Breakover Diode
Failure Rate [FIT] 125°C, 60% UCL	131	8440	20354	11477	7536	13173	913	27512
Failure Rate [FIT] 90°C, 60% UCL	8	505	1219	687	451	789	55	1647
Total Lots Tested	243	10	17	16	24	17	31	5
Total Devices Tested	7539	108	170	180	380	340	627	100
Total Failures	1 60% UCL {eq. (2)}	0 0,92	0 0,92	0 0,92	0 0,92	0 0,92	0 0,92	0 0,92
Total Equivalent Device Hours @ 125°C {AF eq. (1)}	7621580	109000	45200	80160	122080	69840	1007150	33440
MTTF (Years)	125°C 60% UCL 90°C 60% UCL	870 226	14 94	6 166	10 253	15 145	9 2087	125 69

Summary of Table 2A - 2B: HTGB

	Table 2A MOSFET/IGBT discrete device	Table 2B MOSFET/IGBT Module
Failure Rate [FIT] 125°C, 60% UCL	128	17747
Failure Rate [FIT] 90°C, 60% UCL	41	5725
Total Lots Tested	235	16
Total Devices Tested	7437	160
Total Failures	0 60% UCL {eq. (2)}	0 0,92
Total Equivalent Device Hours @ 125°C {AF eq. (1)}	7165320	51840
MTTF (Years)	125°C 60% UCL 90°C 60% UCL	889 20

Summary of Tables 3A - 3G: Power Cycle

	Table 3A MOSFET/IGBT discrete device	Table 3B MOSFET/IGBT Module	Table 3C Thyr./Diode Module	Table 3D Controller/ Rec. Bridge	Table 3E FRED	Table 3F Schottky Diode	Table 3G Thyr./Diode discrete device
Total Lots Tested	256	3	9	6	19	12	17
Total Devices Tested	6504	40	90	60	350	240	280
Total Failures	0	0	0	0	1	0	0
Total Device Cycles	88302000	1000000	1800000	210000	790000	480000	610000

Summary of Tables 4A - 4H: Temperature Cycle

	Table 4A MOSFET/IGBT discrete device	Table 4B MOSFET/IGBT Module	Table 4C** Thyr./Diode Module	Table4D Controller/ Rec. Bridge	Table 4E FRED	Table 4F Schottky Diode	Table 4G Thyr./Diode discrete device	Table 4H Breakover Diode
Total Lots Tested	294	15	13	18	30	14	37	4
Total Devices Tested	8510	170	125	220	570	280	729	80
Total Failures	0	0	0	0	0	0	0	0
Total Device Cycles	7643800	10350	6250	12300	29100	15000	43030	4000

** Max. storage temperature specified = 125°C. For acceleration temperature cycling conditions Tmax = 150°C applied

Summary of Tables 5A - 5H: Humidity Test

	Table 5A MOSFET/IGBT discrete device	Table 5B MOSFET/IGBT Module	Table 5C Thyr./Diode Module	Table5D Controller/ Rec. Bridge	Table 5E FRED	Table 5F Schottky Diode	Table 5G Thyr./Diode discrete device	Table 5H Breakover Diode
Total Lots Tested	102	9	3	7	12	4	7	4
Total Devices Tested	3420	89	25	70	240	80	160	80
Total Failures	0	0	0	0	0	0	0	0
Total Device Hours	426688	56552	8360	35520	17760	5760	66720	3840

Summary of Tables 6A: H³TRB

	Table 6A MOSFET/IGBT discrete device	Table 6B MOSFET/IGBT Module	Table 6C Thyr./Diode Module	Table 6G Thyr./Diode discrete device
Total Lots Tested	4	2	1	2
Total Devices Tested	194	20	10	87
Total Failures	0	0	0	0
Total Device Hours	194000	20000	10000	87000

Summary of Tables 7A: HAST

	Table 7A MOSFET/IGBT discrete device
Total Lots Tested	217
Total Devices Tested	6735
Total Failures	0
Total Device Hours	646560

HTRB (Tables 1A .. 1H)

TABLE 1A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours	Remark
								[hrs]	
1	GWM160-0055P3 SL	4272	44	125	168	20	0	3360	
2	GWM160-0055X2 SL	3580	44	150	1000	77	0	77000	
3	IXA12IF1200TC	3543	960	125	1000	20	0	20000	
4	IXA20IF1200HB	3927	960	125	168	20	0	3360	
5	IXA20PG1200DHG LA	4228	960	125	1000	20	0	20000	
6	IXA20PG1200DHG LB	3581	960	125	1000	20	0	20000	
7	IXA20PT1200LB	4363	840	125	1000	20	0	20000	
8	IXA20PT1200LB	4363	960	125	1000	20	0	20000	
9	IXA27IF1200HJ	3376	960	125	1000	20	0	20000	
10	IXA4IF1200UC	3116	960	150	1000	20	0	20000	
11	IXBF55N300	TP1243	2400	90	1000	30	0	30000	
12	IXBH16N170A	TP1221	960	125	1000	30	0	30000	
13	IXBH40N160	3496	1280	125	168	20	1	3360	I_CES increased
14	IXBH40N160	3795	1260	125	168	20	0	3360	
15	IXBH9N160G	3075	1280	125	168	20	0	3360	
16	IXBT24N170	TP1202	960	125	1000	30	0	30000	
17	IXBX64N250	TP0952	960	85	1000	30	0	30000	
18	IXBX64N250	TP1130	960	125	1000	30	0	30000	
19	IXBX75N170	TP1031	960	125	1000	30	0	30000	
20	IXCH36N250	TP1139	960	90	1000	30	0	30000	
21	IXD50IF600HB	3868	520	150	1000	20	0	20000	
22	IXDH20N120	3356	960	125	168	20	0	3360	
23	IXDH30N120D1	4058	960	125	168	20	0	3360	
24	IXDH35N60BD1	3229	480	125	168	20	0	3360	
25	IXDN55N120D1	4404	960	125	168	10	0	1680	
26	IXER35N120D1	3607	960	125	168	20	0	3360	
27	IXFA4N100Q	TS1108	800	125	1000	30	0	30000	
28	IXFB100N50P	TP1110	400	125	1000	30	0	30000	
29	IXFB100N50Q3	SP1106	400	125	1000	30	0	30000	
30	IXFB110N60P3	SP1110	480	125	1000	30	0	30000	
31	IXFB132N50P3	SP1110	400	125	1000	30	0	30000	
32	IXFB210N30P3	SP1224	240	125	1000	30	0	30000	
33	IXFB38N100Q2	TP1115	800	125	1000	30	0	30000	
34	IXFB44N100Q3	SP1106	800	125	1000	30	0	30000	
35	IXFB62N80Q3	SP1118	640	125	1000	30	0	30000	
36	IXFB82N60Q3	SP1118	480	125	1000	30	0	30000	
37	IXFD64N50P	3195	400	125	1000	72	0	72000	
38	IXFH100N25P	SS1049	200	125	1000	30	0	30000	
39	IXFH120N25T	SS1115	200	125	1000	30	0	30000	
40	IXFH120N25T	SP1141	200	125	1000	77	0	30000	
41	IXFH12N100F	SS1104	800	125	1000	30	0	30000	
42	IXFH12N100F	SS1052	800	125	1000	30	0	30000	
43	IXFH12N100F	SS1052	800	125	1000	30	0	30000	
44	IXFH12N80P	SS1051	640	125	1000	30	0	30000	
45	IXFH150N17T2	SS1341	136	125	1000	30	0	30000	
46	IXFH150N20T	SP1147	160	125	1000	30	0	30000	
47	IXFH15N100P	TP1202	800	125	1000	30	0	30000	
48	IXFH15N100Q3	SP1121	800	125	1000	30	0	30000	
49	IXFH15N60	SS1104	480	125	1000	30	0	30000	
50	IXFH160N15T2	SS1319	120	125	1000	30	0	30000	
51	IXFH16N50P3	SP1207	400	125	1000	30	0	30000	
52	IXFH16N60P3	SS1142	480	125	1000	30	0	30000	

TABLE 1A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
53	IXFH18N100Q3	SP1136	800	125	1000	30	0	30000	
54	IXFH18N90P	TP1202	720	125	1000	77	0	30000	
55	IXFH20N50P3	SP1141	400	125	1000	30	0	30000	
56	IXFH20N80P	SS1121	640	125	1000	30	0	30000	
57	IXFH22N60P3	SS1108	480	125	1000	30	0	30000	
58	IXFH22N60P3	SP1318	400	125	1000	30	0	30000	
59	IXFH26N50	TS1331	500	125	1000	30	0	30000	
60	IXFH26N50P3	SS1206	400	125	1000	30	0	30000	
61	IXFH26N50P3	TP1325	400	125	1000	23	0	30000	
62	IXFH26N50Q	TS1343	500	125	1000	30	0	30000	
63	IXFH28N60P3	SS1105	480	125	1000	30	0	30000	
64	IXFH30N50Q3	SS1117	400	125	1000	30	0	30000	
65	IXFH40N30Q	SS1020	240	125	1000	30	0	30000	
66	IXFH42N60P3	SP1110	480	125	1000	30	0	30000	
67	IXFH44N50Q3	SP1133	400	125	1000	30	0	30000	
68	IXFH50N30Q3	SP1117	240	125	1000	30	0	30000	
69	IXFH50N60P3	SP1109	480	125	1000	30	0	30000	
70	IXFH50N60P3	SP1201	480	125	1000	30	0	30000	
71	IXFH60N50P3	SP1109	400	125	1000	30	0	30000	
72	IXFH60N50P3	TP1326	400	125	1000	30	0	30000	
73	IXFH70N20Q3	SS1117	160	125	1000	30	0	30000	
74	IXFH70N30Q3	SP1133	240	125	1000	30	0	30000	
75	IXFH7N100P	TP1143	800	125	1000	30	0	30000	
76	IXFH88N30P	TP1237	240	125	1000	30	0	30000	
77	IXFH94N30T	SS1115	240	125	1000	30	0	30000	
78	IXFH94N30T	SP1141	240	125	1000	77	0	30000	
79	IXFK120N25P	TP1239	200	125	1000	30	0	30000	
80	IXFK140N30P	TP1242	240	125	1000	30	0	30000	
81	IXFK230N20T	SP1106	160	125	1000	30	0	30000	
82	IXFK230N20T	SP1106	160	125	1000	30	0	30000	
83	IXFK26N120P	TP1102	960	125	1000	30	0	30000	
84	IXFK38N80Q2	TP1105	640	125	1000	30	0	30000	
85	IXFK420N10T	SP1046	80	125	1000	30	0	30000	
86	IXFK420N10T	SP1347	100	125	1000	22	0	30000	
87	IXFK44N80P	TP1219	640	125	1000	30	0	30000	
88	IXFK64N50P	TP1242	400	125	1000	30	0	30000	
89	IXFK80N60P3	SP1150	480	125	1000	30	0	30000	
90	IXFK90N50P2	TP1333	400	125	1000	77	0	30000	
91	IXFK90N50P2	TP1337	500	125	1000	77	0	30000	
92	IXFK94N50P2	SP1051	400	125	1000	30	0	30000	
93	IXFK94N50P2	SP1111	400	125	1000	77	0	30000	
94	IXFK94N50P2	SF1211	480	125	1000	30	0	30000	
95	IXFN100N25	SS1309	200	125	1000	30	0	30000	
96	IXFN150N15	SS1309	120	125	1000	30	0	30000	
97	IXFN170N30P	SP1045	240	125	1000	30	0	30000	
98	IXFN32N120P	TP1230	960	125	1000	30	0	30000	
99	IXFN38N100P	TP1230	800	125	1000	30	0	30000	
100	IXFN44N60	SP1103	480	125	1000	30	0	30000	
101	IXFN90N30	TS1309	240	125	1000	30	0	30000	
102	IXFP110N15T2	SS1332	120	125	1000	30	0	30000	
103	IXFP14N60P3	SS1144	480	125	1000	30	0	30000	
104	IXFP170N075T2	US1310	60	125	1000	30	0	30000	
105	IXFP180N10T2	SS1305	80	125	1000	30	0	30000	
106	IXFP22N60P3	TS1324	480	125	1000	30	0	30000	
107	IXFP230N075T2	US1309	60	125	1000	30	0	30000	
108	IXFP4N60P3	SS1143	480	125	1000	30	0	30000	
109	IXFP5N50P3	SS1206	400	125	1000	30	0	30000	
110	IXFP7N60P3	SS1143	480	125	1000	30	0	30000	
111	IXFQ94N30P3	SS1321	240	125	1000	30	0	30000	

TABLE 1A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
112	IXFR32N100Q3	SP1133	800	125	1000	30	0	30000	
113	IXFR66N50Q2	TP1122	400	125	1000	30	0	30000	
114	IXFT14N80P	SP0731	640	125	1000	30	0	30000	
115	IXFT20N100P	TP1147	800	125	1000	30	0	30000	
116	IXFX20N120P	TS1337	960	125	1000	30	0	30000	
117	IXFX24N100Q3	SP1137	800	125	1000	30	0	30000	
118	IXFX26N120P	TP1102	960	125	1000	30	0	30000	
119	IXFX32N100Q3	TP1229	800	125	1000	30	0	30000	
120	IXFX32N80Q3	SS1122	640	125	1000	30	0	30000	
121	IXFX32N90P	TS1122	720	125	1000	30	0	30000	
122	IXFX44N80Q3	SP1123	640	125	1000	30	0	30000	
123	IXFX44N80Q3	TP1226	640	125	1000	30	0	30000	
124	IXFX48N60Q3	SS1118	480	125	1000	30	0	30000	
125	IXFX64N50P	2924	200	150	1000	80	0	80000	
126	IXFX64N50Q3	SP1118	400	125	1000	30	0	30000	
127	IXFX64N60P3	SP1110	480	125	1000	30	0	30000	
128	IXFX64N60Q3	SS1118	480	125	1000	30	0	30000	
129	IXFX78N50P3	SP1109	400	125	1000	30	0	30000	
130	IXFX80N50Q3	SP1106	400	125	1000	30	0	30000	
131	IXFX80N60P3	SP1109	480	125	1000	30	0	30000	
132	IXFX98N50P3	SP1110	400	125	1000	30	0	30000	
133	IXGA20N250HV	TS1222	960	125	1000	10	0	30000	
134	IXGA24N170A	TS1215	960	125	1000	30	0	30000	
135	IXGH100N30C3	SS1250	240	125	1000	30	0	30000	
136	IXGH24N170A	TP0917	960	125	1000	30	0	30000	
137	IXGH2N250	TP1010	960	85	1000	30	0	30000	
138	IXGH32N60B	TP1205	480	125	1000	30	0	30000	
139	IXGH40N120B2D1	TP0940	960	125	1000	30	0	30000	
140	IXGH48N60C3D1	TP1148	480	125	1000	30	0	30000	
141	IXGH50N60C4	SP1133	480	125	1000	30	0	30000	
142	IXGK120N120B3	TP1143	960	125	1000	30	0	30000	
143	IXGK120N60B3	SP1146	480	125	1000	30	0	30000	
144	IXGK75N250	TP1110	960	85	1000	30	0	30000	
145	IXGK75N250	TP1047	960	90	1000	77	0	30000	
146	IXGT32N120A3	TP1121	960	125	1000	30	0	30000	
147	IXKH70N60C5	3639	480	125	168	20	0	3360	
148	IXKR40N60C	3077	480	125	168	20	0	3360	
149	IXSH45N120	TP1204	960	125	1000	30	0	30000	
150	IXSN55N120AU1	TP1017	960	125	1000	30	0	30000	
151	IXTA1N100	TS1047	800	125	1000	30	0	30000	
152	IXTA3N120	TS1115	960	125	1000	30	0	30000	
153	IXTA62N15P	SS1047	120	125	1000	30	0	30000	
154	IXTA80N10T	SS1150	80	125	1000	77	0	30000	
155	IXTF02N450	TP1329	3000	90	1000	22	0	30000	
156	IXTH12N140	TP1119	960	85	1000	30	0	30000	
157	IXTH12N150	TP1206	960	125	1000	30	0	30000	
158	IXTH140P10T	SP1130	-80	125	1000	30	0	30000	
159	IXTH16P60P	TS1316	-480	125	1000	30	0	30000	
160	IXTH1N200P3	TP1338	960	125	1000	30	0	30000	
161	IXTH1N80P	TP0905	640	125	1000	30	0	30000	
162	IXTH200N10T	SP1319	80	125	1000	30	0	30000	
163	IXTH20N65X	SS1344	520	125	1000	30	0	30000	
164	IXTH20P50P	TP1309	-400	125	1000	30	0	30000	
165	IXTH3N120	TS1136	960	125	1000	30	0	30000	
166	IXTH48P20P	SS1050	-160	125	1000	30	0	30000	
167	IXTH48P20P	SS1105	-160	125	1000	30	0	30000	
168	IXTH48P20P	SP1049	-160	125	1000	30	0	30000	
169	IXTH4N150	TS1151	960	125	1000	30	0	30000	
170	IXTH4N150	TP1149	960	125	1000	30	0	30000	
171	IXTH68P20T	SP1130	-160	125	1000	30	0	30000	

