



MTBF PREDICTION REPORT

PA Department

DFI



MTBF PREDICTION REPORT

Model: AL553-BN-E3950

Revision: 0A2

Completed Date	2019/03/11
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1. Purpose:

This MTBF prediction report presents the product reliability by the Relex reliability analysis tools, which is developed by Relex Software Corporation. When performing a reliability prediction analysis, there are several calculated values that provide measures of reliability. These values include failure rate, MTBF, reliability and availability. This report should provide the reliable and worth result for MTBF and failure rate reference.

2. Prediction Models:

For motherboard product, this report is based on Telcordia (formerly Bellcore). The Telcordia reliability prediction model was originally developed by AT&T Bell Labs. Bell Labs modified the equations from MIL-HDBK-217 to better represent what their equipment was experiencing in the field.

3. Definition:

- Failure Rate: Failure rate is defined as the rate of occurrence of failure. It is basically the anticipated number of times that an item fails in a specified period of time.
- MTBF: MTBF stands for Mean Time between Failures. MTBF is the inverse of the failure rate for constant failure rate systems. MTBF can be described as the number of hours to pass before for a component, assembly, or system.
- Description: A description of the item on the Relex file.
- Environment: It is based on those outlined in the Telcordia (Bellcore) standards.
- Temperature: Present the operation temperature (in degrees Celsius) to meet the requirement.

4. MTBF Result and Relax Software Report:

Temperature (Celsius)	MTBF (hours)
25	618325
45	396242
60	267106

File Name: AL553-BN-E3950.rfp
System: 770-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.27
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Assembly Name	Part Number	Quantity	Failure Rate (Fit)	MTBF (Hrs)
AL553-BN-E3950	770-AL5531-200G	1	1617.27	618,325
AL553-BN-E3950	774-AL5531-200G	1	1617.27	618,325

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.2713
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
113-500000-210G	IC TTL,Single 2-Input Positive-NAND Gate,SN74LVC1G00DCKR/SC70-5(TI)RoHS	1.9772	1	2.9741
113-500007-210S	IC TTL,Single Buffer/Driver,SN74LVC1G07DCKR/SC70-5(TI)	1.9772	1	2.9741
113-500008-210G	IC TTL,Single 2-Input Positive-AND Gate,SN74LVC1G08DCKR/SC70-5(TI)RoHS	1.9772	4	9.8732
113-500014-210S	IC TTL,Single Schmitt-Trigger Inverter Gate,SN74AHC1G14DBVR/SOT23-5(TI)	1.9772	3	7.6379
113-500125-600G	IC TTL,Single Bus Buffer Gate,SN74LVC1G125DCK/SC70-5(TI)RoHS	1.9772	2	5.3538
113-906408-400G	IC LOW-VOLTAGE 8-BIT I2C AND SMBus I/O EXPANDER,UQFN16, TCA6408ARSVR(TI)RoHS	1.9772	1	2.9741
121-000104-400G	TRANSLATING TRANSCIEVER,NTB0104GU12/XQFN12(NXP)RoHS	1.9772	1	2.9741
121-000104-420G	IC 4-BIT BIDIRECTIONAL VOLTAGE-LEVEL TRANSLATOR,NTS0104GU12/XQFN12(NXP) RoHS	1.9772	2	5.3538
121-000204-400G	4-Bits Bidirectional Multi-Voltage Level Translator,LSF0204RUTR/UQFN12(TI)RoHS	1.9772	6	14.2597
121-003941-200G	IC 4 Times Linear Fan Driver,NCT3941S/SOP-8 (NUVOTON)RoHS	1.9772	1	2.9741
121-009233-200G	IC BUFFER FOR PCIE,GEN3,9DB233AGLF/TSSOP-20 (IDT)RoHS	1.9772	1	2.9741
121-009406-200G	IC DUAL BIDIRECTIONAL I ² C-bus and SMBus TRANSLATOR,TCA9406DCUR/micro SO8(TI)RoHS	1.9772	1	2.9741
121-022976-200G	IC Switch,5.7-V,6-A,14-mΩ On-Resistance Dual-Channel Load,TPS22976DPU/WSON-14(TI)RoHS	1.9772	2	5.3538
121-081439-400G	IC RS232/RS422/RS485 Multiprotocol Transceivers,F81439N/TQFN40(FINTEK)RoHS	1.9772	1	2.9741
123-100341-200G	IC OP Amplifier,LMV341IDCK/SC70-6(TI)RoHS	1.9772	1	2.9741
135-301004-201G	EEPROM 8K(1024*8)M24C08-WMN6TP/SO-8(ST) RoHS	4.4178	1	6.8575
135-301282-210G	SPI SERIAL FLASH 128Mbit,W25Q128FWSIQ/SOIC-8 (WINBOND)RoHS	4.4178	1	6.8575
136-115090-400G	Flash 8-Bit Microcontroller PIC16F1509-I/ML/QFN-20 (MICROCHIP)RoHS	4.4178	1	6.8575
141-003460-403G	eDP to LVDS bridge PTN3460BS/F6,HVQFN56(NXP) RoHS	1.9772	1	2.9741
141-006850-401G	IC Synchronous Buck Converter,4.5-26Vin,12A,NB685AGQ/QFN16(MPS)RoHS	1.9772	1	2.9741
141-014422-400G	HDMI/DVI Level Shifter ASM1442K/QFN-48 (ASMEDIA)RoHS	1.9772	1	2.9741
141-029390-403G	IC Controller,Multi-Rail PWM for Intel IMVP8,MP2939GQK-Z/QFN-48,D/C after 1650(MPS) RoHS	1.9772	1	2.9741
141-034280-400G	IC Synchronous Boost Converter,MP3428AGL-Z/QFN-22(MPS)RoHS	1.9772	1	2.9741
141-232120-400G	IC PCIE 3.0 Switch 2:1 Mux/DeMux,PI3PCIE3212ZBE/TQFN-20(PERICOM) RoHS	1.9772	1	2.9741

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Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
141-262001-200G	AUDIO CODEC ALC262-VC2-GR/LQFP48(REALTEK) RoHS	1.9772	1	2.9741
141-290800-400G	IC Controller,4V-60V Input Current Mode Synchronous Step-Down,MP2908AGL-Z/(MPS)RoHS	1.9772	2	5.3538
141-562150-400G	IC Synchronous Step-down Converter,TPS56C215RNN/VQFN-18(TI)RoHS	1.9772	1	2.9741
141-620850-200G	IC Synchronous Buck Converter,2.5-6,3A,TLV62085RLT/VSON-7(TI)RoHS	1.9772	3	7.6379
147-002110-200G	IC CHIP,Giga LAN CTRL,WGI211AT SLJXZ/QFN-64 (INTEL)RoHS	1.9772	2	5.3538
147-033550-200G	IC Low power DisplayPort to VGA adapter,PTN3355BS/F3/HVQFN-40(NXP)RoHS	1.9772	1	2.9741
147-818030-200G	IC CHIP,-40~85°C,F81803U-I/TQFP-64(FINTEK) RoHS	1.9772	1	2.9741
171-200014-200G	DIODE SCHOTTKY BARRIER RECTIFIER,40V,1A,SS14S-TH-WS/SOD123S (WILLAS)RoHS	0.2189	2	0.7270
171-200046-201G	DIODE SCHOTTKY BARRIER RECTIFIER,100V,150mA,BAT46W/SOD123(SECOS) RoHS	0.2189	2	0.7270
171-200520-200G	DIODE SCHOTTKY BARRIER RECTIFIER,30V,200mA,SCS520S-C/SOD-523 (SECOS)RoHS	0.2189	5	1.5482
171-204005-210G	DIODE SCHOTTKY BARRIER 40V,200mA,BAS40-05-7-F/SOT23-3(DIODES)RoHS	0.2189	2	0.7270
171-214148-503S	DIODE Switching,SMD,1N4148W-TG-WS/SOD-123 (WILLAS)	0.2189	1	0.4229
171-215817-213G	DIODE Schottky,SMA,FM5817P-T-FM/DO214AC (FMS)RoHS	0.2189	1	0.4229
171-224148-309G	DIODE Switching,1N4148WS-7-F/SOD323(DIODES) RoHS	0.2189	1	0.4229
171-230502-200G	DIODE ESD Protection,VRWM=5.0V,IRM=100nA,VESD=10KV,SM T,SOT883,PESD5V0U2BM(NXP)RoHS	0.2189	4	1.2823
171-360360-500G	DIODE TVS,36V,600W,SMBJ36CA/DO-214AA (LITTELFUSE)RoHS	0.2189	1	0.4229
171-404001-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4E001DBVR/SOT23-6(TI)	1.9772	4	9.8732
171-404010-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4S010DQAR/SON-DQA10(TI)	1.9772	5	12.0774
171-451715-200G	DIODE Zener,15V,Vz=14.34V~14.98V,UDZVTE-1715B/SOD323F(ROHM)RoHS	0.2189	2	0.7270
171-451736-200G	DIODE Zener,36V,Vz=35.07V~36.87V,UDZVTE-1736B/SOD323(ROHM)RoHS	0.2189	1	0.4229
171-451756-200G	DIODE Zener,5.6V,Vz=5.49V~5.73V,UDZVTE-175.6B/SOD-323F(ROHM)RoHS	0.2189	1	0.4229
171-505430-207G	DIODE SCHOTTKY BARRIER 30V,200mA,BAT54CLT1G/SOT23-3(ON)RoHS	0.2189	2	0.7270
171-505431-203G	DIODE Schottky,BAT54A/SOT23(NXP)RoHS	0.2189	2	0.7270

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Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
172-001380-209G	MOSFET N-Ch, VDS:50V, ID:200mA, VGS:±20V, RDS:3.5Ω, BSS138-7-F/SOT-23(DIODES)RoHS	7.2970	1	10.7463
172-207002-239S	MOSFET N-Ch, VDS:60V, ID:300mA, VGS:±20V, @10V, RDS:2Ω, 2N7002K-7/SOT-23(DIODES)	7.2970	3	27.7940
172-223904-206S	TRANSISTOR NPN, MMBT3904LT1G/SOT23(ON)	1.1741	4	6.4928
172-223904-400G	TRANSISTOR Dual NPN, MBT3904DW1T1G/SOT-363(ON)RoHS	1.1741	1	2.0814
172-223906-207S	TRANSISTOR PNP, PMBS3906/SOT23(NXP)	1.1741	1	2.0814
172-300612-200G	MOSFET Dual N-Ch, VDS:30V, VGS:±20V, ID:100mA, @4V, RDS:8Ω, EM6K1GT2R/SOT-563(ROHM)RoHS	7.2970	16	130.0135
172-301402-200G	MOSFET Dual N-Ch, VDS:20V, ID:9.5A, VGS:±12V, @4.5V, RDS:14mΩ, EMZF14R02W/8-DFN(3x3)(EXCELLIANCE)RoHS	7.2970	1	10.7463
172-305113-210G	MOSFET P-Ch, VDS:-60V, ID:-64A, VGS:±20V, @-10V, RDS:14mΩ, NVMFS5113PLT1G/DFN5(5x6)(ON)RoHS	7.2970	4	35.9842
172-318543-200G	MOSFET N-Ch, VDS:60V, ID:12A, VGS:±20V, at 10V, RDS:8.1mΩ, CSD18543Q3A/SON- 3.3×3.3mm(TI) RoHS	7.2970	8	67.9278
172-330140-200G	MOSFET N-Ch, VDS:30V, ID:9.5A, VGS:±20V, @10V, RDS:12mΩ, FKBB3014/PRPAK-8(3x3)(FETEK)RoHS	7.2970	4	35.9842
172-331030-200G	MOSFET P-Ch, VDS:-30V, ID:-7.7A, VGS:±25V, @-10V, RDS:20mΩ, FKBB3103/PRPAK-8(3x3)(FETEK)RoHS	7.2970	1	10.7463
172-886901-200G	DrMOS Power Stage MP86901-AGQT-Z/TQFN13(MPS)RoHS	7.2970	1	10.7463
172-886901-210G	DrMOS Power Stage MP86901-CGLT-Z/TQFN21(MPS)RoHS	7.2970	1	10.7463
174-210010-500S	LED, RED, SMD0805, 17-21VRC/TR8(HT)(EVERLIGHT)	0.0677	1	0.1329
212-156124-200G	SOLID CAP, 560uF/6.3V, 8mΩ, 5A, SMD (Φ6.3*7.7), 105°C/15000h, M(20%), APXJ6R3ARA561MF80G(NCC)RoHS	0.7181	2	1.7589
212-247145-200G	ELEC CAP, 470uF/16V, 12mΩ, 1504mA, SMD, φ8x10mm, 160AV5K471M0810C(APAQ)RoHS	0.7181	1	0.9480
213-150330-200C	MLCC 3.3pF/50V, NPO, C(0.25pF), SMD, 0402, (None JP)RoHS	0.0911	2	0.1987
213-151005-200C	MLCC 10pF/50V, NPO, J(5%), SMD, 0402, (None JP)RoHS	0.0911	8	0.7618
213-151805-200C	MLCC 18pF/50V, NPO, J(5%), SMD, 0402, (None JP)RoHS	0.0911	4	0.3877
213-152205-200C	MLCC 22pF/50V, NPO, J(5%), SMD, 0402, (None JP)RoHS	0.0911	6	0.5752
213-152215-200C	MLCC 221P/50V, NPO, J(5%), SMD, 0402, (None JP)RoHS	0.0911	6	0.5752

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Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
213-152705-200C	MLCC 27pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	4	0.3877
213-152715-200C	MLCC 271P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
213-153319-200C	MLCC 331P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	8	0.7618
213-155605-200C	MLCC 56pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
213-156805-200C	MLCC 68pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	2	0.1987
213-156815-200C	MLCC 681P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	2	0.1987
213-158205-200C	MLCC 82pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
213-251028-200C	MLCC 102P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	4	0.3877
213-251038-250C	MLCC 103P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	16	1.5042
213-251048-230J	MLCC 104P/50V,X7R,K(10%),SMD,0402,(JP)RoHS	0.0911	7	0.6685
213-251049-130J	MLCC 104P/10V,X5R,K(10%),SMD,0201,(JP)RoHS	0.0911	65	6.0152
213-251049-200J	MLCC 104P/16V,X7R,K(10%),SMD,0402,(JP)RoHS	0.0911	126	11.6089
213-251049-270J	MLCC 104P/25V,X5R,K(10%),SMD,0402,(JP)RoHS	0.0911	3	0.2935
213-251059-109G	MLCC 105P/6.3V,X5R,K(10%),SMD,0201,CC0201KRX5R5BB105(YAGEO) RoHS	0.0911	22	2.0588
213-251059-220J	MLCC 105P/10V,X5R,K(10%),SMD,0402,(JP)RoHS	0.0911	16	1.5042
213-251059-230J	MLCC 105P/16V,X5R,K(10%),SMD,0402,(JP)RoHS	0.0911	35	3.2573
213-251068-200J	MLCC 106P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.0911	31	2.8889
213-251068-300J	MLCC 106P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.0911	4	0.3877
213-251069-320J	MLCC 106P/10V,X5R,K(10%),SMD,0603,(JP)RoHS	0.0911	8	0.7618
213-251069-520J	MLCC 106P/10V,X5R,K(10%),SMD,0805,(JP)RoHS	0.0911	9	0.8549
213-251069-540J	MLCC 106P/16V,X5R,K(10%),SMD,0805,(JP)RoHS	0.0911	13	1.2263
213-251069-610J	MLCC 106P/25V,X5R,K(10%),SMD,1206,(JP)RoHS	0.0911	4	0.3877
213-251069-680J	MLCC 106P/50V,X5R,K(10%),SMD,1206(JP)RoHS	0.0911	12	1.1336
213-252229-200C	MLCC 222P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	2	0.1987
213-252249-210C	MLCC 224P/10V,X5R,K(10%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
213-252249-270J	MLCC 224P/16V,X7R,K(10%),SMD,0402(JP)RoHS	0.0911	1	0.1028
213-252249-330C	MLCC 224P/25V,X7R,K(10%),SMD,0603,(None JP) RoHS	0.0911	1	0.1028
213-252249-360J	MLCC 224P/50V,X7R,K(10%),SMD,0603,(JP)RoHS	0.0911	2	0.1987
213-252259-200J	MLCC 225P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.0911	11	1.0407
213-252259-330C	MLCC 225P/16V,X5R,K(10%)SMD,0603,(None JP) RoHS	0.0911	2	0.1987
213-252268-310J	MLCC 226P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.0911	50	4.6372
213-252269-510J	MLCC 226P/6.3V,X5R,M(20%),SMD,0805,(JP)RoHS	0.0911	4	0.3877