TABLE 1A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
172	IXTH6N100D2	TP1202	800	125	1000	30	0	30000	
173	IXTH6N150	TP1201	960	125	1000	30	0	30000	
174	IXTH76P10T	SS1052	-80	125	1000	30	0	30000	
175	IXTH96P085T	SS1302	-68	125	1000	30	0	30000	
176	IXTK550N055T2	SP1239	44	125	1000	30	0	30000	
177	IXTK550N055T2	UP1242	44	125	1000	30	0	30000	
178	IXTK550N055T2	UP1250	44	125	1000	30	0	30000	
179	IXTK550N055T2	UP1251	44	125	1000	30	0	30000	
180	IXTL2N450	TP1239	3000	90	1000	30	0	30000	
181	IXTM21N50	SP1023	400	125	1000	30	0	30000	
182	IXTP02N120P	TS1307	960	125	1000	30	0	30000	
183	IXTP100N04T2	SS1341	40	125	1000	30	0	30000	
184	IXTP102N15T	K834	120	125	1000	30	0	30000	
185	IXTP110N055T2	SS1332	55	125	1000	30	0	30000	
186	IXTP120P065T	SS1013	-52	125	1000	30	0	30000	
187	IXTP130N10T	SS1318	80	125	1000	30	0	30000	
188	IXTP1N80P	SS0908	640	125	1000	30	0	30000	
189	IXTP200N055T2	US1310	44	125	1000	30	0	30000	
190	IXTP20N65X	HS1332	520	125	1000	30	0	30000	
191	IXTP220N04T2	SS1051	32	125	1000	30	0	30000	
192	IXTP260N055T2	SS1338	55	125	1000	30	0	30000	
193	IXTP2N100P	TS1332	800	125	1000	30	0	30000	
194	IXTP32N20T	SS1051	160	125	1000	30	0	30000	
195	IXTP3N50P	SS1048	400	125	1000	30	0	30000	
196	IXTP450P2	SS1047	400	125	1000	30	0	30000	
197	IXTP460P2	TS1332	400	125	1000	30	0	30000	
198	IXTP76P10T	TS1332	-80	125	1000	30	0	30000	
199	IXTP80N10T	SS1150	80	125	1000	30	0	30000	
200	IXTP80N10T	SS1318	80	125	1000	30	0	30000	
201	IXTP80N12T2	SS1043	96	125	1000	30	0	30000	
202	IXTP8N50P	SS1050	400	125	1000	30	0	30000	
203	IXTQ110N10P	SS1045	80	125	1000	30	0	30000	
204	IXTQ170N10P	SS1041	80	125	1000	30	0	30000	
205	IXTQ200N10T	SS1125	80	125	1000	30	0	30000	
206	IXTQ200N10T	SS1125	80	125	1000	30	0	30000	
207	IXTQ22N60P	SK1040	480	125	1000	30	0	30000	
208	IXTQ22N60P	SS1104	480	125	1000	30	0	30000	
209	IXTQ36N30P	SS1029	240	125	1000	30	0	30000	
210	IXTQ460P2	SS1236	400	125	1000	30	0	30000	
211	IXTR170P10P	SP1106	-80	125	1000	30	0	30000	
212	IXTT140P10T	SP1142	-80	125	1000	77	0	30000	
213	IXTT60N20L2	TP1005	160	125	1000	30	0	30000	
214	IXTT6N150	TP1203	960	125	1000	30	0	30000	
215	IXTT80N20L	TP1046	160	125	1000	30	0	30000	
216	IXTV03N400S	TP1134	960	125	1000	30	0	30000	
217	IXTX120P20T	SP1133	-160	125	1000	30	0	30000	
218	IXTX200N10L2	TP1137	80	125	1000	30	0	30000	
219	IXTX20N140	TP1126	960	125	1000	30	0	30000	
220	IXTX210P10T	SP1130	-80	125	1000	30	0	30000	
221	IXXH100N60C3	TP1101	480	125	1000	30	0	30000	
222	IXXH50N60B3	SS1105	480	125	1000	30	0	30000	
223	IXXH50N60B3D1	TP1150	480	125	1000	30	0	30000	
224	IXXH50N60C3	SS1105	480	125	1000	30	0	30000	
225	IXXH60N65B4	SP1235	520	125	1000	30	0	30000	
226	IXXH60N65C4	SP1236	520	125	1000	30	0	30000	
227	IXXH80N65B4H1	SP1319	520	125	1000	30	0	30000	
228	IXYH24N90C3	TS1144	720	125	1000	30	0	30000	
229	IXYH30N120C3	TP1137	960	125	1000	30	0	30000	
230	IXYH40N120C3	TP1137	960	125	1000	30	0	30000	
231	IXYH40N90C3	TS1205	720	125	1000	30	0	30000	

TABLE 1A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
232	IXYH50N120C3	TP1137	960	125	1000	30	0	30000	
233	IXYH60N90C3	SS1205	720	125	1000	30	0	30000	
234	IXYH75N65C3	TS1341	650	125	1000	30	0	30000	
235	IXYH80N90C3	TP1205	720	125	1000	30	0	30000	
236	IXYH82N120C3	TP1115	960	125	1000	30	0	30000	
237	IXYN100N65C3H1	TS1346	650	125	1000	30	0	30000	
238	IXYP10N65C3	TS1319	520	125	1000	30	0	30000	
239	IXYP8N90C3	TS1144	720	125	1000	30	0	30000	
240	IXYT20N120C3D1HV	TS1247	960	125	1000	30	0	30000	
241	IXYX100N120C3	TP1137	960	125	1000	30	0	30000	

TABLE 1B: MOSFET/IGBT Module

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MID200-12A4	3326	960	125	168	20	0	3360	
2	MIXA100W1200TEH	3248	960	125	1000	10	0	10000	
3	MIXA40WB1200TED	4543	960	125	1000	10	0	10000	
4	MIXA50WB600TED	4090	520	150	1000	10	0	10000	
5	MIXA81WB1200TEH	4012	1120	125	1000	10	0	10000	
6	MIXD80PM650TMI	4249	520	125	1000	10	0	10000	
7	MUBW50-06A7	3128	1120	125	1000	8	0	8000	
8	VKM60-01P1	4029	80	125	168	10	0	1680	
9	VMM300-03FP	4201	240	125	168	10	0	1680	
10	VMM90-09F	3214	720	125	168	10	0	1680	

TABLE 1C: Thyristor/Diode Module

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MCC21-16	3584	1120	125	168	10	0	1680	
2	MCC26-16	3854	1120	125	168	10	0	1680	
3	MCC26-16io1B	4169	1120	125	168	10	0	1680	
4	MCC312	4064	1120	125	168	10	0	1680	
5	MCC312-16	3511	1120	125	168	10	0	1680	
6	MCC312-16io1	3099	1120	125	168	10	0	1680	
7	MCC44-16	3969	1120	125	168	10	0	1680	
8	MCC56-16io1	3127	1120	125	168	10	0	1680	
9	MCC56-16io1	3733	1120	125	168	10	0	1680	
10	MCC56-18	3129	1260	125	1000	10	0	10000	
11	MCC95-14io1B	4075	980	125	168	10	0	1680	
12	MCC95-16io1B	3276	1120	125	168	10	0	1680	
13	MCO150-16io1	3339	1120	125	168	10	0	1680	
14	MDD172	3465	1260	125	1000	10	0	10000	
15	MDD172-12	3331	1260	125	168	10	0	1680	
16	MDD312-16N1	3301	1120	125	168	10	0	1680	
17	MDD95-22	4395	1540	125	168	10	0	1680	

TABLE 1D: Controller/Rectifier Bridge									
#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MMO90-14io6	3604	980	125	168	10	0	1680	
2	VBO21-12NO7	3587	840	125	168	10	0	1680	
3	VUB145-16NOXT	4154	960	125	1000	10	0	10000	
4	VUB145-16NOXT	4154	1120	125	1000	10	0	10000	
5	VUC36-16go2	3320	1120	125	168	10	0	1680	
6	VUC36-16go2	3320	1120	125	168	10	0	1680	
7	VUI72NOXT	3955	1120	125	168	10	0	1680	
8	VUI72NOXT	3955	960	125	168	10	0	1680	
9	VUO155-16	3101	1120	125	168	10	0	1680	
10	VUO34-18NO1	4362	1260	125	168	20	0	3360	
11	VUO36-16NO8	3806	1120	125	168	10	0	1680	
12	VUO52	3118	1400	125	1000	20	0	20000	
13	VUO52-16	3887	1120	125	1000	10	0	10000	
14	VUO52-16	3887	1120	125	1000	10	0	10000	
15	VUO52-16NO1	3655	1120	125	168	10	0	1680	
16	VUO82-16NO7	3087	1120	125	168	10	0	1680	

TABLE 1E: FRED									
#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	DHG30IM600PC	3393	480	125	1000	20	0	20000	
2	DHG60I600HA	4513	480	125	1000	20	0	20000	
3	DPG30C200HB	3925	160	125	168	20	0	3360	
4	DPG80C300HB	3796	240	125	168	20	0	3360	
5	DSEC120-12AK	4438	960	125	1000	20	0	20000	
6	DSEC60-12A	4456	960	125	168	20	0	3360	
7	DSEI2x101-12A	3325	960	125	1000	10	0	10000	
8	DSEI2x121-02A	4063	160	125	168	10	0	1680	
9	DSEI2x31-06C	3738	480	125	168	10	0	1680	
10	DSEI2x31-06P	3461	480	125	168	10	0	1680	
11	DSEI2x61-12B	4146	960	125	168	10	0	1680	
12	DSEI2x61-12B	4317	480	125	168	10	0	1680	
13	DSEI30-10A	3069	800	125	168	20	0	3360	
14	DSEI60-06A	4037	480	125	168	20	0	3360	
15	DSEP15-06B	4328	480	125	168	20	0	3360	
16	DSEP15-12CR	4034	960	125	168	20	0	3360	
17	DSEP29-12A	3183	960	125	168	20	0	3360	
18	DSEP2x31-12A	3226	960	125	168	10	0	1680	
19	DSEP2x61-06A	3954	480	125	168	10	0	1680	
20	DSEP30-06BR	3715	480	125	168	20	0	3360	
21	DSEP60-06A	3595	480	125	168	20	0	3360	
22	DSEP75-06AR	3343	480	125	168	20	0	3360	
23	MEE250-12DA	3644	960	125	168	10	0	1680	
24	MEK95-06DA	3212	480	125	168	10	0	1680	

TABLE 1F: Schottky Diode

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	DSA20C100PN	3801	100	125	168	20	0	3360	
2	DSA20C150PB	4209	120	125	1000	20	0	20000	
3	DSA30C45PB	4295	45	125	168	20	0	3360	
4	DSA50C100QB	3451	100	125	168	20	0	3360	
5	DSA70C150HB	3350	150	125	168	20	0	3360	
6	DSA90C200HR	3794	200	125	168	20	0	3360	
7	DSB80C45HB	4036	36	100	1000	20	0	20000	
8	DSSK60-002A	4494	200	125	168	20	0	3360	
9	DSSK60-0045A	3608	45	125	168	20	0	3360	
10	DSSK60-015A	3181	150	125	168	20	0	3360	
11	DSSK80-0025B	3199	20	100	1000	20	0	20000	
12	DSSK80-0025B	3699	20	100	1000	20	0	20000	
13	DSSK80-003B	3072	24	100	1000	20	0	20000	
14	DSSK80-0045B	4101	36	100	1000	20	0	20000	
15	DSSK80-006B	4130	48	100	1000	20	0	20000	
16	DSSK80-006BR	3928	48	100	1000	20	0	20000	
17	DSSS35-008AR	3446	80	125	168	20	0	3360	

TABLE 1G: Thyristor/Diode single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	CLA50E1200HB	4140	840	125	168	20	0	3360	
2	CLB30I1200HB	4104	840	125	1000	20	0	20000	
3	CLF20E1200PB	4038	840	125	168	20	0	3360	
4	CMA50E1600TZ	4331	1120	125	1000	20	0	20000	
5	CS19-12ho1	3736	840	125	168	20	0	3360	
6	CS22-12io1M	3187	840	125	168	20	0	3360	
7	CS30-12io1	3344	840	125	168	20	0	3360	
8	CS35-14io4	3090	980	125	168	10	0	1680	
9	CS45-16io1	3180	1120	125	168	20	0	3360	
10	CS45-16io1R	4459	1120	125	168	20	0	3360	
11	CSM401B	3377	2000	60	350	10	0	3500	
12	CSM401B	3377	2000	80	650	10	0	6500	
13	CSM410LB	4152	1680	125	1000	20	0	20000	
14	DLA100B1200LB	4351	960	150	1000	77	0	77000	
15	DMA10I1600PA	3799	1120	150	168	20	0	3360	
16	DMA10I1600PA	4324	1120	150	168	20	0	3360	
17	DS2-08A	4015	560	150	168	10	0	1680	
18	DSA1-16D	4440	1120	150	1000	40	0	40000	
19	DSA17-18A	3856	1260	150	168	20	0	3360	
20	DSA9-18	3337	1260	150	168	10	0	1680	
21	DSA9-18F	4292	1260	150	168	10	0	1680	
22	DSAI35-16A	3708	1120	150	168	10	0	1680	
23	DSDI60-14A	3929	1120	125	168	20	0	3360	
24	DSI30-12A	3610	840	150	168	20	0	3360	
25	DSI45-16A	3443	1120	150	168	20	0	3360	
26	DSI45-16AR	4161	1120	150	168	20	0	3360	
27	DSP109-3300V	4305	2310	125	168	20	0	3360	
28	DSP109-3300V	4305	2310	150	168	20	0	3360	
29	DSP109-3300V	4305	2640	150	1000	20	0	20000	
30	DSP25-16AR	4320	1120	150	168	20	0	3360	
31	DSP45-16A	3068	1120	150	168	20	0	3360	

TABLE 1H: Breakover Diode

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	IXBOD1-06	3458	480	125	168	20	0	3360	
2	IXBOD1-08	3079	640	125	168	20	0	3360	
3	IXBOD1-08	4212	640	125	1000	20	0	20000	
4	IXBOD1-09	4041	720	125	168	20	0	3360	
5	IXBOD1-10	3721	800	125	168	20	0	3360	

HTGB (Tables 2A .. 2B)

TABLE 2A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	GWM160-0055X2 SL	3580	15	150	1000	77	0	77000	
2	IXA20PG1200DHG LB	3581	16	150	100	20	0	2000	
3	IXA20PT1200LB	4363	16	150	1000	20	0	20000	
4	IXA40PG1200DHGLA	3211	16	150	1000	20	0	20000	
5	IXBF55N300	TP1243	25	125	1000	30	0	30000	
6	IXBH16N170A	TP1221	20	125	1000	30	0	30000	
7	IXBT24N170	TP1202	20	125	1000	30	0	30000	
8	IXBX64N250	TP0952	16	85	1000	30	0	30000	
9	IXBX64N250	TP1130	16	125	1000	30	0	30000	
10	IXBX75N170	TP1031	16	125	1000	30	0	30000	
11	IXCH36N250	TP1139	20	125	1000	30	0	30000	
12	IXD50IF600HB	3868	16	150	1000	20	0	20000	
13	IXDN75N120	3952	16	150	168	20	0	3360	
14	IXER35N120D1	3802	16	150	168	20	0	3360	
15	IXFA4N100Q	TS1108	16	125	1000	30	0	30000	
16	IXFB100N50P	TP1110	24	125	1000	30	0	30000	
17	IXFB100N50Q3	SP1106	24	125	1000	30	0	30000	
18	IXFB110N60P3	SP1110	24	125	1000	30	0	30000	
19	IXFB132N50P3	SP1110	24	125	1000	30	0	30000	
20	IXFB210N30P3	SP1224	16	125	1000	30	0	30000	
21	IXFB38N100Q2	TP1115	16	125	1000	30	0	30000	
22	IXFB44N100Q3	SP1106	24	125	1000	30	0	30000	
23	IXFB62N80Q3	SP1118	24	125	1000	30	0	30000	
24	IXFB82N60Q3	SP1118	24	125	1000	30	0	30000	
25	IXFD64N50P	3195	30	150	1000	72	0	72000	
26	IXFH100N25P	SS1049	16	125	1000	30	0	30000	
27	IXFH120N25T	SS1115	16	125	1000	30	0	30000	
28	IXFH120N25T	SP1141	16	125	1000	77	0	30000	
29	IXFH12N100F	SS1104	16	125	1000	30	0	30000	
30	IXFH12N100F	SS1052	16	125	1000	30	0	30000	
31	IXFH12N100F	SS1052	16	125	1000	30	0	30000	
32	IXFH12N80P	SS1051	16	125	1000	30	0	30000	
33	IXFH12N90	TS1344	20	125	1000	30	0	30000	
34	IXFH150N17T2	SS1341	20	125	1000	30	0	30000	
35	IXFH150N20T	SP1147	16	125	1000	30	0	30000	
36	IXFH15N100P	TP1202	24	125	1000	30	0	30000	
37	IXFH15N100Q3	SP1121	24	125	1000	30	0	30000	
38	IXFH15N60	SS1104	16	125	1000	30	0	30000	
39	IXFH160N15T2	SS1319	16	125	1000	30	0	30000	
40	IXFH16N50P3	SP1207	24	125	1000	30	0	30000	
41	IXFH16N60P3	SS1142	24	125	1000	30	0	30000	
42	IXFH18N100Q3	SP1136	24	125	1000	30	0	30000	
43	IXFH18N90P	TP1202	16	125	1000	77	0	30000	
44	IXFH20N50P3	SP1141	16	125	1000	30	0	30000	
45	IXFH20N80P	SS1121	24	125	1000	30	0	30000	
46	IXFH22N60P3	SS1108	24	125	1000	30	0	30000	
47	IXFH22N60P3	SP1318	30	125	1000	30	0	30000	
48	IXFH26N50	TS1331	20	125	1000	30	0	30000	
49	IXFH26N50P3	SS1206	24	125	1000	30	0	30000	
50	IXFH26N50P3	TP1325	30	125	1000	23	0	30000	
51	IXFH26N50Q	TS1343	20	125	1000	30	0	30000	
52	IXFH28N60P3	SS1105	24	125	1000	30	0	30000	
53	IXFH30N50Q3	SS1117	16	125	1000	30	0	30000	
54	IXFH40N30Q	SS1020	16	125	1000	30	0	30000	
55	IXFH42N60P3	SP1110	24	125	1000	30	0	30000	
56	IXFH44N50Q3	SP1133	24	125	1000	30	0	30000	
57	IXFH50N30Q3	SP1117	16	125	1000	30	0	30000	
58	IXFH50N60P3	SP1109	24	125	1000	30	0	30000	
59	IXFH50N60P3	SP1201	16	125	1000	30	0	30000	
60	IXFH60N50P3	SP1109	24	125	1000	30	0	30000	

TABLE 2A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
61	IXFH60N50P3	TP1326	30	125	1000	30	0	30000	
62	IXFH70N20Q3	SS1117	16	125	1000	30	0	30000	
63	IXFH70N30Q3	SP1133	24	125	1000	30	0	30000	
64	IXFH7N100P	TP1143	24	125	1000	30	0	30000	
65	IXFH88N30P	TP1237	16	125	1000	30	0	30000	
66	IXFH94N30T	SS1115	16	125	1000	30	0	30000	
67	IXFH94N30T	SP1141	16	125	1000	77	0	30000	
68	IXFK120N25P	TP1239	16	125	1000	30	0	30000	
69	IXFK140N30P	TP1242	16	125	1000	30	0	30000	
70	IXFK230N20T	SP1106	16	125	1000	30	0	30000	
71	IXFK230N20T	SP1106	16	125	1000	30	0	30000	
72	IXFK26N120P	TP1102	16	125	1000	30	0	30000	
73	IXFK38N80Q2	TP1105	24	125	1000	30	0	30000	
74	IXFK420N10T	SP1046	16	125	1000	30	0	30000	
75	IXFK420N10T	SP1347	20	125	1000	22	0	30000	
76	IXFK44N80P	TP1219	24	125	1000	30	0	30000	
77	IXFK64N50P	TP1242	30	125	1000	30	0	30000	
78	IXFK80N60P3	SP1150	24	125	1000	30	0	30000	
79	IXFK90N50P2	TP1333	30	125	1000	77	0	30000	
80	IXFK90N50P2	TP1337	20	125	1000	77	0	30000	
81	IXFK94N50P2	SP1051	16	125	1000	30	0	30000	
82	IXFK94N50P2	SP1111	30	125	1000	77	0	30000	
83	IXFK94N50P2	SF1211	24	125	1000	30	0	30000	
84	IXFN100N25	SS1309	16	125	1000	30	0	30000	
85	IXFN150N15	SS1309	16	125	1000	30	0	30000	
86	IXFN170N30P	SP1045	16	125	1000	30	0	30000	
87	IXFN32N120P	TP1230	24	125	1000	30	0	30000	
88	IXFN38N100P	TP1230	24	125	1000	30	0	30000	
89	IXFN44N60	SP1103	16	125	1000	30	0	30000	
90	IXFN90N30	TS1309	16	125	1000	30	0	30000	
91	IXFP110N15T2	SS1332	20	125	1000	30	0	30000	
92	IXFP14N60P3	SS1144	24	125	1000	30	0	30000	
93	IXFP170N075T2	US1310	16	125	1000	30	0	30000	
94	IXFP180N10T2	SS1305	16	125	1000	30	0	30000	
95	IXFP22N60P3	TS1324	16	125	1000	30	0	30000	
96	IXFP230N075T2	US1309	16	125	1000	30	0	30000	
97	IXFP4N60P3	SS1143	24	125	1000	30	0	30000	
98	IXFP5N50P3	SS1206	24	125	1000	30	0	30000	
99	IXFP7N60P3	SS1143	24	125	1000	30	0	30000	
100	IXFQ94N30P3	SS1321	20	125	1000	30	0	30000	
101	IXFR32N100Q3	SP1133	16	125	1000	30	0	30000	
102	IXFR66N50Q2	TP1122	24	125	1000	30	0	30000	
103	IXFT14N80P	SP0731	16	125	1000	30	0	30000	
104	IXFT20N100P	TP1147	16	125	1000	30	0	30000	
105	IXFX20N120P	TS1337	30	125	1000	30	0	30000	
106	IXFX24N100Q3	SP1137	24	125	1000	30	0	30000	
107	IXFX26N120P	TP1102	16	125	1000	30	0	30000	
108	IXFX32N100Q3	TP1229	24	125	1000	30	0	30000	
109	IXFX32N80Q3	SS1122	24	125	1000	30	0	30000	
110	IXFX32N90P	TS1122	24	125	1000	30	0	30000	
111	IXFX44N80Q3	SP1123	24	125	1000	30	0	30000	
112	IXFX44N80Q3	TP1226	30	125	1000	30	0	30000	
113	IXFX48N60Q3	SS1118	24	125	1000	30	0	30000	
114	IXFX64N50P	2924	20	150	1000	80	0	80000	
115	IXFX64N50Q3	SP1118	24	125	1000	30	0	30000	
116	IXFX64N60P3	SP1110	24	125	1000	30	0	30000	
117	IXFX64N60P3	TS1337	20	125	1000	30	0	30000	
118	IXFX64N60Q3	SS1118	24	125	1000	30	0	30000	
119	IXFX78N50P3	SP1109	24	125	1000	30	0	30000	
120	IXFX78N50P3	TS1337	20	125	1000	30	0	30000	
121	IXFX80N50Q3	SP1106	24	125	1000	30	0	30000	
122	IXFX80N60P3	SP1109	24	125	1000	30	0	30000	

TABLE 2A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
123	IXFX98N50P3	SP1110	24	125	1000	30	0	30000	
124	IXGA20N250HV	TS1222	16	125	1000	10	0	30000	
125	IXGH100N30C3	SS1250	16	125	1000	30	0	30000	
126	IXGH24N170A	TP0917	16	125	1000	30	0	30000	
127	IXGH2N250	TP1010	16	125	1000	30	0	30000	
128	IXGH32N60B	TP1205	16	125	1000	30	0	30000	
129	IXGH40N120B2D1	TP0940	16	125	1000	30	0	30000	
130	IXGH48N60C3D1	TP1148	16	125	1000	30	0	30000	
131	IXGH50N60C4	SS1052	16	125	1000	30	0	30000	
132	IXGH50N60C4	SP1133	16	125	1000	30	0	30000	
133	IXGK120N120B3	TP1143	16	125	1000	30	0	30000	
134	IXGK120N60B3	SP1146	16	125	1000	30	0	30000	
135	IXGK75N250	TP1110	16	125	1000	30	0	30000	
136	IXGK75N250	TP1047	16	85	1000	77	0	30000	
137	IXGT32N120A3	TP1121	16	125	1000	30	0	30000	
138	IXKH35N60C5	4159	16	150	168	20	0	3360	
139	IXKH70N60C5	3359	16	150	168	20	0	3360	
140	IXKN40N60C	4453	16	150	168	20	0	3360	
141	IXKN75N60C	3094	16	150	168	20	0	3360	
142	IXKR40N60C	3360	16	150	168	20	0	3360	
143	IXKR40N60C	4031	16	150	168	20	0	3360	
144	IXSH45N120	TP1204	16	125	1000	30	0	30000	
145	IXSN55N120AU1	TP1017	16	125	1000	30	0	30000	
146	IXTA1N100	TS1047	16	125	1000	30	0	30000	
147	IXTA3N120	TS1115	16	125	1000	30	0	30000	
148	IXTA62N15P	SS1047	16	125	1000	30	0	30000	
149	IXTA80N10T	SS1150	20	125	1000	77	0	30000	
150	IXTH12N140	TP1119	16	125	1000	30	0	30000	
151	IXTH12N150	TP1206	24	125	1000	30	0	30000	
152	IXTH140P10T	SP1130	-12	125	1000	30	0	30000	
153	IXTH16P60P	TS1316	16	125	1000	30	0	30000	
154	IXTH1N200P3	TP1338	20	125	1000	30	0	30000	
155	IXTH1N80P	TP0905	16	125	1000	30	0	30000	
156	IXTH200N10T	SP1319	30	125	1000	30	0	30000	
157	IXTH20N65X	SS1344	30	125	1000	30	0	30000	
158	IXTH20P50P	TP1309	16	125	1000	30	0	30000	
159	IXTH3N120	TS1136	20	125	1000	30	0	30000	
160	IXTH48P20P	SS1050	-16	125	1000	30	0	30000	
161	IXTH48P20P	SS1105	-16	125	1000	30	0	30000	
162	IXTH48P20P	SP1049	-16	125	1000	30	0	30000	
163	IXTH4N150	TS1151	24	125	1000	30	0	30000	
164	IXTH4N150	TP1149	24	125	1000	30	0	30000	
165	IXTH68P20T	SP1130	-12	125	1000	30	0	30000	
166	IXTH6N100D2	TP1202	16	125	1000	30	0	30000	
167	IXTH6N150	TP1201	16	125	1000	30	0	30000	
168	IXTH76P10T	SS1052	-16	125	1000	30	0	30000	
169	IXTH96P085T	SS1302	16	125	1000	30	0	30000	
170	IXTK550N055T2	SP1239	16	125	1000	30	0	30000	
171	IXTK550N055T2	UP1250	16	125	1000	30	0	30000	
172	IXTK550N055T2	UP1251	16	125	1000	30	0	30000	
173	IXTL2N450	TP1239	16	125	1000	30	0	30000	
174	IXTM21N50	SP1023	16	125	1000	30	0	30000	
175	IXTP02N120P	TS1307	20	125	1000	30	0	30000	
176	IXTP100N04T2	SS1341	20	125	1000	30	0	30000	
177	IXTP102N15T	K834	16	125	1000	30	0	30000	
178	IXTP110N055T2	SS1332	20	125	1000	30	0	30000	
179	IXTP120P065T	SS1013	-16	125	1000	30	0	30000	
180	IXTP130N10T	SS1318	16	125	1000	30	0	30000	
181	IXTP1N80P	SS0908	16	125	1000	30	0	30000	
182	IXTP200N055T2	US1310	16	125	1000	30	0	30000	
183	IXTP20N65X	HS1332	20	125	1000	30	0	30000	

TABLE 2A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
184	IOTP220N04T2	SS1051	16	125	1000	30	0	30000	
185	IOTP260N055T2	SS1338	20	125	1000	30	0	30000	
186	IOTP2N100P	TS1332	20	125	1000	30	0	30000	
187	IOTP32N20T	SS1051	16	125	1000	30	0	30000	
188	IOTP3N50P	SS1048	16	125	1000	30	0	30000	
189	IOTP450P2	SS1047	16	125	1000	30	0	30000	
190	IOTP460P2	TS1332	30	125	1000	30	0	30000	
191	IOTP76P10T	TS1332	15	125	1000	30	0	30000	
192	IOTP80N10T	SS1150	16	125	1000	30	0	30000	
193	IOTP80N10T	SS1318	16	125	1000	30	0	30000	
194	IOTP80N12T2	SS1043	16	125	1000	30	0	30000	
195	IOTP8N50P	SS1050	16	125	1000	30	0	30000	
196	IXTQ110N10P	SS1045	16	125	1000	30	0	30000	
197	IXTQ170N10P	SS1041	16	125	1000	30	0	30000	
198	IXTQ200N10T	SS1125	24	125	1000	30	0	30000	
199	IXTQ200N10T	SS1125	24	125	1000	30	0	30000	
200	IXTQ22N60P	SK1040	16	125	1000	30	0	30000	
201	IXTQ22N60P	ss1104	16	125	1000	30	0	30000	
202	IXTQ36N30P	SS1029	16	125	1000	30	0	30000	
203	IXTQ460P2	SS1236	24	125	1000	30	0	30000	
204	IXTR170P10P	SP1106	-16	125	1000	30	0	30000	
205	IXTT140P10T	SP1142	-12	125	1000	77	0	30000	
206	IXTT16N20D2	TP1019	16	125	1000	30	0	30000	
207	IXTT60N20L2	TP1005	16	125	1000	30	0	30000	
208	IXTT6N150	TP1203	20	125	1000	30	0	30000	
209	IXTT80N20L	TP1046	16	125	1000	30	0	30000	
210	IXTV03N400S	TP1134	16	125	1000	30	0	30000	
211	IXTX120P20T	SP1133	-12	125	1000	30	0	30000	
212	IXTX200N10L2	TP1137	16	125	1000	30	0	30000	
213	IXTX20N140	TP1126	24	125	1000	30	0	30000	
214	IXTX210P10T	SP1130	-12	125	1000	30	0	30000	
215	IXXH100N60C3	TP1101	16	125	1000	30	0	30000	
216	IXXH50N60B3	SS1105	16	125	1000	30	0	30000	
217	IXXH50N60B3D1	TP1150	20	125	1000	30	0	30000	
218	IXXH50N60C3	SS1105	16	125	1000	30	0	30000	
219	IXXH60N65B4	SP1235	16	125	1000	30	0	30000	
220	IXXH60N65C4	SP1236	16	125	1000	30	0	30000	
221	IXXH80N65B4H1	SP1319	16	125	1000	30	0	30000	
222	IXYH24N90C3	TS1144	16	125	1000	30	0	30000	
223	IXYH30N120C3	TP1137	16	125	1000	30	0	30000	
224	IXYH40N120C3	TP1137	16	125	1000	30	0	30000	
225	IXYH40N90C3	TS1205	16	125	1000	30	0	30000	
226	IXYH50N120C3	TP1137	16	125	1000	30	0	30000	
227	IXYH60N90C3	SS1205	16	125	1000	30	0	30000	
228	IXYH75N65C3	TS1341	20	125	1000	30	0	30000	
229	IXYH80N90C3	TP1205	16	125	1000	30	0	30000	
230	IXYH82N120C3	TP1115	16	125	1000	30	0	30000	
231	IXYN100N65C3H1	TS1346	20	125	1000	30	0	30000	
232	IXYP8N90C3	TS1144	16	125	1000	30	0	30000	
233	IXYT20N120C3D1HV	TS1247	16	125	1000	30	0	30000	
234	IXYX100N120C3	TP1137	16	125	1000	30	0	30000	
235	MKE38P600LB	4179	16	150	168	10	0	1680	

TABLE 2B: MOSFET/IGBT Module									
#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MDI75-12A3	3936	16	125	168	10	0	1680	
2	MID200-12A4	3328	16	125	168	10	0	1680	
3	MIXA20W1200MC	3089	16	125	168	10	0	1680	
4	MIXA30WB1200TED	3945	16	125	168	10	0	1680	
5	MIXA60HU1200VA	3920	16	125	1000	10	0	10000	
6	MIXA81WB1200TEH	4012	16	125	1000	10	0	10000	
7	MUBW35-06A6K	3826	16	125	168	10	0	1680	
8	MWI100-12E8	3677	16	125	168	10	0	1680	
9	MWI35-12A7	4019	16	125	168	10	0	1680	
10	VKM60-01P1	3588	16	125	168	10	0	1680	
11	VMM90-09F	3217	16	125	168	10	0	1680	
12	VUB145-16NOXT	3281	16	125	168	10	0	1680	
13	VUB145-16NOXT	4154	16	125	1000	10	0	10000	
14	VUB160-16NO2	4018	16	125	168	10	0	1680	
15	VUM33-06PH	3302	16	125	168	10	0	1680	
16	VVZB170-16IOXT	3282	16	125	168	10	0	1680	

POWER CYCLE (Tables 3A .. 3G)