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213-252269-620C	MLCC 226P/16V,X5R,K(10%),SMD,1206,(None JP) RoHS	0.0911	6	0.5752
213-252269-620J	MLCC 226P/16V,X5R,K(10%),SMD,1206,(JP)RoHS	0.0911	2	0.1987
213-253939-240J	MLCC 393P/25V,X7R,K(10%),SMD,0402,(JP)RoHS	0.0911	2	0.1987
213-254715-200C	MLCC 471P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.0911	7	0.6685
213-254739-210C	MLCC 473P/16V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
213-254758-210J	MLCC 475P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.0911	5	0.4816
213-254759-320C	MLCC 475P/10V,X5R,K(10%),SMD,0603,(None JP) RoHS	0.0911	3	0.2935
213-254759-510J	MLCC 475P/25V,X5R,K(10%),SMD,0805,(JP)RoHS	0.0911	1	0.1028
213-254759-540J	MLCC 475P/16V,X7R,K(10%),SMD,0805,(JP)RoHS	0.0911	2	0.1987
213-254759-660J	MLCC 475P/50V,X7R,K(10%),SMD,1206,(JP)RoHS	0.0911	1	0.1028
213-255629-200C	MLCC 562P/50V,X7R,K(10%),SMD,0402,(None JP)) RoHS	0.0911	1	0.1028
213-256829-200C	MLCC 682P/25V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.0911	1	0.1028
217-301078-325G	POLYMER(TAN) CAP 100uF/6.3V,40mΩ,1.8A,SMD,B3528,105°C/2000H,M (20%),T520B107M006ATE040(KEMET)RoHS	0.7181	1	0.9480
217-302278-326G	POLYMER(TAN)CAP 220uF/6.3V,45mΩ,1700mA,105°C/2000H,M (20%),B3528(1.9),T520B227M006ATE045(KEMET) RoHS	0.7181	6	4.8544
217-303378-720G	POLYMER(TAN) CAP 330uF/2.5V,9mΩ,3900mA,SMD,D7343-D2E,105°C/2000H,M(20%),2R5TPE330M9(SANYO) RoHS	0.7181	1	0.9480
223-015122-600G	CHOKE 0.15uH,M (20%),RDC ≤ 0.66mΩ,Idc ≤ 36A,Isat=45A,SMD, (7.6*6.6*3.8),PCME064T-R15MS0R667(CYNTEC) RoHS	0.0831	1	0.1030
223-015223-120G	CHOKE 1.5uH,M (20%),RDC ≤ 3.8mΩ,Idc=16A,Isat=33A,SMD, (11.5x10x4),PCMC104T-1R5MN(CYNTEC)RoHS	0.0831	1	0.1030
223-022223-010G	CHOKE 2.2uH,M (20%),RDC ≤ 6.7mΩ,Idc=12A,Isat=27A,SMD, (10.85x10x3.8),PCMC104T-2R2MN(CYNTEC)RoHS	0.0831	2	0.1942
223-033122-620G	CHOKE 0.33uH,M (20%),RDC ≤ 3.74mΩ,Irms=20A,Isat=30A,SMD (7.3*6.6*3),MCS0630-R33MBB(PDC)RoHS	0.0831	1	0.1030
223-036121-700G	CHOKE 0.36uH,M (20%),DCR ≤ 12mΩ,Irms=9A,Isat:11A,SMD (4.5*4*1.8),GSTD4020PJ-R36M(GOTREND)RoHS	0.0831	1	0.1030
223-047120-820G	CHOKE 0.47uH,M (20%),RDC ≤ 39mΩ,Irms=3.5A,SMD, (2.5x2x1.2),AWP252012AF-R47M(TAI TECH)RoHS	0.0831	3	0.2835

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Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
223-068122-500G	CHOKE 0.68uH,M (20%),RDC ≤ 5.5mΩ,Idc=15.5A,Isat=25A,SMD, (6.95x6.6x2.8),PCMC063T-R68MN(CYNTEC)RoHS	0.0831	1	0.1030
223-410040-501S	COMMON CHOKE Z ≥ 90Ω,M (20%),RDC ≤ 0.35Ω,Idc ≤ 330mA,SMD, (2.05*1.25*1.2),CMM21T-900M-N(CHILISIN)	0.0831	6	0.5464
223-490020-500G	COMMON CHOKE 90Ω,M(20%),300mA,SMD(0805) (2012),ACM2012H-900-2P(TDK)RoHS	0.0831	4	0.3713
223-490090-500S	COMMON CHOKE 90Ω,60-100Ω,300mA (Max),RDC ≤ 300mΩ,HDMI/USB3.0 6GHz,SMD0805 (2*1.2*1.2mm),GLECM2012B-900QT(GOTREND)	0.0831	4	0.3713
231-107168-200G	REGULATOR 0.8A,GS7168TD-R/TDFN8(GSTEK)HF	1.9474	2	6.5047
241-219206-300G	X'TAL 19.200Mhz,12pf,±30ppm,TOPR=-40°C ~+105°C,SMD3225(4PAD),X32-19.200-12-30/50M (MEC)RoHS	1.4698	1	2.4229
241-225006-340G	X'TAL 25MHz,18pF,±10ppm,TOPR=-40°C ~+85°C,SMD3225(4PAD),7M25090002(TXC)RoHS	1.4698	2	4.2797
241-227006-360G	X'TAL 27MHz,18pF,±30ppm,ESR:50Ω(Max),TOPR=- 40°C~+105°C,SMD3225(4PAD),7M27000056(TXC) RoHS	1.4698	1	2.4229
241-432773-300G	X'TAL 32.768kHz,12.5pf,*/-20ppm,TOPR=-40°C ~+125°C,SMD3215(2PAD),FC- 13A,X1A000091000100(Seiko Epson)RoHS	1.4698	1	2.4229
242-248006-200G	OSC 48Mhz,3.3V,15pf,25ppm,TOPR=-40°C ~+85°C,SMD2520(4PAD),FCO-236A 48.000MAC (FUJICOM)RoHS	1.1257	1	1.8325
251-160808-083S	BEAD CORE 160808 80Ω,300mA,25%,SMT0603,SBK160808T-800Y-N (CHILISIN)	0.4535	2	1.5088
251-160808-615S	BEAD CORE 160808 600Ω,1A,25%,SMT0603,PBY160808T-601Y-N (CHILISIN)	0.4535	1	0.8779
251-201200-804S	BEAD CORE 201209 80Ω,3A,25%,SMT0805,PBY201209T-800Y-N (CHILISIN)	0.4535	1	0.8779
251-647000-301S	BEAD CORE 160808 47Ω,400mA,25%,SMT0603,SBK160808T-470Y-N (CHILISIN)	0.4535	8	4.8162
253-100115-604S	POLYSWITCH 1.1A,8V,SMT1206,1206L110THYR (LITTELFUSE)HF	0.4000	2	1.1579
253-100116-401G	POLYSWITCH 1.1A,16V,SMT1812,1812L110/16DR (LITTELFUSE)HF	0.4000	1	0.6546
253-100155-604S	POLYSWITCH 1.5A/8V,SMD1206 TYPE PTC,1206L150THWR(LITTELFUSE)	0.4000	4	2.1022
253-100265-404S	POLYSWITCH 2.6A,8V,SMT1812,1812L260THDR (LITTELFUSE)HF	0.4000	2	1.1579
253-100266-403S	POLYSWITCH 2.6A/13.2V,SMD1812,miniSMDC260F/13.2 (LITTELFUSE)RoHS	0.4000	2	1.1579