TABLE 3A: MOSFET/IGBT single device									
#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	GWM160-0055X2 SL	3580	125	100	6000	77	0	462000	
2	IXA121F1200TC	3543	125	80	4000	20	0	80000	
3	IXA20PG1200DHG LA	4228	125	80	80000	20	0	1600000	
4	IXA20PG1200DHG LB	3581	125	80	80000	20	0	1600000	
5	IXA20PG1200DHGLA	3211	125	80	8000	10	0	80000	
6	IXBF55N300	TP1243		100	15000	24	0	360000	
7	IXBH16N170A	TP1221		100	15000	24	0	360000	
8	IXBH40N160	3243	125	80	2000	20	0	40000	
9	IXBH5N160G	4139	125	80	2000	20	0	40000	
10	IXBH9N160G	3357	125	80	2000	20	0	40000	
11	IXBT24N170	TP1202		100	15000	24	0	360000	
12	IXBX64N250	TP0952		100	10000	24	0	240000	
13	IXBX64N250	TP1130		100	10000	24	0	240000	
14	IXBX75N170	TP1031		100	10000	24	0	240000	
15	IXD50IF600HB	3868	125	80	4000	20	0	80000	
16	IXDH20N120D1	3591	125	80	2000	20	0	40000	
17	IXFA4N100Q	TS1108		100	10000	24	0	240000	
18	IXFB100N50P	TP1110		100	15000	24	0	360000	
19	IXFB100N50Q3	SP1106		100	15000	24	0	360000	
20	IXFB110N60P3	SP1110		100	10000	24	0	240000	
21	IXFB120N50P2	SP1015		100	15000	24	0	360000	
22	IXFB132N50P3	SP1110		100	15000	24	0	360000	
23	IXFB170N30P	SP0842		100	10000	24	0	240000	
24	IXFB210N30P3	SP1224		100	15000	24	0	360000	
25	IXFB38N100Q2	TP1115		100	15000	24	0	360000	
26	IXFB44N100P	TP0930		100	15000	24	0	360000	
27	IXFB44N100Q3	SP1106		100	10000	24	0	240000	
28	IXFB60N80PK	TS1349		100	15000	24	0	360000	
29	IXFB62N80Q3	SP1118		100	15000	24	0	360000	
30	IXFB82N60P	SP0851		100	15000	24	0	360000	
31	IXFB82N60Q3	SP1118		100	15000	24	0	360000	
32	IXFH100N25P	SS1049		100	15000	24	0	360000	
33	IXFH120N25T	SS1115		100	10000	24	0	240000	
34	IXFH120N25T	SP1141		100	10000	77	0	770000	
35	IXFH12N100F	SS1052		100	10000	24	0	240000	
36	IXFH12N90	SS0911		100	15000	24	0	360000	
37	IXFH150N17T2	SS1341		100	15000	24	0	360000	
38	IXFH150N20T	SP1147		100	15000	24	0	360000	
39	IXFH15N100P	TP1202		100	15000	24	0	360000	
40	IXFH15N100Q3	SP1121		100	15000	24	0	360000	
41	IXFH160N15T2	SS1319		100	15000	24	0	360000	
42	IXFH16N50P3	SP1207		100	15000	24	0	360000	
43	IXFH16N60P3	SS1142		100	15000	24	0	360000	
44	IXFH18N100Q3	SP11136		100	15000	24	0	360000	
45	IXFH18N90P	TP1202		100	15000	77	0	1155000	
46	IXFH20N50P3	SP1141		100	15000	24	0	360000	

TABLE 3A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
47	IXFH20N80P	SS1121		100	10000	24	0	240000	
48	IXFH22N60P3	SS1108		100	15000	24	0	360000	
49	IXFH22N60P3	SP1318		100	15000	24	0	360000	
50	IXFH26N50P	K0843		100	15000	24	0	360000	
51	IXFH26N50P3	SS1206		100	15000	24	0	360000	
52	IXFH26N50P3	TP1325		100	15000	23	0	345000	
53	IXFH28N60P3	SS1115		100	10000	24	0	240000	
54	IXFH30N50P	SA0915		100	15000	24	0	360000	
55	IXFH30N50Q3	SS1117		100	15000	24	0	360000	
56	IXFH40N30Q	SS1020		100	10000	24	0	240000	
57	IXFH40N30Q	TP0916		100	10000	24	0	240000	
58	IXFH42N60P3	SP1110		100	10000	24	0	240000	
59	IXFH44N50P	SA0915		100	15000	24	0	360000	
60	IXFH44N50Q3	SP1133		100	15000	24	0	360000	
61	IXFH50N30Q3	SP1117		100	10000	24	0	240000	
62	IXFH50N60P3	SP1109		100	10000	24	0	240000	
63	IXFH50N60P3	SP1201		100	15000	24	0	360000	
64	IXFH52N50P2	SP1010		100	10000	24	0	240000	
65	IXFH60N50P3	SP1109		100	15000	24	0	360000	
66	IXFH60N50P3	TP1326		100	15000	24	0	360000	
67	IXFH6N120P	TP0937		100	15000	24	0	360000	
68	IXFH70N15	SP0850		100	15000	24	0	360000	
69	IXFH70N20Q3	SS1117		100	15000	24	0	360000	
70	IXFH70N30Q3	SP1133		100	15000	24	0	360000	
71	IXFH74N20P	SS1039		100	15000	24	0	360000	
72	IXFH7N100P	TP1143		100	15000	24	0	360000	
73	IXFH88N30P	TP1237		100	15000	24	0	360000	
74	IXFH94N30T	SS1115		100	10000	24	0	240000	
75	IXFH94N30T	SP1141		100	10000	77	0	770000	
76	IXFK120N25P	TP1239		100	15000	24	0	360000	
77	IXFK140N30P	TP1242		100	15000	24	0	360000	
78	IXFK160N30T	SP1120		100	15000	24	0	360000	
79	IXFK230N20T	SP1106		100	10000	24	0	240000	
80	IXFK230N20T	SP1116		100	15000	24	0	360000	
81	IXFK26N120P	TP1102		100	10000	24	0	240000	
82	IXFK38N80Q2	TP1105		100	10000	24	0	240000	
83	IXFK420N10T	SP1046		100	10000	24	0	240000	
84	IXFK420N10T	SP1347		100	15000	24	0	360000	
85	IXFK44N80P	TP1219		100	15000	24	0	360000	
86	IXFK64N50P	TP1242		100	15000	24	0	360000	
87	IXFK90N50P2	TP1333		100	15000	77	0	1155000	
88	IXFK90N50P2	TP1337		100	15000	77	0	1155000	
89	IXFK94N50P2	SP1051		100	10000	24	0	240000	

TABLE 3A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
90	IXFK94N50P2	SP1111		100	15000	77	0	1155000	
91	IXFK94N50P2	SF1211		100	15000	24	0	360000	
92	IXFN120N20	SS1301		100	15000	24	0	360000	
93	IXFN32N120P	TP1230		100	10000	24	0	240000	
94	IXFN38N100P	TP1230		100	15000	24	0	360000	
95	IXFN82N60P	SS1301		100	15000	24	0	360000	
96	IXFN90N30	TS1309		100	10000	24	0	240000	
97	IXFP110N15T2	SS1332		100	15000	24	0	360000	
98	IXFP14N60P3	SS1144		100	15000	24	0	360000	
99	IXFP170N075T2	US1310		100	15000	24	0	360000	
100	IXFP180N10T2	SS1305		100	15000	24	0	360000	
101	IXFP22N60P3	TS1324		100	15000	24	0	360000	
102	IXFP230N075T2	US1309		100	15000	24	0	360000	
103	IXFP4N60P3	SS1143		100	15000	24	0	360000	
104	IXFP5N50P3	SS1206		100	15000	24	0	360000	
105	IXFP76N15T2	SS0920		100	15000	24	0	360000	
106	IXFP7N60P3	SS1143		100	15000	24	0	360000	
107	IXFQ94N30P3	SS1321		100	15000	24	0	360000	
108	IXFR32N100Q3	SP1133		100	15000	24	0	360000	
109	IXFR66N50Q2	TP1122		100	10000	24	0	240000	
110	IXFT14N80P	SP0731		100	15000	24	0	360000	
111	IXFT20N100P	TP1147		100	10000	24	0	240000	
112	IXFX160N30T	SP0917		100	15000	24	0	360000	
113	IXFX180N25T	SS0908		100	15000	24	0	360000	
114	IXFX20N120P	TS1337		100	15000	24	0	360000	
115	IXFX24N100Q3	SP1137		100	15000	24	0	360000	
116	IXFX260N17T	SS0912		100	15000	24	0	360000	
117	IXFX26N120P	TP1102		100	15000	24	0	360000	
118	IXFX320N17T2	SP0931		100	15000	23	0	345000	
119	IXFX32N100Q3	TP1229		100	15000	24	0	360000	
120	IXFX32N80Q3	SS1122		100	15000	24	0	360000	
121	IXFX32N90P	TS1122		100	15000	24	0	360000	
122	IXFX44N80P	TS1332		100	10000	15	0	150000	
123	IXFX44N80Q3	SP1123		100	10000	24	0	240000	
124	IXFX44N80Q3	TP1226		100	15000	24	0	360000	
125	IXFX48N50Q	SF0938		100	10000	24	0	240000	
126	IXFX48N60Q3	SS1118		100	15000	24	0	360000	
127	IXFX64N50Q3	SP1118		100	10000	24	0	240000	
128	IXFX64N60P	TP1331		100	10000	15	0	150000	
129	IXFX64N60P3	SP1110		100	15000	24	0	360000	
130	IXFX64N60P3	SS1332		100	15000	15	0	225000	
131	IXFX64N60P3	SS1332		100	15000	15	0	225000	
132	IXFX64N60P3	SS1332		100	15000	15	0	225000	

TABLE 3A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
133	IXFX64N60P3	SS1335		100	15000	24	0	360000	
134	IXFX64N60P3	SS1335		100	15000	24	0	360000	
135	IXFX64N60P3	SS1335		100	15000	24	0	360000	
136	IXFX64N60P3	SS1335		100	15000	24	0	360000	
137	IXFX64N60P3	TS1337		100	15000	24	0	360000	
138	IXFX64N60P3	SS1335		100	15000	15	0	225000	
139	IXFX64N60Q3	SS1118		100	15000	24	0	360000	
140	IXFX73N30Q	SF0938		100	15000	24	0	360000	
141	IXFX78N50P3	SP1109		100	15000	24	0	360000	
142	IXFX78N50P3	TS1337		100	15000	24	0	360000	
143	IXFX80N50Q3	SP1106		100	15000	24	0	360000	
144	IXFX80N60P3	SP1109		100	15000	24	0	360000	
145	IXFX90N20Q	TP0849		100	15000	24	0	360000	
146	IXFX98N50P3	SP1110		100	15000	24	0	360000	
147	IXGA20N250HV	TS1222		100	15000	24	0	360000	
148	IXGA24N170A	TS1215		100	15000	24	0	360000	
149	IXGF25N250	TP1206		100	10000	17	0	170000	
150	IXGH100N30C3	SS1250		100	15000	24	0	360000	
151	IXGH2N250	TP1010		100	10000	24	0	240000	
152	IXGH30N120B3	SS0920		100	10000	24	0	240000	
153	IXGH30N60C3D1	SK0840		100	15000	24	0	360000	
154	IXGH32N60B	TP1205		100	15000	24	0	360000	
155	IXGH40N120B2D1	TP0940		100	10000	24	0	240000	
156	IXGH40N120C3D1	TK0840		100	15000	24	0	360000	
157	IXGH40N60A	TP1304		100	15000	24	0	360000	
158	IXGH48N60C3D1	TP1148		100	15000	24	0	360000	
159	IXGH50N60C4	SP1133		100	10000	24	0	240000	
160	IXGH60N60C3D1	SS0931		100	15000	24	0	360000	
161	IXGK120N120B3	TP1143		100	15000	24	0	360000	
162	IXGK120N60B3	SP1146		100	15000	24	0	360000	
163	IXGK75N250	TP1046		100	10000	24	0	240000	
164	IXGP20N120A3	TS0905		100	15000	24	0	360000	
165	IXGR72N60C3D1	SP0952		100	15000	24	0	360000	
166	IXGT32N120A3	TP1121		100	10000	24	0	240000	
167	IXKH35N60C5	3160	125	80	2000	20	0	40000	
168	IXKR47N60C5	3188	145	100	2000	20	0	40000	
169	IXSH45N120	TP1204		100	15000	24	0	360000	
170	IXTA02N250	TS1222		100	15000	24	0	360000	
171	IXTA3N120	TS1115		100	10000	24	0	240000	
172	IXTA76P10T	SS1303		100	10000	24	0	240000	
173	IXTA80N10T	SS1150		100	10000	77	0	770000	
174	IXTA96P085T	SS1223		100	10000	24	0	240000	
175	IXTA96P085T	SS1223		100	10000	24	0	240000	

TABLE 3A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
176	IXTA96P085T	SS1223		100	10000	24	0	240000	
177	IXTH12N140	TP1119		100	15000	24	0	360000	
178	IXTH12N150	TP1206		100	15000	24	0	360000	
179	IXTH140P10T	SP1130		100	10000	24	0	240000	
180	IXTH16P60P	TS1316		100	15000	24	0	360000	
181	IXTH1N200P3	TP1338		100	15000	24	0	360000	
182	IXTH200N10T	SP1319		100	15000	24	0	360000	
183	IXTH20N65X	SS1344		100	15000	24	0	360000	
184	IXTH20P50P	TP1309		100	15000	24	0	360000	
185	IXTH250N075T	SP0801		100	15000	24	0	360000	
186	IXTH360N055T2	SP0926		100	15000	24	0	360000	
187	IXTH3N120	TS1136		100	10000	24	0	240000	
188	IXTH48P20P	SS1050		100	10000	24	0	240000	
189	IXTH4N150	TS1151		100	15000	24	0	360000	
190	IXTH4N150	TP1149		100	15000	24	0	360000	
191	IXTH50P10	SS1033		100	10000	24	0	240000	
192	IXTH68P20T	SP1130		100	10000	24	0	240000	
193	IXTH6N150	TP1201		100	15000	24	0	360000	
194	IXTH76P10T	SS1052		100	10000	24	0	240000	
195	IXTH96P085T	SP0926		100	10000	24	0	240000	
196	IXTH96P085T	SS1302		100	15000	24	0	360000	
197	IXTK550N055T2	UP1242		100	15000	24	0	360000	
198	IXTM21N50	SP1023		100	10000	24	0	240000	
199	IXTP02N120P	TS1307		100	15000	24	0	360000	
200	IXTP100N04T2	SS1341		100	15000	24	0	360000	
201	IXTP102N15T	K834		100	15000	24	0	360000	
202	IXTP10P15T	SS1038		100	10000	24	0	240000	
203	IXTP120P065T	SS1013		100	10000	24	0	240000	
204	IXTP130N10T	SS1318		100	15000	24	0	360000	
205	IXTP15P15T	SS1036		100	15000	24	0	360000	
206	IXTP1N80P	SS0908		100	10000	24	0	240000	
207	IXTP200N055T2	US1310		100	15000	24	0	360000	
208	IXTP20N65X	HS1332		100	15000	24	0	360000	
209	IXTP220N04T2	SS1328		100	15000	24	0	360000	
210	IXTP22N50PM	SS0924		100	15000	24	0	360000	
211	IXTP260N055T2	SS1338		100	15000	24	0	360000	
212	IXTP26P10T	SS1040		100	10000	24	0	240000	
213	IXTP3N50P	S1048		100	15000	24	0	360000	
214	IXTP460P2	TS1332		100	15000	24	0	360000	
215	IXTP48P05T	SS1040		100	15000	24	0	360000	
216	IXTP76P10T	TS1332		100	15000	24	0	360000	
217	IXTP80N10T	SS1150		100	15000	24	0	360000	
218	IXTP80N10T	SS1318		100	15000	24	0	360000	

TABLE 3A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	T _J (max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
219	IxTP80N12T2	SS1043		100	15000	24	0	360000	
220	IxTQ130N15T	SS0920		100	15000	24	0	360000	
221	IxTQ200N10T	SS1125		100	15000	24	0	360000	
222	IxTQ200N10T	SS1125		100	15000	24	0	360000	
223	IxTQ22N60P	SK1040		100	10000	24	0	240000	
224	IxTQ450P2	SS1225		100	15000	24	0	360000	
225	IxTQ460P2	SS1236		100	15000	24	0	360000	
226	IxTQ88N28T	SK0842		100	15000	24	0	360000	
227	IxTR170P10P	SP1106		100	10000	24	0	240000	
228	IxTT140P10T	SP1142		100	10000	77	0	770000	
229	IxTT16N20D2	TP1019		100	10000	24	0	240000	
230	IxTT60N20L2	TP1005		100	10000	24	0	240000	
231	IxTT6N150	TP1203		100	15000	24	0	360000	
232	IxTT80N20L	TP1046		100	10000	24	0	240000	
233	IxTX20N140	TP1126		100	10000	24	0	240000	
234	IxTX210P10T	SP1130		100	15000	24	0	360000	
235	IxTX24N100	SP0837		100	15000	24	0	360000	
236	IxTX600N04T2	SP0945		100	15000	24	0	360000	
237	IxTX8N150L	TP0912		100	15000	24	0	360000	
238	IxxH100N60C3	TP1101		100	10000	24	0	240000	
239	IxxH50N60B3	SS1105		100	15000	24	0	360000	
240	IxxH50N60B3D1	TP1150		100	15000	24	0	360000	
241	IxxH50N60C3	SS1105		100	15000	24	0	360000	
242	IxxH60N65B4	SP1235		100	15000	24	0	360000	
243	IxxH60N65C4	SP1236		100	15000	24	0	360000	
244	IxxH80N65B4H1	SP1319		100	15000	24	0	360000	
245	IxyH24N90C3	TS1144		100	15000	24	0	360000	
246	IxyH30N120C3	TP1137		100	10000	24	0	240000	
247	IxyH40N120C3	TP1137		100	15000	24	0	360000	
248	IxyH40N90C3	TS1205		100	15000	24	0	360000	
249	IxyH50N120C3	TP1137		100	15000	24	0	360000	
250	IxyH60N90C3	SS1205		100	15000	24	0	360000	
251	IxyH75N65C3	TS1341		100	15000	24	0	360000	
252	IxyH80N90C3	TP1205		100	15000	24	0	360000	
253	IxyH82N120C3	TP1115		100	15000	24	0	360000	
254	IxYP8N90C3	TS1144		100	15000	24	0	360000	
255	IxyT20N120C3D1HV	TS1247		100	15000	24	0	360000	
256	IxyX100N120C3	TP1137		100	15000	24	0	360000	