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.2713
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
261-361515-200C	RES NET 150Ω 8P4R J(5%),0402*4,(None JP)RoHS	0.0605	2	0.1490
261-364725-200C	RES NET 4.7KΩ 8P4R J(5%),0402*4,(None JP)RoHS	0.0605	1	0.0805
263-120047-912S	PMS RES,4mΩ,F (1%),1W,SMD,2010,TLR2HDTE4L00F(KOA)	0.0605	3	0.2157
263-180005-100C	RES 0Ω,J(5%),SMD,0201,(None JP)RoHS	0.0605	73	4.5800
263-180005-200C	RES 0Ω,J(5%),SMD,0402,(None JP)RoHS	0.0605	77	4.8264
263-180005-300C	RES 0Ω,J(5%),SMD,0603,(None JP)RoHS	0.0605	18	1.1707
263-180005-600C	RES 0Ω,J(5%),SMD,1206,(None JP)RoHS	0.0605	3	0.2157
263-180100-110C	RES 10Ω,F(1%),SMD,0201,(None JP)RoHS	0.0605	1	0.0805
263-180100-210C	RES 10Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	6	0.4110
263-180100-510C	RES 10Ω,F(1%),SMD,0805,(None JP)RoHS	0.0605	2	0.1490
263-180200-210C	RES 20Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	9	0.6024
263-180220-110C	RES 22Ω,F(1%),SMD,0201,(None JP)RoHS	0.0605	8	0.5386
263-180220-210C	RES 22Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	3	0.2157
263-180330-210C	RES 33Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	11	0.7295
263-180360-210C	RES 36Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-180519-210C	RES 5.1Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-180680-210C	RES 68Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-180750-110C	RES 75Ω,F(1%),SMD,0201,(None JP)RoHS	0.0605	3	0.2157
263-180750-210C	RES 75Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-181000-210C	RES 100Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	10	0.6660
263-181000-310C	RES 100Ω,F(1%),SMD,0603,(None JP)RoHS	0.0605	2	0.1490
263-181001-110C	RES 1KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	44	2.7893
263-181001-210C	RES 1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	13	0.8560
263-181001-310C	RES 1KΩ,F(1%),SMD,0603,(None JP)RoHS	0.0605	2	0.1490
263-181002-110C	RES 10KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	66	4.1486
263-181002-210C	RES 10KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	34	2.1690
263-181003-110C	RES 100KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	11	0.7295
263-181003-210C	RES 100KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	12	0.7928
263-181004-210C	RES 1MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181005-210C	RES 10MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181050-210C	RES 105Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181053-210C	RES 105KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181130-210C	RES 113Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181182-210C	RES 11.8KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181201-210C	RES 1.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181202-210C	RES 12KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181213-210C	RES 121KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181273-210C	RES 127KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181400-210C	RES 140Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181500-210C	RES 150Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	6	0.4110
263-181502-210C	RES 15KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181503-210C	RES 150KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181542-210C	RES 15.4KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181623-210C	RES 162KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181651-210C	RES 1.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181653-210C	RES 165KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805

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Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.2713
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-181690-210C	RES 169Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-181691-210C	RES 1.69KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-181872-210C	RES 18.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182000-110C	RES 200Ω,F(1%),SMD,0201,(None JP)RoHS	0.0605	3	0.2157
263-182001-210C	RES 2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-182002-110C	RES 20KΩ,F(1%),SMD,0201(None JP)RoHS	0.0605	1	0.0805
263-182002-210C	RES 20KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	9	0.6024
263-182003-210C	RES 200KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182004-210C	RES 2MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-182103-210C	RES 210KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182200-210C	RES 220Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182201-110C	RES 2.2KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	14	0.9191
263-182202-210C	RES 22KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-182208-310C	RES 2.2Ω,F(1%),SMD,0603,(None JP)RoHS	0.0605	4	0.2814
263-182553-210C	RES 255KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182612-210C	RES 26.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-182702-218G	RES 27KΩ,F(1%),SMD,0402,RTT022702FTH(RALEC)RoHS	0.0605	1	0.0805
263-182872-210C	RES 28.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183000-210C	RES 300Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-183000-310C	RES 300Ω,F(1%),SMD,0603,(None JP)RoHS	0.0605	1	0.0805
263-183002-210C	RES 30KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183003-310C	RES 300KΩ,F(1%),SMD,0603(None JP)RoHS	0.0605	1	0.0805
263-183013-210C	RES 301KΩ,F(1%),SMD,0402(None JP)RoHS	0.0605	2	0.1490
263-183092-210C	RES 30.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183162-210C	RES 31.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183300-210C	RES 330Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-183301-110C	RES 3.3KΩ,F(1%),SMD,0201(None JP)RoHS	0.0605	16	1.0451
263-183302-110C	RES 33KΩ,F(1%),SMD,0201(None JP)RoHS	0.0605	4	0.2814
263-183303-210C	RES 330KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	3	0.2157
263-183305-100C	RES 33Ω,J(5%),SMD,0201(None JP)RoHS	0.0605	10	0.6660
263-183401-310C	RES 3.4KΩ,F(1%),SMD,0603,(None JP)RoHS	0.0605	1	0.0805
263-183402-210C	RES 34KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183651-210C	RES 3.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-183901-210C	RES 3.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-183922-210C	RES 39.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-184020-210C	RES 402Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	3	0.2157
263-184122-210C	RES 41.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-184532-210C	RES 45.3KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-184701-110C	RES 4.7KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	53	3.3461
263-184701-210C	RES 4.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	9	0.6024
263-184702-110C	RES 47KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0605	9	0.6024
263-184702-210C	RES 47KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	3	0.2157
263-184750-210C	RES 475Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-184872-210C	RES 48.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-184990-210C	RES 499Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-184991-210C	RES 4.99KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.2713
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-184992-210C	RES 49.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-184999-210C	RES 49.9Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-185101-210C	RES 5.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-185102-210C	RES 51KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	4	0.2814
263-185110-210C	RES 511Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-185112-210C	RES 51.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-185230-210C	RES 523Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-185600-210C	RES 560Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-185621-210C	RES 5.62KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-186040-210C	RES 604Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-186049-210C	RES 60.4Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-186192-210C	RES 61.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-187870-210C	RES 787Ω,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-188062-210C	RES 80.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-188459-210C	RES 84.5Ω,F(1%),SMD,0402 (None JP)RoHS	0.0605	1	0.0805
263-188661-210C	RES 8.66KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-189092-210C	RES 90.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-189312-210C	RES 93.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-189531-210C	RES 9.53KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	2	0.1490
263-189761-210C	RES 9.76KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
263-189762-210C	RES 97.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0605	1	0.0805
273-100402-301S	THERM RES 10KΩ,J(5%),SMD,0603, (B25/85=3435,3%),TSM1A103J34D3RZ(TKS)	0.9957	2	3.3397
314-AL5531-109G	PCB AL553 R.A (10L 146x102x1.6mm) OSP (CIRCUITECH)RoHS	2.4655	1	4.6984
342-101903-120G	HDMI CONN 19P,FEMALE,R/A,DIP,15u",POSTx1/SPRING,WHDM- 19D6L1BC3U4(WIN WIN)RoHS	2.0862	1	3.6121
343-111514-110G	DSUB CONN 15SA,90D,FASTEN SCREW,G/F,Blue,,D4324-15F-422B(XIAN YI)RoHS	2.0862	1	3.6121
343-500426-112G	USB CONN*2,,R/A,W/O external SPRING,30u,UB1112C-8HS6-4F(FOXCONN)RoHS	2.0862	1	3.6121
343-500642-111G	Giga LAN CONN RJ45 30μ,W/Transformer&LED,24- 000939N13-1(UDE)RoHS	2.0862	2	6.3217
343-503600-100S	USB 3.0*2 ,A Type,30u,UEA1112C-8FS6-4F (FOXCONN)	2.0862	1	3.6121
344-002003-610G	Mini JUMPER RED 2.0mm,200-72-PBGR0B(PINREX) RoHS	2.0862	3	8.8799
346-110320-000G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,220- 96-03GB01(PINREX)RoHS	14.6036	2	44.2517
346-120320-800S	PIN PLUG 2*3,2.0mm,M,H=6.7mm,180D,SMT,W/CAP,222-97- 03GBE1(R)(PINREX)	14.6036	2	44.2517
346-120322-201G	PIN PLUG 2*3-1(K6)/2.0mm,Vertical,SMD,222-97- 03GBEG(PINREX),OOX/OOO,RoHS	14.6036	1	25.2847
346-120520-821G	PIN PLUG 2*5/2.0mm,W/Pick & CAP,SMD,222-97- 05GBE1(PINREX)RoHS	14.6036	1	25.2847