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	MIX300/450	3751	125	80	70000	10	0	700000	
2	MIXA60HU1200VA	3920	125	80	10000	20	0	200000	
3	MKI75-06A7T	3740	125	80	10000	10	0	100000	

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	MCMA110P1600TA	3996	125	80	20000	10	0	200000	
2	MCMA35P1400TA	3995	125	80	20000	10	0	200000	
3	MCMA50P1600TA	4098	125	80	20000	10	0	200000	
4	MCMA65P1600TA	3998	125	80	20000	10	0	200000	
5	MCMA85P1600TA	3979	125	80	50000	10	0	500000	
6	MDD172-16	3202	125	80	10000	10	0	100000	
7	MDD26-16	3205	125	80	10000	10	0	100000	
8	MDD95-16	3330	125	80	10000	10	0	100000	
9	MDMA85P1600TG	3980	125	80	20000	10	0	200000	

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	VUO190-12NO7	3590	125	80	2000	10	0	20000	
2	VUO52-16NO1	3234	125	80	5000	10	0	50000	
3	VUO52-16NO1	3656	125	80	5000	10	0	50000	
4	VUO82-16NO7	3463	125	80	2000	10	0	20000	
5	VUO82-16NO7	4028	125	80	2000	10	0	20000	
6	VVZ40-14	3103	125	80	5000	10	0	50000	

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	DPG15I300PA	3354	145	100	2000	20	0	40000	
2	DPG80C300HB	4132	145	100	2000	20	0	40000	
3	DSEC60-06A	3924	145	100	2000	20	0	40000	
4	DSEI 2x101-06A	4148	125	80	5000	20	0	100000	
5	DSEI2x121-02A	3093	125	80	2000	10	0	20000	
6	DSEI2x61-10B	3815	125	80	500	20	0	10000	
7	DSEI60-06A	3719	145	100	2000	20	0	40000	
8	DSEK60-02A	3448	145	100	2000	20	0	40000	
9	DSEP15-12CR	3606	145	100	2000	20	0	40000	
10	DSEP15-12CR	4128	145	100	2000	20	0	40000	
11	DSEP29-06B	4059	145	100	2000	20	0	40000	
12	DSEP2x31-03A	4413	125	80	5000	10	0	50000	
13	DSEP2x61-06A	3603	125	80	5000	10	0	50000	
14	DSEP30-06BR	4460	145	100	2000	20	1	40000	I_R increased
15	DSEP30-12A	3789	145	100	2000	20	0	40000	
16	DSEP60-06A	3071	145	100	2000	20	0	40000	
17	DSEP60-12A	3179	145	100	2000	20	0	40000	
18	DSEP60-12AR	3444	145	100	2000	20	0	40000	
19	DSEP60-12AR	3792	145	100	2000	20	0	40000	

TABLE 3F: Schottky Diode

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	DSA30C200PB	4046	145	100	2000	20	0	40000	
2	DSA50C150HB	4129	145	100	2000	20	0	40000	
3	DSA90C200HB	3716	145	100	2000	20	0	40000	
4	DSSK30-018A	3074	145	100	2000	20	0	40000	
5	DSSK40-0015B	3926	125	80	2000	20	0	40000	
6	DSSK40-008B	3450	145	100	2000	20	0	40000	
7	DSSK50-01A	3349	145	100	2000	20	0	40000	
8	DSSK60-0045B	3592	145	100	2000	20	0	40000	
9	DSSK60-02AR	4033	145	100	2000	20	0	40000	
10	DSSK70-0015B	3812	145	100	2000	20	0	40000	
11	DSSK70-008A	4323	145	100	2000	20	0	40000	
12	DSSS35-008AR	3714	145	100	2000	20	0	40000	

TABLE 3G: Thyristor/Diode single device

#	Part Number	Date Code or Test #	Tj(max) [°C]	ΔT [K]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	CMA30E1600PB	4050	125	80	2000	20	0	40000	
2	CMA30E1600PB	3658	125	80	2000	20	0	40000	
3	CS35-14io4	3090	125	80	2000	10	0	20000	
4	CS45-12io1	3162	125	80	2000	20	0	40000	
5	CSM410LB	4152	145	100	4000	10	0	40000	
6	DSA1-18D	3200			2000	20	0	40000	10min. On/ 10min. Off
7	DSA17-18A	3857			2000	10	0	20000	10min. On/ 10min. Off
8	DSA30I150PA	3185	145	100	2000	20	0	40000	
9	DSA9-18F	4294			2000	20	0	40000	$\Delta T_c=90K$
10	DSA9-18F	3338			2000	10	0	20000	$\Delta T_c=90K$
11	DSAI35-16A	3710	145	100	2000	10	0	20000	
12	DSI2x55-16A	3340	125	80	5000	10	0	50000	
13	DSI30-12A	3490	145	100	2000	20	0	40000	
14	DSI45-12A	3227	145	100	2000	20	0	40000	
15	DSI45-16A	3810	145	100	2000	20	0	40000	
16	DSI45-16AR	3348	145	100	2000	20	0	40000	
17	DSP25-12A	3355	145	100	2000	20	0	40000	

TEMPERATURE CYCLE (Tables 4A .. 4H)

TABLE 4A: MOSFET/IGBT single device									
#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	GWM160-0055X2 SL	3580	-40	150	1000	77	0	77000	
2	IXA20I200PB	4093	-55	150	50	20	0	1000	
3	IXA20PG1200DHG LB	3581	-40	150	1000	20	0	20000	
4	IXA20PT1200LB	4363	-55	150	100	20	0	2000	
5	IXA20SV1200DHGLA	3211	-40	150	1000	10	0	10000	
6	IXA27IF1200HJ	3376	-55	150	100	20	0	2000	
7	IXA40PG1200DHGLA	3211	-40	150	1000	10	0	10000	
8	IXA55I1200HJ	3743	-55	150	100	20	0	2000	
9	IXA60IF1200NA	3833	-40	150	50	20	0	1000	
10	IXBH15N160	3946	-55	150	50	20	0	1000	
11	IXBH16N170A	TP1221	-55	150	1000	30	0	30000	
12	IXBH40N160	3497	-55	150	50	20	0	1000	
13	IXBH40N160	4403	-55	150	50	20	0	1000	
14	IXBH40N160	3242	-55	150	50	20	0	1000	
15	IXBH5N160G	4457	-55	150	50	20	0	1000	
16	IXBH5N160G	3076	-55	150	50	20	0	1000	
17	IXBH9N160G	3712	-55	150	50	20	0	1000	
18	IXBT24N170	TP1202	-55	125	1000	30	0	30000	
19	IXBX64N250	TP1130	-55	125	100	30	0	3000	
20	IXBX75N170	TP1031	-55	125	1000	30	0	30000	
21	IXCH36N250	TP1139	-55	125	1000	30	0	30000	
22	IXD50IF600HB	3868	-55	150	100	20	0	2000	
23	IXDD404SIA	SA1208	-55	150	1000	77	0	77000	
24	IXDH30N120D1	3797	-40	150	50	20	0	1000	
25	IXDH30N120D1	3640	-55	150	50	20	0	1000	
26	IXFA180N10T2	SS1229	-55	125	250	30	0	7500	
27	IXFA4N100Q	TS1108	-55	125	1000	30	0	30000	
28	IXFA7N60P3	SS1244	-55	125	1000	30	0	30000	
29	IXFB100N50P	TP1110	-55	125	1000	30	0	30000	
30	IXFB100N50Q3	SP1106	-55	125	1000	30	0	30000	
31	IXFB110N60P3	SP1110	-55	125	500	30	0	15000	
32	IXFB110N60P3	SP1201	-55	125	1000	30	0	30000	
33	IXFB132N50P3	SP1110	-55	125	1000	30	0	30000	
34	IXFB210N30P3	SP1224	-55	125	1000	30	0	30000	
35	IXFB38N100Q2	TP1115	-55	125	1000	30	0	30000	
36	IXFB44N100Q3	SP1106	-55	125	1000	30	0	30000	
37	IXFB60N80PK	TS1349	-55	150	1000	30	0	30000	
38	IXFB62N80Q3	SP1118	-55	125	1000	30	0	30000	
39	IXFB62N80Q3K	TS1349	-55	150	1000	30	0	30000	
40	IXFB82N60Q3	SP1118	-55	125	1000	30	0	30000	
41	IXFD64N50P	3195	-40	150	1000	80	0	80000	
42	IXFD64N50P	4049	-55	150	1000	12	0	12000	
43	IXFH100N25P	SS1049	-55	125	1000	30	0	30000	
44	IXFH120N25T	SS1115	-55	125	1000	30	0	30000	
45	IXFH120N25T	SP1141	-55	125	1000	77	0	77000	
46	IXFH12N100F	SS1052	-55	125	1000	30	0	30000	
47	IXFH12N80P	SS1051	-55	125	1000	30	0	30000	
48	IXFH150N17T2	SS1341	-55	150	1000	30	0	30000	
49	IXFH150N20T	SP1147	-55	125	1000	30	0	30000	
50	IXFH15N100P	TP1202	-55	125	1000	30	0	30000	
51	IXFH15N100Q3	SP1121	-55	125	1000	30	0	30000	
52	IXFH15N60	SS1104	-55	125	1000	30	0	30000	
53	IXFH160N15T2	SS1319	-55	125	1000	30	0	30000	
54	IXFH16N50P3	SP1207	-55	125	1000	30	0	30000	
55	IXFH16N60P3	SS1142	-55	125	1000	30	0	30000	
56	IXFH18N100Q3	SP1136	-55	125	1000	30	0	30000	

TABLE 4A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
57	IXFH18N90P	TP1202	-55	125	1000	77	0	77000	
58	IXFH20N50P3	SP1141	-55	125	1000	30	0	30000	
59	IXFH20N80P	SS1121	-55	125	1000	30	0	30000	
60	IXFH22N60P3	SS1108	-55	125	1000	30	0	30000	
61	IXFH22N60P3	SP1318	-55	125	1000	30	0	30000	
62	IXFH26N50	TS1331	-55	150	1000	30	0	30000	
63	IXFH26N50P3	SS1206	-55	125	1000	30	0	30000	
64	IXFH26N50P3	TP1325	-55	125	1000	20	0	20000	
65	IXFH26N50Q	TS1343	-55	150	1000	30	0	30000	
66	IXFH28N60P3	SS1115	-55	125	1000	30	0	30000	
67	IXFH30N50Q3	SS1117	-55	125	1000	30	0	30000	
68	IXFH40N30Q	SS1020	-55	125	1000	30	0	30000	
69	IXFH42N60P3	SP1110	-55	125	1000	30	0	30000	
70	IXFH44N50Q3	SP1133	-55	125	1000	30	0	30000	
71	IXFH50N30Q3	SP1117	-55	125	1000	30	0	30000	
72	IXFH50N60P3	SP1109	-55	125	1000	30	0	30000	
73	IXFH50N60P3	SP1201	-55	125	1000	30	0	30000	
74	IXFH60N50P3	SP1109	-55	125	1000	30	0	30000	
75	IXFH60N50P3	TP1326	-55	125	1000	30	0	30000	
76	IXFH70N20Q3	SS1117	-55	125	1000	30	0	30000	
77	IXFH70N30Q3	SP1133	-55	125	1000	30	0	30000	
78	IXFH75N10	SS1219	-55	125	1000	30	0	30000	
79	IXFH7N100P	TP1143	-55	125	1000	30	0	30000	
80	IXFH88N30P	TP1237	-55	125	1000	30	0	30000	
81	IXFH94N30T	SS1115	-55	125	1000	30	0	30000	
82	IXFH94N30T	SP1141	-55	125	1000	77	0	77000	
83	IXFJ22N60P3	SS1205	-55	125	1000	30	0	30000	
84	IXFK120N25P	TP1239	-55	125	1000	30	0	30000	
85	IXFK140N30P	TP1242	-55	125	1000	30	0	30000	
86	IXFK230N20T	SP1106	-55	125	1000	30	0	30000	
87	IXFK230N20T	SP1116	-55	125	1000	30	0	30000	
88	IXFK26N120P	TP1102	-55	125	1000	30	0	30000	
89	IXFK38N80Q2	TP1105	-55	125	100	30	0	3000	
90	IXFK420N10T	SP1046	-55	125	250	30	0	7500	
91	IXFK44N80P	TP1219	-55	125	1000	25	0	25000	
92	IXFK64N50P	TP1242	-55	125	1000	30	0	30000	
93	IXFK80N60P3	SP1150	-55	125	1000	30	0	30000	
94	IXFK90N50P2	TP1333	-55	125	1000	77	0	77000	
95	IXFK90N50P2	TP1337	-55	150	1000	77	0	77000	
96	IXFK94N50P2	SP1051	-55	125	1000	30	0	30000	
97	IXFK94N50P2	SP1111	-55	125	1000	77	0	77000	
98	IXFK94N50P2	SF1211	-55	125	1000	30	0	30000	
99	IXFN100N25	SS1309	-55	125	1000	30	0	30000	
100	IXFN120N20	SP1211	-55	125	1000	10	0	10000	
101	IXFN120N20	SS1301	-55	125	1000	30	0	30000	
102	IXFN150N15	SS1309	-55	125	1000	30	0	30000	
103	IXFN170N30P	SP1045	-55	125	500	30	0	15000	
104	IXFN180N15P	SP1210	-55	125	1000	10	0	10000	
105	IXFN200N10P	SP1212	-55	125	1000	10	0	10000	
106	IXFN32N120P	TP1230	-55	125	1000	30	0	30000	
107	IXFN32N120P-BN	SP1217	-55	125	1000	10	0	10000	
108	IXFN340N07	SF1105	-55	125	1000	30	0	30000	
109	IXFN340N07	SP1213	-55	125	1000	10	0	10000	
110	IXFN34N100	SP1111	-55	125	1000	10	0	10000	
111	IXFN34N80	SF1105	-55	125	1000	30	0	30000	
112	IXFN38N100P	SP1204	-55	125	1000	10	0	10000	
113	IXFN38N100P	TP1230	-55	125	1000	30	0	30000	