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Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 618325
Failure Rate: 1,617.2713
Temperature: 25
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
346-120521-040G	PIN PLUG 2*5-1 (K8),2.0mm,M,H=5.9mm,180D,DIP,220-97-05GB18 (PINREX),OOOXO/OOOOO,RoHS	14.6036	1	25.2847
346-120521-100G	PIN PLUG 2*5-1(K9)/2.0mm,220-97-05GB19 (PINREX),OOOOO/OOOOX,RoHS	14.6036	1	25.2847
346-120521-800G	PIN PLUG 2*5-1(K10)/2.0mm SMD W/cap,222-97-05GBEA(R)(PINREX),OOOX/OOOOO,RoHS	14.6036	1	25.2847
346-510223-102G	WAFER 1*2,2.0mm,M,H=6.1mm,180D,DIP,WHITE,721-81-02TW00(PINREX)RoHS	14.6036	1	25.2847
346-510430-100S	BOX HEADER 1*4/2.5mm,B4B-XH-A(LF)(SN)/(JST)	14.6036	1	25.2847
346-510801-100G	BOX HEADER 1*8, 8P/2.0mm/180D,721-81-08TW00 (PINREX)RoHS	14.6036	1	25.2847
346-600750-101S	SATA3 CONNECTOR 7Pin,15u",180D,DIP,DARK BLUE,W/LOCK,LE18077-Z54D-4H(FOXCONN)	14.6036	1	25.2847
346-714000-204G	WTB HEADER 40P,1.25mm,M,H=4.8mm,180D,SMT,BEIGE,712-76-40GWE0(PRINEX)RoHS	14.6036	1	25.2847
347-103010-113G	BOX HEADER 1*3,2.54mm,M,H=10.05mm,180D,DIP,RED,744-81-03TR00(PINREX)RoHS	2.0862	1	3.6121
347-202041-100G	POWER CONN BTX 2*2P/5.5*4.2mm,DIP,90D,WHITE,LATCH=3.4mm,740-47-04TW00(PINREX)RoHS	2.0862	1	3.6121
348-220800-200S	SOCKET SPI 8Pin,GF,H=5.65mm,180D,SMT,ACA-SPI-004-K01(LOTES)	1.1379	1	1.8544
348-370750-210G	NGFF CONN 75/0.5mm,B Key,R/A,SMD,AS0BC21-S40BB-7H,(FOXCONN)HF	1.1379	1	1.8544
348-370750-280G	NGFF CONN 75P/0.5mm,H=8.5mm,E key,90D,BLACK,SMT,2E0BC21-S85BE-7H(FOXCONN) HF	1.1379	1	1.8544
348-652042-222G	SOCKET DDR-III SO DIMM 1*204P,10u,H=9.2mm 1.5V,STD,SMD,AS0A626-HASN-7H(FOXCONN) RoHS/HF	1.1379	1	1.8544
348-660522-200S	MINI PCI-EXPRESS 1*52,0.8mm,10u",F,H=9.9mm,90D,SMT,IVORY,GENERAL TYPE,AS0B226-S99Q-7H(FOXCONN)HF	1.1379	1	1.8544
622-010140-000G	BATTERY CR2032 3V 220mAh W/CABLE (L=150mm&TAPE),BIN-CR2032-I-CT-SL-PV-01(RE-ENERGY)RoHS Belong to UN3090	25.0000	1	34.9638
686-110322-100G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,W/BLACK JUMPER,22S-96-03GB01(PINREX)RoHS	2.0862	2	6.3217
143-10160I-402G	CPU Intel Atom x7-E3950 1.6GHz C/2M,D0,LH8066803102601 SR33P/FCBGA-1296 (INTEL)RoHS	159.0000	1	159.0000
292-301000-500S	BUZZER 3V,100mA,12Ω,4Khz,85db,SMD (5*4.2mm),SMT-G5030A(KEPO)	600.0000	1	600.0000

**Reliability Prediction
Summary**

File Name: AL553-BN-E3950.rfp
System: 770-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.71
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Assembly Name	Part Number	Quantity	Failure Rate (Fit)	MTBF (Hrs)
AL553-BN-E3950	770-AL5531-200G	1	2523.71	396,242
AL553-BN-E3950	774-AL5531-200G	1	2523.71	396,242

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
113-500000-210G	IC TTL,Single 2-Input Positive-NAND Gate,SN74LVC1G00DCKR/SC70-5(TI)RoHS	4.6582	1	7.0069
113-500007-210S	IC TTL,Single Buffer/Driver,SN74LVC1G07DCKR/SC70-5(TI)	4.6582	1	7.0069
113-500008-210G	IC TTL,Single 2-Input Positive-AND Gate,SN74LVC1G08DCKR/SC70-5(TI)RoHS	4.6582	4	23.2605
113-500014-210S	IC TTL,Single Schmitt-Trigger Inverter Gate,SN74AHC1G14DBVR/SOT23-5(TI)	4.6582	3	17.9944
113-500125-600G	IC TTL,Single Bus Buffer Gate,SN74LVC1G125DCK/SC70-5(TI)RoHS	4.6582	2	12.6132
113-906408-400G	IC LOW-VOLTAGE 8-BIT I2C AND SMBus I/O EXPANDER,UQFN16, TCA6408ARSVR(TI)RoHS	4.6582	1	7.0069
121-000104-400G	TRANSLATING TRANSCIEVER,NTB0104GU12/XQFN12(NXP)RoHS	4.6582	1	7.0069
121-000104-420G	IC 4-BIT BIDIRECTIONAL VOLTAGE-LEVEL TRANSLATOR,NTS0104GU12/XQFN12(NXP) RoHS	4.6582	2	12.6132
121-000204-400G	4-Bits Bidirectional Multi-Voltage Level Translator,LSF0204RUTR/UQFN12(TI)RoHS	4.6582	6	33.5948
121-003941-200G	IC 4 Times Linear Fan Driver,NCT3941S/SOP-8 (NUVOTON)RoHS	4.6582	1	7.0069
121-009233-200G	IC BUFFER FOR PCIE,GEN3,9DB233AGLF/TSSOP-20 (IDT)RoHS	4.6582	1	7.0069
121-009406-200G	IC DUAL BIDIRECTIONAL I ² C-bus and SMBus TRANSLATOR,TCA9406DCUR/micro SO8(TI)RoHS	4.6582	1	7.0069
121-022976-200G	IC Switch,5.7-V,6-A,14-mΩ On-Resistance Dual-Channel Load,TPS22976DPU/WSON-14(TI)RoHS	4.6582	2	12.6132
121-081439-400G	IC RS232/RS422/RS485 Multiprotocol Transceivers,F81439N/TQFN40(FINTEK)RoHS	4.6582	1	7.0069
123-100341-200G	IC OP Amplifier,LMV341IDCK/SC70-6(TI)RoHS	4.6582	1	7.0069
135-301004-201G	EEPROM 8K(1024*8)M24C08-WMN6TP/SO-8(ST) RoHS	10.4080	1	16.1558
135-301282-210G	SPI SERIAL FLASH 128Mbit,W25Q128FWSIQ/SOIC-8 (WINBOND)RoHS	10.4080	1	16.1558
136-115090-400G	Flash 8-Bit Microcontroller PIC16F1509-I/ML/QFN-20 (MICROCHIP)RoHS	10.4080	1	16.1558
141-003460-403G	eDP to LVDS bridge PTN3460BS/F6,HVQFN56(NXP) RoHS	4.6582	1	7.0069
141-006850-401G	IC Synchronous Buck Converter,4.5-26Vin,12A,NB685AGQ/QFN16(MPS)RoHS	4.6582	1	7.0069
141-014422-400G	HDMI/DVI Level Shifter ASM1442K/QFN-48 (ASMEDIA)RoHS	4.6582	1	7.0069
141-029390-403G	IC Controller,Multi-Rail PWM for Intel IMVP8,MP2939GQK-Z/QFN-48,D/C after 1650(MPS) RoHS	4.6582	1	7.0069
141-034280-400G	IC Synchronous Boost Converter,MP3428AGL-Z/QFN-22(MPS)RoHS	4.6582	1	7.0069
141-232120-400G	IC PCIE 3.0 Switch 2:1 Mux/DeMux,PI3PCIE3212ZBE/TQFN-20(PERICOM) RoHS	4.6582	1	7.0069