TABLE 4A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
114	IXFN44N100Q3	SP1207	-55	125	1000	10	0	10000	
115	IXFN44N60	SP1103	-55	125	1000	30	0	30000	
116	IXFN44N80	SP1212	-55	125	1000	10	0	10000	
117	IXFN44N80	SP1212	-55	125	1000	30	0	30000	
118	IXFN48N50	TP1212	-55	125	1000	10	0	10000	
119	IXFN64N50P	SP1208	-55	125	1000	10	0	10000	
120	IXFN64N50P	TS1347	-55	150	1000	30	0	30000	
121	IXFN64N60P	SP1206	-55	125	1000	10	0	10000	
122	IXFN80N50P	SP1212	-55	125	1000	10	0	10000	
123	IXFN82N60P	SS1301	-55	125	1000	30	0	30000	
124	IXFN90N30	SF1105	-55	125	1000	30	0	30000	
125	IXFN90N30	TS1309	-55	125	1000	30	0	30000	
126	IXFP110N15T2	SS1332	-55	125	500	30	0	15000	
127	IXFP14N60P3	SS1144	-55	125	1000	30	0	30000	
128	IXFP170N075T2	US1309	-55	125	1000	30	0	30000	
129	IXFP180N10T2	SS1305	-55	125	1000	30	0	30000	
130	IXFP22N60P3	TS1324	-55	125	1000	30	0	30000	
131	IXFP230N075T2	US1309	-55	125	1000	30	0	30000	
132	IXFP4N60P3	SS1143	-55	125	1000	30	0	30000	
133	IXFP5N50P3	SS1206	-55	125	1000	30	0	30000	
134	IXFP7N60P3	SS1143	-55	125	1000	30	0	30000	
135	IXFQ94N30P3	SS1321	-55	125	1000	30	0	30000	
136	IXFR32N100Q3	SP1133	-55	125	1000	30	0	30000	
137	IXFR66N50Q2	TP1122	-55	125	1000	30	0	30000	
138	IXFT14N80P	SP0731	-55	125	1000	18	0	18000	
139	IXFT20N100P	TP1147	-55	125	1000	30	0	30000	
140	IXFX20N120P	TS1337	-55	150	1000	30	0	30000	
141	IXFX210N17T	SS0912	-55	125	1000	10	0	10000	
142	IXFX24N100Q3	SP1137	-55	125	1000	30	0	30000	
143	IXFX26N120P	TP1102	-55	125	1000	30	0	30000	
144	IXFX32N100Q3	TP1229	-55	125	1000	30	0	30000	
145	IXFX32N80Q3	SS1122	-55	125	1000	30	0	30000	
146	IXFX44N80P	TS1332	-55	125	1000	15	0	15000	
147	IXFX44N80Q3	SP1123	-55	125	1000	30	0	30000	
148	IXFX44N80Q3	TP1226	-55	125	1000	30	0	30000	
149	IXFX48N60Q3	SS1118	-55	125	1000	30	0	30000	
150	IXFX64N50Q3	SP1118	-55	125	1000	30	0	30000	
151	IXFX64N60P	TP1331	-55	125	1000	15	0	15000	
152	IXFX64N60P3	SP1110	-55	125	1000	30	0	30000	
153	IXFX64N60P3	SS1332	-55	125	1000	15	0	15000	
154	IXFX64N60P3	SS1332	-55	125	1000	15	0	15000	
155	IXFX64N60P3	SS1332	-55	125	1000	15	0	15000	
156	IXFX64N60P3	TS1337	-55	150	1000	30	0	30000	
157	IXFX64N60P3	SS1335	-55	125	1000	15	0	15000	
158	IXFX64N60P3	SS1335	-55	125	1000	15	0	15000	
159	IXFX64N60P3	SS1335	-55	125	1000	15	0	15000	
160	IXFX64N60P3	SS1335	-55	125	1000	15	0	15000	
161	IXFX64N60P3	SS1335	-55	125	1000	15	0	15000	
162	IXFX64N60Q3	SS1118	-55	125	1000	30	0	30000	
163	IXFX78N50P3	SS1108	-55	125	1000	30	0	30000	
164	IXFX78N50P3	SP1109	-55	125	1000	30	0	30000	
165	IXFX78N50P3	TS1337	-55	150	1000	30	0	30000	
166	IXFX80N50Q3	SP1106	-55	125	1000	30	0	30000	
167	IXFX80N60P3	SP1109	-55	125	1000	30	0	30000	
168	IXFX98N50P3	SP1110	-55	125	1000	30	0	30000	
169	IXGA20N100	TS1235	-55	125	1000	30	0	30000	
170	IXGA20N250HV	TS1222	-55	125	1000	20	0	20000	

TABLE 4A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
171	IXGA24N170A	TS1215	-55	125	1000	30	0	30000	
172	IXGF25N250	TP1206	-40	125	1000	20	0	20000	
173	IXGH100N30C3	SS1250	-55	125	250	30	0	7500	
174	IXGH24N170A	TP0917	-55	125	1000	10	0	10000	
175	IXGH2N250	TP1010	-55	125	250	30	0	7500	
176	IXGH40N120B2D1	TP0940	-55	125	1000	30	0	30000	
177	IXGH40N60A	TP1304	-55	125	1000	30	0	30000	
178	IXGH48N60C3D1	TP1148	-55	125	1000	30	0	30000	
179	IXGH50N60C4	SS1052	-55	125	500	30	0	15000	
180	IXGH50N60C4	SP1133	-55	125	1000	30	0	30000	
181	IXGK120N120B3	TP1143	-55	125	1000	30	0	30000	
182	IXGK120N60B3	SP1146	-55	125	1000	30	0	30000	
183	IXGK75N250	TP1110	-55	125	1000	30	0	30000	
184	IXGK75N250	TP1047	-55	125	1000	77	0	77000	
185	IXGT32N120A3	TP1121	-55	125	1000	30	0	30000	
186	IXKH30N60C5	4022	-55	150	100	20	0	2000	
187	IXKH35N60C5	4158	-55	150	50	20	0	1000	
188	IXKH70N60C5	3358	-55	150	50	20	0	1000	
189	IXKP24N60C5M	4319	-55	150	50	20	0	1000	
190	IXKR40N60C	3713	-40	150	50	20	0	1000	
191	IXSH45N120	TP1204	-55	125	1000	30	0	30000	
192	IXSN35N120AU1	TP1208	-55	125	1000	10	0	10000	
193	IXSN55N120AU1	TP1017	-55	125	100	30	0	3000	
194	IXTA05N100	TS1236	-55	125	1000	30	0	30000	
195	IXTA06N120P	TS1247	-55	125	1000	30	0	30000	
196	IXTA1N100	TS1047	-55	125	1000	30	0	30000	
197	IXTA200N055T2	SS1223	-55	125	1000	30	0	30000	
198	IXTA2R4N120P	TS1226	-55	125	1000	30	0	30000	
199	IXTA36N30P	SS1241	-55	125	1000	30	0	30000	
200	IXTA3N120	TS1115	-55	125	1000	30	0	30000	
201	IXTA3N120	TS1234	-55	125	20	15	0	300	
202	IXTA3N120	TS1234	-55	125	20	50	0	1000	
203	IXTA50N28T	SS1216	-55	125	250	30	0	7500	
204	IXTA62N15P	SS1047	-55	125	1000	30	0	30000	
205	IXTA80N10T	SS1150	-55	125	1000	77	0	77000	
206	IXTH12N140	TP1119	-55	125	1000	30	0	30000	
207	IXTH140P10T	SP1130	-55	125	1000	30	0	30000	
208	IXTH16P60P	TS1316	-55	125	1000	30	0	30000	
209	IXTH1N200P3	TP1338	-55	125	1000	30	0	30000	
210	IXTH1N80P	TP0905	-55	125	1000	10	0	10000	
211	IXTH200N10T	SP1319	-55	125	1000	30	0	30000	
212	IXTH20N65X	SS1344	-55	150	1000	30	0	30000	
213	IXTH20P50P	TP1309	-55	125	1000	30	0	30000	
214	IXTH3N120	TS1136	-55	125	1000	30	0	30000	
215	IXTH40N30	SS1248	-55	125	1000	30	0	30000	
216	IXTH48P20P	SS1050	-55	125	1000	30	0	30000	
217	IXTH48P20P	SS1105	-55	125	1000	30	0	30000	
218	IXTH48P20P	SP1049	-55	125	1000	30	0	30000	
219	IXTH4N150	TS1151	-55	125	1000	30	0	30000	
220	IXTH4N150	TP1149	-55	125	1000	30	0	30000	
221	IXTH68P20T	SP1130	-55	125	1000	30	0	30000	
222	IXTH6N100D2	TP1202	-55	125	1000	30	0	30000	
223	IXTH6N150	TP1201	-55	125	1000	30	0	30000	
224	IXTH76P10T	SS1052	-55	125	1000	30	0	30000	
225	IXTH96P085T	SS1302	-55	125	1000	30	0	30000	
226	IXTK550N055T2	UP1242	-55	125	1000	30	0	30000	
227	IXTL2N450	TP1239	-40	125	1000	30	0	30000	

TABLE 4A (cont'd): MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
228	IXTM21N50	SP1023	-55	125	1000	30	0	30000	
229	IXTN210P10T	SP1215	-55	125	1000	10	0	10000	
230	IXTN21N100	SF1105	-55	125	1000	30	0	30000	
231	IXTN40P50P	SP1212	-55	125	1000	10	0	10000	
232	IOTP02N120P	TS1307	-55	150	1000	30	0	30000	
233	IOTP05N100M	TS1245	-55	125	1000	30	0	30000	
234	IOTP100N04T2	SS1341	-55	150	1000	30	0	30000	
235	IOTP102N15T	K834	-55	125	1000	30	0	30000	
236	IOTP110N055T2	SS1332	-55	150	1000	30	0	30000	
237	IOTP120P065T	SS1013	-55	125	1000	30	0	30000	
238	IOTP130N10T	SS1318	-55	125	1000	30	0	30000	
239	IOTP1N80P	SS0908	-55	125	1000	30	0	30000	
240	IOTP200N055T2	US1310	-55	125	1000	30	0	30000	
241	IOTP20N65X	HS1332	-55	125	1000	30	0	30000	
242	IOTP220N04T2	SS1051	-55	125	1000	30	0	30000	
243	IOTP220N04T2	SS1328	-55	125	1000	30	0	30000	
244	IOTP260N055T2	SS1338	-55	150	1000	30	0	30000	
245	IOTP2N100P	TS1332	-55	150	1000	30	0	30000	
246	IOTP32N20T	SS1051	-55	125	1000	30	0	30000	
247	IOTP3N50P	SS1048	-55	125	1000	30	0	30000	
248	IOTP450P2	SS1047	-55	125	1000	30	0	30000	
249	IOTP460P2	TS1332	-55	125	500	30	0	15000	
250	IOTP76P10T	TS1332	-55	125	500	30	0	15000	
251	IOTP80N10T	SS1150	-55	125	1000	30	0	30000	
252	IOTP80N10T	SS1318	-55	125	1000	30	0	30000	
253	IOTP80N12T2	SS1043	-55	125	1000	30	0	30000	
254	IOTP8N50P	SS1050	-55	125	1000	30	0	30000	
255	IOTQ110N10P	SS1045	-55	125	250	30	0	7500	
256	IOTQ170N10P	SS1041	-55	125	1000	30	0	30000	
257	IOTQ200N10T	SS1125	-55	125	100	30	0	3000	
258	IOTQ200N10T	SS1125	-55	125	100	30	0	3000	
259	IOTQ22N60P	SS1104	-55	125	1000	30	0	30000	
260	IOTQ36N30P	SS1029	-55	125	1000	30	0	30000	
261	IOTQ460P2	SS1236	-55	125	1000	16	0	16000	
262	IOTR170P10P	SP1106	-55	125	250	30	0	7500	
263	IOTT12N150	TP1206	-55	125	1000	30	0	30000	
264	IOTT140P10T	SP1142	-55	125	1000	77	0	77000	
265	IOTT16N20D2	TP1019	-55	125	1000	30	0	30000	
266	IOTT60N20L2	TP1005	-55	125	1000	30	0	30000	
267	IOTT6N150	TP1203	-55	125	1000	30	0	30000	
268	IOTT80N20L	TP1046	-55	125	1000	30	0	30000	
269	IOTV03N400S	TP1134	-55	125	1000	30	0	30000	
270	IOTX120P20T	SP1133	-55	125	1000	30	0	30000	
271	IOTX200N10L2	TP1137	-55	125	1000	30	0	30000	
272	IOTX20N140	TP1126	-55	125	1000	30	0	30000	
273	IOTX210P10T	SP1130	-55	125	1000	27	0	27000	
274	IOTY01N100D	TS1014	-55	125	1000	30	0	30000	
275	IXXH100N60C3	TP1101	-55	125	250	30	0	7500	
276	IXXH50N60B3	SS1105	-55	125	250	30	0	7500	
277	IXXH50N60B3D1	TP1150	-55	125	1000	30	0	30000	
278	IXXH50N60C3	SS1105	-55	125	1000	30	0	30000	
279	IXXH60N65B4	SP1235	-55	125	1000	30	0	30000	
280	IXXH60N65C4	SP1236	-55	125	1000	30	0	30000	
281	IXXH80N65B4H1	SP1319	-55	125	1000	30	0	30000	
282	IYH24N90C3	TS1144	-55	125	1000	30	0	30000	
283	IYH30N120C3	TP1137	-55	125	1000	30	0	30000	
284	IYH40N120C3	TP1137	-55	125	1000	30	0	30000	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
285	IXYH40N90C3	TS1205	-55	125	1000	30	0	30000	
286	IXYH50N120C3	TP1137	-55	125	1000	30	0	30000	
287	IXYH60N90C3	SS1205	-55	125	1000	30	0	30000	
288	IXYH75N65C3	TS1341	-55	150	1000	30	0	30000	
289	IXYH80N90C3	TP1205	-55	125	1000	30	0	30000	
290	IXYH82N120C3	TP1115	-55	125	1000	30	0	30000	
291	IXYP8N90C3	TS1144	-55	125	1000	30	0	30000	
292	IXYT20N120C3D1HV	TS1247	-55	125	1000	30	0	30000	
293	IXYX100N120C3	TP1137	-55	125	1000	30	0	30000	
294	MMIX1N64N300	TP1137	-40	125	1000	10	0	10000	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	MID 550-12 A4	4203	-40	150	50	10	0	500	
2	MID75-12A3	3832	-40	150	50	20	0	1000	
3	MIXA20W1200TML	3207	-40	150	50	20	0	1000	
4	MIXA30WB1200TED	3804	-40	150	50	10	0	500	
5	MIXA40WB1200TED	4543	-40	150	100	10	0	1000	
6	MIXA40WB1200TED	4543	-40	150	100	10	0	1000	
7	MIXA81WB1200TEH	4012	-40	150	100	10	0	1000	
8	MIXD80PM650TMI	4249	-40	150	100	10	0	1000	
9	MKI75-12E8	3599	-40	150	50	10	0	500	
10	MUBW15-12A7	3146	-40	150	50	10	0	500	
11	MUBW35-06A6K	3827	-40	150	25	10	0	250	
12	MUBW50-17T8	3784	-40	150	50	10	0	500	
13	VKM60-01P1	4030	-40	150	10	10	0	100	
14	VMM90-09F	3215	-40	150	50	10	0	500	
15	VMM90-09P	4405	-40	150	100	10	0	1000	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	MCC225-14	3102	-40	150	50	10	0	500	
2	MCC26-14	3104	-40	150	50	10	0	500	
3	MCC312-16	3470	-40	150	50	10	0	500	
4	MCC312-16io1	4065	-40	150	50	10	0	500	
5	MCC56-16io1B	3275	-40	150	50	10	0	500	
6	MCC56-16iob	4097	-40	150	50	10	0	500	
7	MCC95-16	3510	-40	150	50	10	0	500	
8	MCD225-14	4417	-40	150	50	9	0	450	
9	MCD95-16io1	3943	-40	150	50	10	0	500	
10	MDD175-28N1	3622	-40	150	50	6	0	300	
11	MDD312-16N1	3274	-40	150	50	10	0	500	
12	MDD95	4115	-40	150	50	10	0	500	
13	MDD95-22N1B	3600	-40	150	50	10	0	500	

TABLE 4D: Controller, Rectifier Bridge

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	MMO62-16io6	3223	-40	150	20	20	0	400	
2	VBO21-12NO7	3586	-40	150	10	10	0	100	
3	VHF36-12io5	3645	-40	150	25	10	0	250	
4	VUB116-16NOXT	4174	-40	150	50	10	0	500	
5	VUB120-16NOXT	3297	-40	150	100	10	0	1000	
6	VUB72-16	3086	-40	150	25	10	0	250	
7	VUO36-12NO8	3807	-40	150	10	10	0	100	
8	VUO52	3118	-40	150	150	40	0	6000	
9	VUO52	3846	-40	150	50	10	0	500	
10	VUO52-16	3887	-40	150	50	10	0	500	
11	VUO52-16	3887	-40	150	50	10	0	500	
12	VUO52-16	4534	-40	150	25	10	0	250	
13	VUO52-16NO1	3732	-40	150	50	10	0	500	
14	VUO80-16	3944	-40	150	20	10	0	200	
15	VVY50-16	3235	-40	150	50	10	0	500	
16	VVY50-16io1	4116	-40	150	25	10	0	250	
17	VVZ40-14	4425	-40	150	25	10	0	250	
18	VVZB120-14io2	3769	-40	150	25	10	0	250	

TABLE 4E: FRED

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	DH2x60-18A	3770	-40	150	100	20	0	2000	
2	DPG15I300PA	3353	-55	150	50	20	0	1000	
3	DPG30C300HB	4131	-55	150	50	20	0	1000	
4	DPG30C400HB	4044	-55	150	50	20	0	1000	
5	DPG60C200HB	3718	-55	150	50	20	0	1000	
6	DPG60C300HJ	4125	-55	150	50	20	0	1000	
7	DSEC16-06AC	3798	-55	150	50	20	0	1000	
8	DSEC60-06A	3449	-55	150	50	20	0	1000	
9	DSEI12-06A	3934	-40	150	50	20	0	1000	
10	DSEI12-12A	4545	-40	150	100	40	0	4000	
11	DSEI2x101-06A	4147	-40	150	20	20	0	400	
12	DSEI2x101-12A	3711	-40	150	20	20	0	400	
13	DSEI2x31-06P	3462	-40	150	10	10	0	100	
14	DSEI2x61-12B	3456	-40	150	50	20	0	1000	
15	DSEI30-06A	4455	-40	150	50	20	0	1000	
16	DSEI30-10A	3070	-40	150	50	20	0	1000	
17	DSEI30-10A	4327	-40	150	50	20	0	1000	
18	DSEIP2x61-06A	3602	-40	150	20	20	0	400	
19	DSEP15-12CR	3930	-55	150	50	20	0	1000	
20	DSEP15-12CR	3096	-55	150	50	20	0	1000	
21	DSEP29-12A	3184	-55	150	50	20	0	1000	
22	DSEP2x25-12C	4045	-40	150	20	20	0	400	
23	DSEP2x31-03A	4414	-40	150	20	20	0	400	
24	DSEP30-12AR	3345	-55	150	50	20	0	1000	
25	DSEP30-12AR	3793	-55	150	50	20	0	1000	
26	DSEP60-06AT	3764	-55	150	100	20	0	2000	
27	MEE250-12DA	4105	-40	150	50	10	0	500	
28	MEK95-06DA €	3213	-40	150	50	10	0	500	
29	MEO550-02DA	4396	-40	150	50	10	0	500	
30	MEO550-02DA	3967	-40	150	50	10	0	500	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	DSA20C150PB	4209	-55	150	100	20	0	2000	
2	DSA30C150HB	4322	-55	150	50	20	0	1000	
3	DSA70C100HB	3717	-55	150	50	20	0	1000	
4	DSA70C150HB	4035	-55	150	50	20	0	1000	
5	DSA90C200HB	4127	-55	150	50	20	0	1000	
6	DSA90C200HB	3347	-55	150	50	20	0	1000	
7	DSB30C30PB	3935	-55	150	50	20	0	1000	
8	DSB60C45HB	4493	-55	150	50	20	0	1000	
9	DSSK30-018A	3791	-55	150	50	20	0	1000	
10	DSSK60-02A	3452	-55	150	50	20	0	1000	
11	DSSK70-008A	3073	-55	150	50	20	0	1000	
12	DSSK80-006B	3609	-55	150	50	20	0	1000	
13	DSSS35-008AR	4458	-55	150	50	20	0	1000	
14	DSSS35-008AR	3445	-55	150	50	20	0	1000	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	CLA50E1200HB	3346	-55	150	50	20	0	1000	
2	CLA60PD1200NA	4160	-40	150	50	20	0	1000	
3	CLF20E1200PB	4039	-55	150	50	20	0	1000	
4	CMA80E1600HB	3976	-55	150	100	40	0	4000	
5	CS19-12H01	3737	-40	150	50	20	0	1000	
6	CS19-12ho1	3119	-40	150	100	20	0	2000	
7	CS19-12ho1	3484	-40	150	50	20	0	1000	
8	CS20-22MO F1	4017	-55	150	50	20	0	1000	
9	CS22-08io1M	3800	-55	150	50	20	0	1000	
10	CS23-16	3336	-40	150	20	10	0	200	
11	CS30-12io1	3300	-40	150	100	20	0	2000	
12	CS30-16io1	4318	-55	150	50	20	0	1000	
13	CS35-14io4	3090	-40	150	20	10	0	200	
14	CS45-12io1	3098	-40	150	50	20	0	1000	
15	CSM400A	3333	-40	150	25	10	0	250	
16	CSM410LB	4152	-55	150	100	20	0	2000	
17	DLA100B1200LB	4178	-55	150	50	20	0	1000	
18	DMA30E1800HA	3273	-55	150	100	20	0	2000	
19	DSA1-16D	4440	-40	150	50	40	0	2000	
20	DSA17-18A	3855	-40	150	20	10	0	200	
21	DSA30I150PA	3182	-55	150	50	20	0	1000	
22	DSA35-18A	3442	-40	150	20	10	0	200	
23	DSA75-16B	4506	-40	150	50	20	0	1000	
24	DSA75-16B	4505	-40	150	50	20	0	1000	
25	DSA75-18B	3923	-40	150	20	10	0	200	
26	DSA9-12F	3178	-40	150	20	10	0	200	
27	DSA9-18	4143	-40	150	20	10	0	200	
28	DSA9-18F	4293	-40	150	20	10	0	200	
29	DSAI17-16A	3641	-40	150	20	10	0	200	
30	DSAI35-16A	3709	-40	150	20	10	0	200	
31	DSDI60-18A	3228	-40	150	50	20	0	1000	
32	DSI2x55-12A	4316	-40	150	20	20	0	400	
33	DSI2x55-16A	3341	-40	150	20	19	0	380	
34	DSI30-08A	4501	-55	150	50	20	0	1000	
35	DSP26-16AT	3835	-40	150	100	20	0	2000	
36	DSP45-12A	4141	-55	150	50	20	0	1000	
37	DSP45-16A	3193	-55	150	100	80	0	8000	

#	Part Number	Date Code or Test #	Low Temp. [°C]	High Temp. [°C]	Number of Cycles	Sample Size	Failures	Device Cycles	Remark
1	IXBOD1-06	3459	-40	150	50	20	0	1000	
2	IXBOD1-08	3079	-40	150	50	20	0	1000	
3	IXBOD1-09	4042	-40	150	50	20	0	1000	
4	IXBOD1-10	3722	-40	150	50	20	0	1000	

HUMIDITY TEST (Tables 5A .. 5H)

TABLE 5A: MOSFET/IGBT single device									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	GWM160-0055 X2 SL	4542	121	100	96	20	0	1920	
2	GWM160-0055X2 S	3455	121	100	96	77	0	7392	
3	GWM160-0055X2 SL	3580	121	100	96	77	0	7392	
4	IXA121F1200HB	4411	121	100	48	20	0	960	
5	IXA121F1200TC	3543	121	100	96	20	0	1920	
6	IXA20PG1200DHG LA	4228	85	85	1000	20	0	20000	
7	IXA20PG1200DHG LB	3581	85	85	1000	20	0	20000	
8	IXA20PT1200LB	4363	121	100	96	20	0	1920	
9	IXA55I1200HJ	3743	121	100	96	20	0	1920	
10	IXBF55N300	TP1243	121	100	96	30	0	2880	
11	IXBH16N170A	TP1221	121	100	96	30	0	2880	
12	IXBH40N160	3932	121	100	48	20	0	960	
13	IXBT24N170	TP1202	121	100	96	30	0	2880	
14	IXD501F600HB	3868	121	100	96	20	0	1920	
15	IXDH35N60BD1	3161	121	100	48	20	0	960	
16	IXFB210N30P3	SP1224	121	100	96	30	0	2880	
17	IXFB60N80PK	TS1349	121	100	96	30	0	2880	
18	IXFB62N80Q3K	TS1349	121	100	96	30	0	2880	
19	IXFD64N50P	3195	85	85	1000	72	0	72000	
20	IXFH120N25T	SP1141	121	100	96	77	0	7392	
21	IXFH150N17T2	SS1341	121	100	96	30	0	2880	
22	IXFH150N20T	SP1147	121	100	96	30	0	2880	
23	IXFH160N15T2	SS1319	121	100	96	30	0	2880	
24	IXFH16N50P3	SP1207	121	100	96	30	0	2880	
25	IXFH18N100Q3	SP1136	121	100	96	30	0	2880	
26	IXFH26N50	TS1331	121	100	96	30	0	2880	
27	IXFH26N50P3	SS1206	121	100	96	30	0	2880	
28	IXFH26N50Q	TS1343	121	100	96	30	0	2880	
29	IXFH70N30Q3	SP1133	121	100	96	30	0	2880	
30	IXFH75N10	SS1219	121	100	96	30	0	2880	
31	IXFH7N100P	TP1143	121	100	96	30	0	2880	
32	IXFH94N30T	SP1141	121	100	96	77	0	7392	
33	IXFJ75N10	TS1219	121	100	96	30	0	2880	
34	IXFK120N25P	TP1239	121	100	96	30	0	2880	
35	IXFK44N80P	TP1219	121	100	96	30	0	2880	
36	IXFK64N50P	TP1242	121	100	96	30	0	2880	
37	IXFK80N60P3	SP1150	121	100	96	77	0	7392	
38	IXFK90N50P2	TP1333	121	100	96	77	0	7392	
39	IXFK90N50P2	TP1337	121	100	96	77	0	7392	
40	IXFK94N50P2	SF1211	121	100	96	30	0	2880	
41	IXFK94N50P2	SP1111	121	100	96	77	0	7392	
42	IXFK98N50P3	SP1142	121	100	96	25	0	2400	
43	IXFN100N25	SS1309	121	100	96	30	0	2880	
44	IXFN120N20	SS1301	121	100	96	30	0	2880	
45	IXFN150N15	SS1309	121	100	96	30	0	2880	
46	IXFN64N50P	TS1347	121	100	96	30	0	2880	
47	IXFN82N60P	SS1301	121	100	96	30	0	2880	
48	IXFN90N30	TS1309	121	100	96	30	0	2880	
49	IXFP110N15T2	SS1332	121	100	96	30	0	2880	
50	IXFP180N10T2	SS1305	121	100	96	30	0	2880	
51	IXFP230N075T2	US1309	121	100	96	30	0	2880	
52	IXFP5N50P3	SS1206	121	100	96	30	0	2880	
53	IXFQ94N30P3	SS1321	121	100	96	30	0	2880	
54	IXFT20N100P	TP1147	121	100	96	30	0	2880	
55	IXFX20N120P	TS1337	121	100	96	30	0	2880	
56	IXFX44N80Q3	TP1226	121	100	96	30	0	2880	
57	IXFX64N60P3	TS1337	121	100	96	30	0	2880	
58	IXFX78N50P3	TS1337	121	100	96	30	0	2880	

TABLE 5A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
59	IXFX80N50Q3	SP1106	121	100	96	30	0	2880	
60	IXGH100N30C3	SS1250	121	100	96	30	0	2880	
61	IXGH40N120B2D1	TP0940	121	100	96	30	0	2880	
62	IXGH48N60C3D1	TP1148	121	100	96	30	0	2880	
63	IXGH50N60C4	SP1133	121	100	96	30	0	2880	
64	IXGK120N120B3	TP1143	121	100	96	30	0	2880	
65	IXTH16P60P	TS1316	121	100	96	30	0	2880	
66	IXTH1N200P3	TP1338	121	100	96	30	0	2880	
67	IXTH200N10T	SP1208	121	100	96	30	0	2880	
68	IXTH200N10T	SP1319	121	100	96	30	0	2880	
69	IXTH20N65X	SS1344	121	100	96	30	0	2880	
70	IXTH20P50P	TP1309	121	100	96	30	0	2880	
71	IXTH3N120	TS1136	121	100	96	30	0	2880	
72	IXTH4N150	TS1151	121	100	96	30	0	2880	
73	IXTH96P085T	SS1302	121	100	96	30	0	2880	
74	IXTK550N055T2	UP1242	121	100	96	30	0	2880	
75	IXTP100N04T2	SS1341	121	100	96	30	0	2880	
76	IXTP110N055T2	SS1332	121	100	96	30	0	2880	
77	IXTP130N10T	SS1318	121	100	96	30	0	2880	
78	IXTP200N055T2	US1310	121	100	96	30	0	2880	
79	IXTP200N055T2	US1310	121	100	96	30	0	2880	
80	IXTP20N65X	HS1332	121	100	96	30	0	2880	
81	IXTP260N055T2	SS1338	121	100	96	30	0	2880	
82	IXTP2N100P	TS1332	121	100	96	30	0	2880	
83	IXTP460P2	TS1332	121	100	96	30	0	2880	
84	IXTP76P10T	TS1332	121	100	96	30	0	2880	
85	IXTP80N10T	SS1150	121	100	96	30	0	2880	
86	IXTP80N10T	SS1318	121	100	96	30	0	2880	
87	IXTQ200N10T	SS1125	121	100	96	30	0	2880	
88	IXTQ200N10T	SS1125	121	100	96	30	0	2880	
89	IXTQ460P2	SS1236	121	100	96	30	0	2880	
90	IXTT12N150	TP1206	121	100	96	30	0	2880	
91	IXTT140P10T	SP1142	121	100	96	77	0	7392	
92	IXTT6N150	TP1203	121	100	96	30	0	2880	
93	IXTX120P20T	SP1133	121	100	96	30	0	2880	
94	IXXH50N60B3D1	TP1150	121	100	96	30	0	2880	
95	IXXH60N65B4	SP1235	121	100	96	30	0	2880	
96	IXXH60N65C4	SP1236	121	100	96	30	0	2880	
97	IXYH40N90C3	TS1205	121	100	96	30	0	2880	
98	IXYH60N90C3	SS1205	121	100	96	30	0	2880	
99	IXYH75N65C3	TS1341	121	100	96	30	0	2880	
100	IXYH80N90C3	TP1205	121	100	96	30	0	2880	
101	IXYN100N65C3H1	TS1346	121	100	96	30	0	2880	
102	IXYT20N120C3D1HV	TS1247	121	100	96	30	0	2880	

TABLE 5B: MOSFET/IGBT Module									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MIX300/450	3751	85	85	1000	10	0	10000	
2	MIXA225PF1200TSF	3825	85	85	168	9	0	1512	
3	MIXA40WB1200TED	4543	85	85	1000	10	0	10000	
4	MIXA40WB1200TED	4543	85	85	1000	10	0	10000	
5	MIXA81WB1200TEH	4538	85	85	1000	10	0	10000	
6	MIXD80PM650TMI	4249	85	85	1000	10	0	10000	
7	MWI100-12E8	3676	85	85	168	10	0	1680	
8	VKM60-01P1	3589	85	85	168	10	0	1680	
9	VMM90-09F	3216	85	85	168	10	0	1680	

TABLE 5C: Thyristor/Diode Module									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MCC21-14io8	3885	85	85	168	10	0	1680	
2	MCD162	3465	85	85	1000	5	0	5000	
3	MCD162-16	3471	85	85	168	10	0	1680	

TABLE 5D: Controller, Rectifier Bridge									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MMO90-16	3813	121	100	48	10	0	480	
2	VUB145-16NOXT	4154	85	85	1000	10	0	10000	
3	VUE22-06NO7	4027	85	85	168	10	0	1680	
4	VUO52-16	3887	85	85	1000	10	0	10000	
5	VUO52-16	3887	85	85	1000	10	0	10000	
6	VVZB120-14io2	3902	85	85	168	10	0	1680	
7	VVZB135-16ioXT	4210	85	85	168	10	0	1680	

TABLE 5E: FRED									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	DHG40C1200HB	3811	121	100	48	20	0	960	
2	DHG60I600HA	4513	121	100	96	20	0	1920	
3	DSEC60-06B	3095	121	100	48	20	0	960	
4	DSEI12-12A	4545	121	100	96	40	0	3840	
5	DSEI2x101-12A	3325	121	100	96	20	0	1920	
6	DSEI2x101-12A	3222	121	100	48	20	0	960	
7	DSEI2x61-12B	3953	121	100	48	20	0	960	
8	DSEP15-12CR	3097	121	100	48	20	0	960	
9	DSEP29-06B	4060	121	100	48	20	0	960	
10	DSEP30-06BR	4032	121	100	48	20	0	960	
11	MEO450-12	4202	85	85	168	10	0	1680	
12	MEO500-06DA	3963	85	85	168	10	0	1680	

TABLE 5F: Schottky Diode									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	DSA30C100PB	3192	121	100	96	20	0	1920	
2	DSA30C200PB	4047	121	100	48	20	0	960	
3	DSSK60-02A	3790	121	100	96	20	0	1920	
4	DSSK80-006B	3351	121	100	48	20	0	960	

TABLE 5G: Thyristor/Diode single device									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	CMA80E1600HB	3976	85	85	1000	40	0	40000	
2	CSM410LB	4152	121	100	96	20	0	1920	
3	DSDI60-16A	3342	121	100	48	20	0	960	
4	DSI30-12A	3611	121	100	48	20	0	960	
5	DSP109-3300V	4305	85	85	1000	20	0	20000	
6	DSP26-16AT	3835	121	100	96	20	0	1920	
7	DSP45-16AR	3605	121	100	48	20	0	960	

TABLE 5H: Breakover diode									
#	Part Number	Date Code or Test #	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	IXBOD1-06	3460	121	100	48	20	0	960	
2	IXBOD1-08	3079	121	100	48	20	0	960	
3	IXBOD1-09	4040	121	100	48	20	0	960	
4	IXBOD1-10	3723	121	100	48	20	0	960	

H⁺TRB TEST (Table 6A ... 6C)

TABLE 6A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	GWM160-0055X2 S	3455	44	85	85	1000	77	0	77000	
2	GWM160-0055X2 SL	3580	44	85	85	1000	77	0	77000	
3	IXA20PG1200DHG LE	3581	80	85	85	1000	20	0	20000	
4	IXA20SV1200DHGLA	3211	80	85	85	1000	20	0	20000	

TABLE 6B: MOSFET/IGBT Module

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MIXA100W1200TEH	3248	100	85	85	1000	10	0	10000	
2	MIXD50W650TED	4420	100	85	85	1000	10	0	10000	

TABLE 6C: Thyristor/Diode Module

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	MCC255-16i01	4055	100	85	85	1000	10	0	10000	

TABLE 6G: Thyristor/Diode single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	CSM401B	3377	100	85	85	1000	10	0	10000	
2	DLA100B1200LB	4351	100	85	85	1000	77	0	77000	