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
141-262001-200G	AUDIO CODEC ALC262-VC2-GR/LQFP48(REALTEK) RoHS	4.6582	1	7.0069
141-290800-400G	IC Controller,4V-60V Input Current Mode Synchronous Step-Down,MP2908AGL-Z/(MPS)RoHS	4.6582	2	12.6132
141-562150-400G	IC Synchronous Step-down Converter,TPS56C215RNN/VQFN-18(TI)RoHS	4.6582	1	7.0069
141-620850-200G	IC Synchronous Buck Converter,2.5-6,3A,TLV62085RLT/VSON-7(TI)RoHS	4.6582	3	17.9944
147-002110-200G	IC CHIP,Giga LAN CTRL,WGI211AT SLJXZ/QFN-64 (INTEL)RoHS	4.6582	2	12.6132
147-033550-200G	IC Low power DisplayPort to VGA adapter,PTN3355BS/F3/HVQFN-40(NXP)RoHS	4.6582	1	7.0069
147-818030-200G	IC CHIP,-40~85°C,F81803U-I/TQFP-64(FINTEK) RoHS	4.6582	1	7.0069
171-200014-200G	DIODE SCHOTTKY BARRIER RECTIFIER,40V,1A,SS14S-TH-WS/SOD123S (WILLAS)RoHS	0.3751	2	1.2458
171-200046-201G	DIODE SCHOTTKY BARRIER RECTIFIER,100V,150mA,BAT46W/SOD123(SECOS) RoHS	0.3751	2	1.2458
171-200520-200G	DIODE SCHOTTKY BARRIER RECTIFIER,30V,200mA,SCS520S-C/SOD-523 (SECOS)RoHS	0.3751	5	2.6531
171-204005-210G	DIODE SCHOTTKY BARRIER 40V,200mA,BAS40-05-7-F/SOT23-3(DIODES)RoHS	0.3751	2	1.2458
171-214148-503S	DIODE Switching,SMD,1N4148W-TG-WS/SOD-123 (WILLAS)	0.3751	1	0.7247
171-215817-213G	DIODE Schottky,SMA,FM5817P-T-FM/DO214AC (FMS)RoHS	0.3751	1	0.7247
171-224148-309G	DIODE Switching,1N4148WS-7-F/SOD323(DIODES) RoHS	0.3751	1	0.7247
171-230502-200G	DIODE ESD Protection,VRWM=5.0V,IRM=100nA,VESD=10KV,SM T,SOT883,PESD5V0U2BM(NXP)RoHS	0.3751	4	2.1975
171-360360-500G	DIODE TVS,36V,600W,SMBJ36CA/DO-214AA (LITTELFUSE)RoHS	0.3751	1	0.7247
171-404001-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4E001DBVR/SOT23-6(TI)	4.6582	4	23.2605
171-404010-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4S010DQAR/SON-DQA10(TI)	4.6582	5	28.4535
171-451715-200G	DIODE Zener,15V,Vz=14.34V~14.98V,UDZVTE-1715B/SOD323F(ROHM)RoHS	0.3751	2	1.2458
171-451736-200G	DIODE Zener,36V,Vz=35.07V~36.87V,UDZVTE-1736B/SOD323(ROHM)RoHS	0.3751	1	0.7247
171-451756-200G	DIODE Zener,5.6V,Vz=5.49V~5.73V,UDZVTE-175.6B/SOD-323F(ROHM)RoHS	0.3751	1	0.7247
171-505430-207G	DIODE SCHOTTKY BARRIER 30V,200mA,BAT54CLT1G/SOT23-3(ON)RoHS	0.3751	2	1.2458
171-505431-203G	DIODE Schottky,BAT54A/SOT23(NXP)RoHS	0.3751	2	1.2458

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
172-001380-209G	MOSFET N-Ch,VDS:50V,ID:200mA,VGS:±20V,RDS:3.5Ω,BSS138-7-F/SOT-23(DIODES)RoHS	12.5047	1	18.4158
172-207002-239S	MOSFET N-Ch,VDS:60V,ID:300mA,VGS:±20V,@10V,RDS:2Ω,2N7002K-7/SOT-23(DIODES)	12.5047	3	47.6300
172-223904-206S	TRANSISTOR NPN,MMBT3904LT1G/SOT23(ON)	2.0121	4	11.1266
172-223904-400G	TRANSISTOR Dual NPN,MBT3904DW1T1G/SOT-363(ON)RoHS	2.0121	1	3.5668
172-223906-207S	TRANSISTOR PNP,PMBS3906/SOT23(NXP)	2.0121	1	3.5668
172-300612-200G	MOSFET Dual N-Ch,VDS:30V,VGS:±20V,ID:100mA,@4V,RDS:8Ω,EM6K1GT2R/SOT-563(ROHM)RoHS	12.5047	16	222.8018
172-301402-200G	MOSFET Dual N-Ch VDS:20V,ID:9.5A,VGS:±12V,@4.5V,RDS:14mΩ,EMZF14R02W/8-DFN(3x3)(EXCELLIANCE)RoHS	12.5047	1	18.4158
172-305113-210G	MOSFET P-Ch,VDS:-60V,ID:-64A,VGS:±20V,@-10V,RDS:14mΩ,NVMFS5113PLT1G/DFN5(5x6)(ON)RoHS	12.5047	4	61.6654
172-318543-200G	MOSFET N-Ch,VDS:60V,ID:12A,VGS:±20V,at 10V,RDS:8.1mΩ,CSD18543Q3A/SON- 3.3×3.3mm (TI) RoHS	12.5047	8	116.4067
172-330140-200G	MOSFET N-Ch,VDS:30V,ID:9.5A,VGS:±20V,@10V,RDS:12mΩ,FKBB3014/PRPAK-8(3x3)(FETEK)RoHS	12.5047	4	61.6654
172-331030-200G	MOSFET P-Ch,VDS:-30V,ID:-7.7A,VGS:±25V,@-10V,RDS:20mΩ,FKBB3103/PRPAK-8(3x3)(FETEK)RoHS	12.5047	1	18.4158
172-886901-200G	DrMOS Power Stage MP86901-AGQT-Z/TQFN13 (MPS)RoHS	12.5047	1	18.4158
172-886901-210G	DrMOS Power Stage MP86901-CGLT-Z/TQFN21 (MPS)RoHS	12.5047	1	18.4158
174-210010-500S	LED,RED,SMD0805,17-21VRC/TR8(HT)(EVERLIGHT)	0.3759	1	0.7374
212-156124-200G	SOLID CAP,560uF/6.3V,8mΩ,5A,SMD (Φ6.3*7.7),105°C/15000h,M (20%),APXJ6R3ARA561MF80G(NCC)RoHS	1.0368	2	2.5395
212-247145-200G	ELEC CAP,470uF/16V,12mΩ,1504mA,SMD,φ8x10mm,160AV5K471M0810C(APAQ)RoHS	1.0368	1	1.3687
213-150330-200C	MLCC 3.3pF/50V,NPO,C(0.25pF),SMD,0402,(None JP)RoHS	0.1030	2	0.2246
213-151005-200C	MLCC 10pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1030	8	0.8610
213-151805-200C	MLCC 18pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1030	4	0.4382
213-152205-200C	MLCC 22pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1030	6	0.6501
213-152215-200C	MLCC 221P/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1030	6	0.6501

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
213-152705-200C	MLCC 27pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	4	0.4382
213-152715-200C	MLCC 271P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
213-153319-200C	MLCC 331P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	8	0.8610
213-155605-200C	MLCC 56pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
213-156805-200C	MLCC 68pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	2	0.2246
213-156815-200C	MLCC 681P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	2	0.2246
213-158205-200C	MLCC 82pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
213-251028-200C	MLCC 102P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	4	0.4382
213-251038-250C	MLCC 103P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	16	1.7001
213-251048-230J	MLCC 104P/50V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1030	7	0.7556
213-251049-130J	MLCC 104P/10V,X5R,K(10%),SMD,0201,(JP)RoHS	0.1030	65	6.7986
213-251049-200J	MLCC 104P/16V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1030	126	13.1206
213-251049-270J	MLCC 104P/25V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1030	3	0.3317
213-251059-109G	MLCC 105P/6.3V,X5R,K(10%),SMD,0201,CC0201KRX5R5BB105(YAGEO) RoHS	0.1030	22	2.3269
213-251059-220J	MLCC 105P/10V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1030	16	1.7001
213-251059-230J	MLCC 105P/16V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1030	35	3.6815
213-251068-200J	MLCC 106P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1030	31	3.2651
213-251068-300J	MLCC 106P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.1030	4	0.4382
213-251069-320J	MLCC 106P/10V,X5R,K(10%),SMD,0603,(JP)RoHS	0.1030	8	0.8610
213-251069-520J	MLCC 106P/10V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1030	9	0.9662
213-251069-540J	MLCC 106P/16V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1030	13	1.3860
213-251069-610J	MLCC 106P/25V,X5R,K(10%),SMD,1206,(JP)RoHS	0.1030	4	0.4382
213-251069-680J	MLCC 106P/50V,X5R,K(10%),SMD,1206(JP)RoHS	0.1030	12	1.2812
213-252229-200C	MLCC 222P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	2	0.2246
213-252249-210C	MLCC 224P/10V,X5R,K(10%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
213-252249-270J	MLCC 224P/16V,X7R,K(10%),SMD,0402(JP)RoHS	0.1030	1	0.1162
213-252249-330C	MLCC 224P/25V,X7R,K(10%),SMD,0603,(None JP) RoHS	0.1030	1	0.1162
213-252249-360J	MLCC 224P/50V,X7R,K(10%),SMD,0603,(JP)RoHS	0.1030	2	0.2246
213-252259-200J	MLCC 225P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1030	11	1.1763
213-252259-330C	MLCC 225P/16V,X5R,K(10%)SMD,0603,(None JP) RoHS	0.1030	2	0.2246
213-252268-310J	MLCC 226P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.1030	50	5.2411
213-252269-510J	MLCC 226P/6.3V,X5R,M(20%),SMD,0805,(JP)RoHS	0.1030	4	0.4382

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
213-252269-620C	MLCC 226P/16V,X5R,K(10%),SMD,1206,(None JP) RoHS	0.1030	6	0.6501
213-252269-620J	MLCC 226P/16V,X5R,K(10%),SMD,1206,(JP)RoHS	0.1030	2	0.2246
213-253939-240J	MLCC 393P/25V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1030	2	0.2246
213-254715-200C	MLCC 471P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1030	7	0.7556
213-254739-210C	MLCC 473P/16V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
213-254758-210J	MLCC 475P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1030	5	0.5443
213-254759-320C	MLCC 475P/10V,X5R,K(10%),SMD,0603,(None JP) RoHS	0.1030	3	0.3317
213-254759-510J	MLCC 475P/25V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1030	1	0.1162
213-254759-540J	MLCC 475P/16V,X7R,K(10%),SMD,0805,(JP)RoHS	0.1030	2	0.2246
213-254759-660J	MLCC 475P/50V,X7R,K(10%),SMD,1206,(JP)RoHS	0.1030	1	0.1162
213-255629-200C	MLCC 562P/50V,X7R,K(10%),SMD,0402,(None JP)) RoHS	0.1030	1	0.1162
213-256829-200C	MLCC 682P/25V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1030	1	0.1162
217-301078-325G	POLYMER(TAN) CAP 100uF/6.3V,40mΩ,1.8A,SMD,B3528,105°C/2000H,M (20%),T520B107M006ATE040(KEMET)RoHS	1.0368	1	1.3687
217-302278-326G	POLYMER(TAN)CAP 220uF/6.3V,45mΩ,1700mA,105°C/2000H,M (20%),B3528(1.9),T520B227M006ATE045(KEMET) RoHS	1.0368	6	7.0086
217-303378-720G	POLYMER(TAN) CAP 330uF/2.5V,9mΩ,3900mA,SMD,D7343-D2E,105°C/2000H,M(20%),2R5TPE330M9(SANYO) RoHS	1.0368	1	1.3687
223-015122-600G	CHOKE 0.15uH,M (20%),RDC ≤ 0.66mΩ,Idc ≤ 36A,Isat=45A,SMD, (7.6*6.6*3.8),PCME064T-R15MS0R667(CYNTEC) RoHS	0.1200	1	0.1487
223-015223-120G	CHOKE 1.5uH,M (20%),RDC ≤ 3.8mΩ,Idc=16A,Isat=33A,SMD, (11.5x10x4),PCMC104T-1R5MN(CYNTEC)RoHS	0.1200	1	0.1487
223-022223-010G	CHOKE 2.2uH,M (20%),RDC ≤ 6.7mΩ,Idc=12A,Isat=27A,SMD, (10.85x10x3.8),PCMC104T-2R2MN(CYNTEC)RoHS	0.1200	2	0.2804
223-033122-620G	CHOKE 0.33uH,M (20%),RDC ≤ 3.74mΩ,Irms=20A,Isat=30A,SMD (7.3*6.6*3),MCS0630-R33MBB(PDC)RoHS	0.1200	1	0.1487
223-036121-700G	CHOKE 0.36uH,M (20%),DCR ≤ 12mΩ,Irms:9A,Isat:11A,SMD (4.5*4*1.8),GSTD4020PJ-R36M(GOTREND)RoHS	0.1200	1	0.1487
223-047120-820G	CHOKE 0.47uH,M (20%),RDC ≤ 39mΩ,Irms=3.5A,SMD, (2.5x2x1.2),AWP252012AF-R47M(TAI TECH)RoHS	0.1200	3	0.4094