TABLE 7A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
1	IXBF12N300	TP1218	42	130	85	96	30	0	2880	
2	IXBF15N300C	TP1313	42	130	85	96	30	0	2880	
3	IXBF55N300	TP1243	42	130	85	96	30	0	2880	
4	IXBH16N170A	TP1221	42	130	85	96	30	0	2880	
5	IXBT24N170	TP1202	42	130	85	96	30	0	2880	
6	IXBX64N250	TP0952	42	130	85	96	30	0	2880	
7	IXBX64N250	TP1130	42	130	85	96	30	0	2880	
8	IXFA4N100Q	TS1108	42	130	85	96	30	0	2880	
9	IXFB100N50P	TP1110	42	130	85	96	30	0	2880	
10	IXFB100N50Q3	SP1106	42	130	85	96	30	0	2880	
11	IXFB110N60P3	SP1201	42	130	85	96	30	0	2880	
12	IXFB210N30P3	SP1224	42	130	85	96	30	0	2880	
13	IXFB38N100Q2	TP1115	42	130	85	96	30	0	2880	
14	IXFB40N110P	TP1026	42	130	85	96	30	0	2880	
15	IXFB44N100P	TP0930	42	130	85	96	30	0	2880	
16	IXFB44N100Q3	SP1106	42	130	85	96	30	0	2880	
17	IXFB60N80PK	TS1349	42	130	85	96	30	0	2880	
18	IXFB62N80Q3	SP1118	42	130	85	96	30	0	2880	
19	IXFB82N60Q3	SP1118	42	130	85	96	30	0	2880	
20	IXFH120N25T	SS1115	42	130	85	96	30	0	2880	
21	IXFH120N25T	SP1141	42	130	85	96	77	0	7392	
22	IXFH12N90	SS0911	42	130	85	96	30	0	2880	
23	IXFH12N90	TS1344	42	130	85	96	30	0	2880	
24	IXFH150N17T2	SS1341	42	130	85	96	30	0	2880	
25	IXFH150N20T	SP1147	42	130	85	96	30	0	2880	
26	IXFH15N100P	TP1202	42	130	85	96	30	0	2880	
27	IXFH15N100Q3	SP1121	42	130	85	96	30	0	2880	
28	IXFH160N15T2	SS1319	42	130	85	96	30	0	2880	
29	IXFH16N50P3	SP1207	42	130	85	96	30	0	2880	
30	IXFH16N60P3	SS1142	42	130	85	96	30	0	2880	
31	IXFH18N100Q3	SP1136	42	130	85	96	30	0	2880	
32	IXFH18N90P	TP1202	42	130	85	96	77	0	7392	
33	IXFH20N50P3	SP1141	42	130	85	96	30	0	2880	
34	IXFH22N60P3	SS1108	42	130	85	96	30	0	2880	
35	IXFH22N60P3	SS1143	42	130	85	96	30	0	2880	
36	IXFH22N60P3	TS1326	42	130	85	96	30	0	2880	
37	IXFH26N50	TS1331	42	130	85	96	30	0	2880	
38	IXFH26N50P	SK0843	42	130	85	96	30	0	2880	
39	IXFH26N50P3	SS1206	42	130	85	96	30	0	2880	
40	IXFH26N50Q	TS1343	42	130	85	96	30	0	2880	
41	IXFH28N60P3	SS1115	42	130	85	96	30	0	2880	
42	IXFH28N60P3	SS1144	42	130	85	96	30	0	2880	
43	IXFH30N50Q3	SS1117	42	130	85	96	30	0	2880	
44	IXFH40N30Q	TP0916	42	130	85	96	30	0	2880	
45	IXFH42N50P2	SP1009	42	130	85	96	30	0	2880	
46	IXFH44N50Q3	SP1133	42	130	85	96	30	0	2880	
47	IXFH50N30Q3	SP1117	42	130	85	96	30	0	2880	
48	IXFH50N60P3	SP1201	42	130	85	96	30	0	2880	
49	IXFH6N120P	TP0937	42	130	85	96	30	0	2880	
50	IXFH70N15	SP0850	42	130	85	96	30	0	2880	
51	IXFH70N20Q3	SS1117	42	130	85	96	30	0	2880	
52	IXFH70N30Q3	SP1133	42	130	85	96	30	0	2880	
53	IXFH75N10	SS1219	42	130	85	96	30	0	2880	
54	IXFH7N100P	TP1143	42	130	85	96	30	0	2880	
55	IXFH88N30P	TP1237	42	130	85	96	30	0	2880	
56	IXFH94N30T	SS1115	42	130	85	96	30	0	2880	
57	IXFH94N30T	SP1141	42	130	85	96	77	0	7392	
58	IXFK140N30P	TP1330	42	130	85	96	25	0	2400	
59	IXFK160N30T	SP1120	42	130	85	96	30	0	2880	
60	IXFK180N25T	SP1120	42	130	85	96	30	0	2880	

TABLE 7A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
61	IXFK230N20T	SP1116	42	130	85	96	30	0	2880	
62	IXFK26N120P	TP1037	42	130	85	96	30	0	2880	
63	IXFK26N90	SP0936	42	130	85	96	30	0	2880	
64	IXFK32N80Q3	SP1119	42	130	85	96	30	0	2880	
65	IXFK32N90P	TP1123	42	130	85	96	30	0	2880	
66	IXFK38N80Q2	TP1105	42	130	85	96	30	0	2880	
67	IXFK420N10T	SP1217	42	130	85	96	30	0	2880	
68	IXFK420N10T	SP1347	42	130	85	96	22	0	2112	
69	IXFK64N50Q3	SP1121	42	130	85	96	30	0	2880	
70	IXFK64N60Q3	SP1119	42	130	85	96	30	0	2880	
71	IXFK80N60P3	SP1142	42	130	85	96	25	0	2400	
72	IXFK80N60P3	SP1142	42	130	85	96	25	0	2400	
73	IXFK80N60P3	SP1150	42	130	85	96	25	0	2400	
74	IXFK90N50P2	TP1330	42	130	85	96	25	0	2400	
75	IXFK90N50P2	TP1333	42	130	85	96	77	0	7392	
76	IXFK90N50P2	TP1137	42	130	85	96	77	0	7392	
77	IXFK94N50P2	SS1222	42	130	85	96	30	0	2880	
78	IXFK94N50P2	SS1222	42	130	85	96	30	0	2880	
79	IXFK94N50P2	SS1222	42	130	85	96	30	0	2880	
80	IXFK98N50P3	SP1142	42	130	85	96	25	0	2400	
81	IXFK98N50P3	SP1142	42	130	85	96	25	0	2400	
82	IXFN100N25	SS1309	42	130	85	96	30	0	2880	
83	IXFN120N20	SS1301	42	130	85	96	30	0	2880	
84	IXFN150N15	SS1309	42	130	85	96	30	0	2880	
85	IXFN210N30P3	SP1223	42	130	85	96	30	0	2880	
86	IXFN32N100Q3	SP1132	42	130	85	96	30	0	2880	
87	IXFN32N120P	TP1230	42	130	85	96	30	0	2880	
88	IXFN38N100P	TP1230	42	130	85	96	30	0	2880	
89	IXFN48N50Q	SP1304	42	130	85	96	30	0	2880	
90	IXFN48N60P	SS1333	42	130	85	96	30	0	2880	
91	IXFN48N60P	SS1333	42	130	85	96	30	0	2880	
92	IXFN64N50P	TS1333	42	130	85	96	30	0	2880	
93	IXFN64N50P	TS1333	42	130	85	96	30	0	2880	
94	IXFN64N50P	TS1347	42	130	85	96	30	0	2880	
95	IXFN80N50	SP1312	42	130	85	96	10	0	960	
96	IXFN90N30	TS1309	42	130	85	96	30	0	2880	
97	IXFP110N15T2	SS1332	42	130	85	96	30	0	2880	
98	IXFP14N60P3	SS1144	42	130	85	96	30	0	2880	
99	IXFP170N075T2	US1310	42	130	85	96	30	0	2880	
100	IXFP180N10T2	SS1305	42	130	85	96	30	0	2880	
101	IXFP22N60P3	TS1324	42	130	85	96	30	0	2880	
102	IXFP230N075T2	SS1309	42	130	85	96	30	0	2880	
103	IXFP4N60P3	SS1143	42	130	85	96	30	0	2880	
104	IXFP5N50P3	SS1206	42	130	85	96	30	0	2880	
105	IXFP7N100P	SS0931	42	130	85	96	30	0	2880	
106	IXFP7N60P3	SS1143	42	130	85	96	30	0	2880	
107	IXFQ94N30P3	SS1321	42	130	85	96	30	0	2880	
108	IXFR32N100Q3	SP1133	42	130	85	96	30	0	2880	
109	IXFR64N50Q3	SP1123	42	130	85	96	30	0	2880	
110	IXFR66N50Q2	TP1122	42	130	85	96	30	0	2880	
111	IXFT14N80P	SP0731	42	130	85	96	30	0	2880	
112	IXFT18N90P	SP0837	42	130	85	96	30	0	2880	
113	IXFT20N100P	TP1147	42	130	85	96	30	0	2880	
114	IXFX120N27P3	SS1120	42	130	85	96	30	0	2880	
115	IXFX140N30P	TS1330	42	130	85	96	30	0	2880	
116	IXFX20N120P	TS1337	42	130	85	96	30	0	2880	

TABLE 7A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
117	IXFX24N100Q3	SP1137	42	130	85	96	30	0	2880	
118	IXFX32N100Q3	TP1229	42	130	85	96	30	0	2880	
119	IXFX32N80Q3	SS1122	42	130	85	96	30	0	2880	
120	IXFX44N80Q3	SP1123	42	130	85	96	30	0	2880	
121	IXFX48N50Q	SF0938	42	130	85	96	30	0	2880	
122	IXFX48N60Q3	SS1118	42	130	85	96	30	0	2880	
123	IXFX64N50P	SS0939	42	130	85	96	30	0	2880	
124	IXFX64N50Q3	SP1118	42	130	85	96	30	0	2880	
125	IXFX64N50Q3	SS1118	42	130	85	96	30	0	2880	
126	IXFX64N60P3	SS1335	42	130	85	96	30	0	2880	
127	IXFX64N60Q3	SS1118	42	130	85	96	30	0	2880	
128	IXFX78N50P3	TS1337	42	130	85	96	30	0	2880	
129	IXFX80N50Q3	SP1106	42	130	85	96	30	0	2880	
130	IXFX90N50P2	TP1330	42	130	85	96	30	0	2880	
131	IXGA20N250HV	TS1222	42	130	85	96	30	0	2880	
132	IXGA24N170A	TS1215	42	130	85	96	30	0	2880	
133	IXGF25N250	TP1206	42	130	85	96	20	0	1920	
134	IXGH2N250	TP1010	42	130	85	96	27	0	2592	
135	IXGH32N170	TP0907	42	130	85	96	30	0	2880	
136	IXGH40N120B2D1	TP0940	42	130	85	96	30	0	2880	
137	IXGH40N60A	TP1304	42	130	85	96	30	0	2880	
138	IXGH48N60C3D1	TP1148	42	130	85	96	30	0	2880	
139	IXGH50N60C4	SP1052	42	130	85	96	28	0	2688	
140	IXGH50N60C4	SP1133	42	130	85	96	30	0	2880	
141	IXGK120N120B3	TP1143	42	130	85	96	30	0	2880	
142	IXGK120N60B3	SP1146	42	130	85	96	30	0	2880	
143	IXGT32N120A3	TP1121	42	130	85	96	30	0	2880	
144	IXSH45N120	TP1204	42	130	85	96	30	0	2880	
145	IXTA02N250	TS1222	42	130	85	96	30	0	2880	
146	IXTA3N120	TS1115	42	130	85	96	30	0	2880	
147	IXTA80N10T	SS1150	42	130	85	96	77	0	7392	
148	IXTH140P10T	SP1130	-42	130	85	96	30	0	2880	
149	IXTH16P60P	TS1316	42	130	85	96	30	0	2880	
150	IXTH1N200P3	TP1338	42	130	85	96	30	0	2880	
151	IXTH1N80P	TP0905	42	130	85	96	10	0	960	
152	IXTH200N10T	SP1208	42	130	85	96	30	0	2880	
153	IXTH200N10T	SP1319	42	130	85	96	30	0	2880	
154	IXTH20N65X	SS1344	42	130	85	96	30	0	2880	
155	IXTH20P50P	TP1309	42	130	85	96	30	0	2880	
156	IXTH3N120	TS1136	42	130	85	96	30	0	2880	
157	IXTH48P20P	SS1105	-42	130	85	96	30	0	2880	
158	IXTH48P20P	SS1040	-42	130	85	96	30	0	2880	
159	IXTH4N150	TS1151	42	130	85	96	30	0	2880	
160	IXTH4N150	TP1149	42	130	85	96	30	0	2880	
161	IXTH68P20T	SP1130	-42	130	85	96	30	0	2880	
162	IXTH6N150	TP1201	42	130	85	96	30	0	2880	
163	IXTH75N10	TP0848	42	130	85	96	30	0	2880	
164	IXTH96P085T	SP0926	-42	130	85	96	30	0	2880	
165	IXTH96P085T	SS1302	42	130	85	96	30	0	2880	
166	IXTK550N055T2	UP1242	42	130	85	96	30	0	2880	
167	IXTL2N450	TP1239	42	130	85	96	30	0	2880	

TABLE 7A: MOSFET/IGBT single device

#	Part Number	Date Code or Test #	Voltage [V]	Temp. [°C]	Rel. H. [%]	Time [hrs]	Sample Size	Failures	Device Hours [hrs]	Remark
168	IOTP02N120P	TS1307	42	130	85	96	30	0	2880	
169	IOTP100N04T2	SS1341	32	130	85	96	30	0	2880	
170	IOTP102N15T	K834	42	130	85	96	30	0	2880	
171	IOTP10P15T	SS1038	-42	130	85	96	30	0	2880	
172	IOTP110N055T2	SS1332	42	130	85	96	30	0	2880	
173	IOTP120P065T	SS1013	-42	130	85	96	30	0	2880	
174	IOTP130N10T	SS1318	42	130	85	96	30	0	2880	
175	IOTP15P15T	SS1036	-42	130	85	96	30	0	2880	
176	IOTP182N055T	SS1003	42	130	85	96	30	0	2880	
177	IOTP1N80P	SS0908	42	130	85	96	30	0	2880	
178	IOTP200N055T2	US1310	42	130	85	96	30	0	2880	
179	IOTP20N65X	HS1332	42	130	85	96	30	0	2880	
180	IOTP220N04T2	SS1051	42	130	85	96	30	0	2880	
181	IOTP220N04T2	SS0927	42	130	85	96	30	0	2880	
182	IOTP260N055T2	SS1338	42	130	85	96	30	0	2880	
183	IOTP26P10T	SS1040	-42	130	85	96	30	0	2880	
184	IOTP2N100	SS0914	42	130	85	96	24	0	2304	
185	IOTP2N100P	TS1332	42	130	85	96	30	0	2880	
186	IOTP3N50P	S1048	42	130	85	96	30	0	2880	
187	IOTP460P2	TS1332	42	130	85	96	30	0	2880	
188	IOTP48P05T	SS1040	-42	130	85	96	30	0	2880	
189	IOTP76P10T	TS1332	42	130	85	96	30	0	2880	
190	IOTP80N10T	SS1150	42	130	85	96	30	0	2880	
191	IOTP80N10T	SS1318	42	130	85	96	30	0	2880	
192	IOTP80N12T2	SS1043	42	130	85	96	30	0	2880	
193	IOTP8N50P	SS1050	42	130	85	96	30	0	2880	
194	IOTQ130N15T	SK0715	42	130	85	96	30	0	2880	
195	IOTT140P10T	SP1142	-42	130	85	96	77	0	7392	
196	IOTT16N20D2	TP1019	42	130	85	96	30	0	2880	
197	IOTT60N20L2	TP1005	42	130	85	96	30	0	2880	
198	IOTT6N150	TP1203	42	130	85	96	30	0	2880	
199	IOTV03N400S	TP1134	42	130	85	96	30	0	2880	
200	IOTX120P20T	SP1133	-42	130	85	96	30	0	2880	
201	IOTX210P10T	SP1130	-42	130	85	96	30	0	2880	
202	IXXH110N65C4	SS1302	42	130	85	96	30	0	2880	
203	IXXH50N60B3D1	TP1150	42	130	85	96	30	0	2880	
204	IXXH50N60C3	SS1105	42	130	85	96	30	0	2880	
205	IXXH60N65B4	SP1235	42	130	85	96	30	0	2880	
206	IXXH60N65C4	SP1236	42	130	85	96	30	0	2880	
207	IXXH80N65B4H1	SP1319	42	130	85	96	30	0	2880	
208	IYH24N90C3	TS1144	42	130	85	96	30	0	2880	
209	IYH30N120C3	TP1137	42	130	85	96	30	0	2880	
210	IYH40N120C3	TP1137	42	130	85	96	30	0	2880	
211	IYH40N90C3	TS1205	42	130	85	96	30	0	2880	
212	IYH50N120C3	TP1137	42	130	85	96	30	0	2880	
213	IYH60N90C3	SS1205	42	130	85	96	30	0	2880	
214	IYH82N120C3	TP1115	42	130	85	96	30	0	2880	
215	IYH82N120C3	TP1115	42	130	85	96	30	0	2880	
216	IYYP8N90C3	TS1144	42	130	85	96	30	0	2880	
217	IYXT20N120C3D1HV	TS1247	42	130	85	96	30	0	2880	