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
223-068122-500G	CHOKE 0.68uH,M (20%),RDC ≤ 5.5mΩ,Idc=15.5A,Isat=25A,SMD, (6.95x6.6x2.8),PCMC063T-R68MN(CYNTEC)RoHS	0.1200	1	0.1487
223-410040-501S	COMMON CHOKE Z ≥ 90Ω,M (20%),RDC ≤ 0.35Ω,Idc ≤ 330mA,SMD, (2.05*1.25*1.2),CMM21T-900M-N(CHILISIN)	0.1200	6	0.7888
223-490020-500G	COMMON CHOKE 90Ω,M(20%),300mA,SMD(0805) (2012),ACM2012H-900-2P(TDK)RoHS	0.1200	4	0.5361
223-490090-500S	COMMON CHOKE 90Ω,60-100Ω,300mA (Max),RDC ≤ 300mΩ,HDMI/USB3.0 6GHz,SMD0805 (2*1.2*1.2mm),GLECM2012B-900QT(GOTREND)	0.1200	4	0.5361
231-107168-200G	REGULATOR 0.8A,GS7168TD-R/TDFN8(GSTEK)HF	7.6721	2	25.6262
241-219206-300G	X'TAL 19.200Mhz,12pf,±30ppm,TOPR=-40°C ~+105°C,SMD3225(4PAD),X32-19.200-12-30/50M (MEC)RoHS	3.9138	1	6.4515
241-225006-340G	X'TAL 25MHz,18pF,±10ppm,TOPR=-40°C ~+85°C,SMD3225(4PAD),7M25090002(TXC)RoHS	3.9138	2	11.3958
241-227006-360G	X'TAL 27MHz,18pF,±30ppm,ESR:50Ω(Max),TOPR=- 40°C~+105°C,SMD3225(4PAD),7M27000056(TXC) RoHS	3.9138	1	6.4515
241-432773-300G	X'TAL 32.768kHz,12.5pf,*/-20ppm,TOPR=-40°C ~+125°C,SMD3215(2PAD),FC- 13A,X1A000091000100(Seiko Epson)RoHS	3.9138	1	6.4515
242-248006-200G	OSC 48Mhz,3.3V,15pf,25ppm,TOPR=-40°C ~+85°C,SMD2520(4PAD),FCO-236A 48.000MAC (FUJICOM)RoHS	4.4349	1	7.2196
251-160808-083S	BEAD CORE 160808 80Ω,300mA,25%,SMT0603,SBK160808T-800Y-N (CHILISIN)	0.6548	2	2.1784
251-160808-615S	BEAD CORE 160808 600Ω,1A,25%,SMT0603,PBY160808T-601Y-N (CHILISIN)	0.6548	1	1.2675
251-201200-804S	BEAD CORE 201209 80Ω,3A,25%,SMT0805,PBY201209T-800Y-N (CHILISIN)	0.6548	1	1.2675
251-647000-301S	BEAD CORE 160808 47Ω,400mA,25%,SMT0603,SBK160808T-470Y-N (CHILISIN)	0.6548	8	6.9534
253-100115-604S	POLYSWITCH 1.1A,8V,SMT1206,1206L110THYR (LITTELFUSE)HF	0.4000	2	1.1579
253-100116-401G	POLYSWITCH 1.1A,16V,SMT1812,1812L110/16DR (LITTELFUSE)HF	0.4000	1	0.6546
253-100155-604S	POLYSWITCH 1.5A/8V,SMD1206 TYPE PTC,1206L150THWR(LITTELFUSE)	0.4000	4	2.1022
253-100265-404S	POLYSWITCH 2.6A,8V,SMT1812,1812L260THDR (LITTELFUSE)HF	0.4000	2	1.1579
253-100266-403S	POLYSWITCH 2.6A/13.2V,SMD1812,miniSMDC260F/13.2 (LITTELFUSE)RoHS	0.4000	2	1.1579

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
261-361515-200C	RES NET 150Ω 8P4R J(5%),0402*4,(None JP)RoHS	0.0873	2	0.2152
261-364725-200C	RES NET 4.7KΩ 8P4R J(5%),0402*4,(None JP)RoHS	0.0873	1	0.1162
263-120047-912S	PMS RES,4mΩ,F (1%),1W,SMD,2010,TLR2HDTE4L00F(KOA)	0.0873	3	0.3114
263-180005-100C	RES 0Ω,J(5%),SMD,0201,(None JP)RoHS	0.0873	73	6.6125
263-180005-200C	RES 0Ω,J(5%),SMD,0402,(None JP)RoHS	0.0873	77	6.9682
263-180005-300C	RES 0Ω,J(5%),SMD,0603,(None JP)RoHS	0.0873	18	1.6902
263-180005-600C	RES 0Ω,J(5%),SMD,1206,(None JP)RoHS	0.0873	3	0.3114
263-180100-110C	RES 10Ω,F(1%),SMD,0201,(None JP)RoHS	0.0873	1	0.1162
263-180100-210C	RES 10Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	6	0.5934
263-180100-510C	RES 10Ω,F(1%),SMD,0805,(None JP)RoHS	0.0873	2	0.2152
263-180200-210C	RES 20Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	9	0.8697
263-180220-110C	RES 22Ω,F(1%),SMD,0201,(None JP)RoHS	0.0873	8	0.7776
263-180220-210C	RES 22Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	3	0.3114
263-180330-210C	RES 33Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	11	1.0532
263-180360-210C	RES 36Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-180519-210C	RES 5.1Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-180680-210C	RES 68Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-180750-110C	RES 75Ω,F(1%),SMD,0201,(None JP)RoHS	0.0873	3	0.3114
263-180750-210C	RES 75Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-181000-210C	RES 100Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	10	0.9615
263-181000-310C	RES 100Ω,F(1%),SMD,0603,(None JP)RoHS	0.0873	2	0.2152
263-181001-110C	RES 1KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	44	4.0271
263-181001-210C	RES 1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	13	1.2359
263-181001-310C	RES 1KΩ,F(1%),SMD,0603,(None JP)RoHS	0.0873	2	0.2152
263-181002-110C	RES 10KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	66	5.9896
263-181002-210C	RES 10KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	34	3.1316
263-181003-110C	RES 100KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	11	1.0532
263-181003-210C	RES 100KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	12	1.1446
263-181004-210C	RES 1MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181005-210C	RES 10MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181050-210C	RES 105Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181053-210C	RES 105KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181130-210C	RES 113Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181182-210C	RES 11.8KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181201-210C	RES 1.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181202-210C	RES 12KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181213-210C	RES 121KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181273-210C	RES 127KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181400-210C	RES 140Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181500-210C	RES 150Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	6	0.5934
263-181502-210C	RES 15KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181503-210C	RES 150KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181542-210C	RES 15.4KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181623-210C	RES 162KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181651-210C	RES 1.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181653-210C	RES 165KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162

File Name: AL553-BN-E3950.rfp
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MTBF (hrs): 396242
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Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-181690-210C	RES 169Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-181691-210C	RES 1.69KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-181872-210C	RES 18.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182000-110C	RES 200Ω,F(1%),SMD,0201,(None JP)RoHS	0.0873	3	0.3114
263-182001-210C	RES 2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-182002-110C	RES 20KΩ,F(1%),SMD,0201(None JP)RoHS	0.0873	1	0.1162
263-182002-210C	RES 20KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	9	0.8697
263-182003-210C	RES 200KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182004-210C	RES 2MΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-182103-210C	RES 210KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182200-210C	RES 220Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182201-110C	RES 2.2KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	14	1.3270
263-182202-210C	RES 22KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-182208-310C	RES 2.2Ω,F(1%),SMD,0603,(None JP)RoHS	0.0873	4	0.4062
263-182553-210C	RES 255KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182612-210C	RES 26.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-182702-218G	RES 27KΩ,F(1%),SMD,0402,RTT022702FTH(RALEC)RoHS	0.0873	1	0.1162
263-182872-210C	RES 28.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183000-210C	RES 300Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-183000-310C	RES 300Ω,F(1%),SMD,0603,(None JP)RoHS	0.0873	1	0.1162
263-183002-210C	RES 30KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183003-310C	RES 300KΩ,F(1%),SMD,0603(None JP)RoHS	0.0873	1	0.1162
263-183013-210C	RES 301KΩ,F(1%),SMD,0402(None JP)RoHS	0.0873	2	0.2152
263-183092-210C	RES 30.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183162-210C	RES 31.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183300-210C	RES 330Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-183301-110C	RES 3.3KΩ,F(1%),SMD,0201(None JP)RoHS	0.0873	16	1.5088
263-183302-110C	RES 33KΩ,F(1%),SMD,0201(None JP)RoHS	0.0873	4	0.4062
263-183303-210C	RES 330KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	3	0.3114
263-183305-100C	RES 33Ω,J(5%),SMD,0201(None JP)RoHS	0.0873	10	0.9615
263-183401-310C	RES 3.4KΩ,F(1%),SMD,0603,(None JP)RoHS	0.0873	1	0.1162
263-183402-210C	RES 34KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183651-210C	RES 3.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-183901-210C	RES 3.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-183922-210C	RES 39.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-184020-210C	RES 402Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	3	0.3114
263-184122-210C	RES 41.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-184532-210C	RES 45.3KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-184701-110C	RES 4.7KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	53	4.8310
263-184701-210C	RES 4.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	9	0.8697
263-184702-110C	RES 47KΩ,F(1%),SMD,0201,(None JP)RoHS	0.0873	9	0.8697
263-184702-210C	RES 47KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	3	0.3114
263-184750-210C	RES 475Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-184872-210C	RES 48.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-184990-210C	RES 499Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-184991-210C	RES 4.99KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
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MTBF (hrs): 396242
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Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-184992-210C	RES 49.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-184999-210C	RES 49.9Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-185101-210C	RES 5.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-185102-210C	RES 51KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	4	0.4062
263-185110-210C	RES 511Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-185112-210C	RES 51.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-185230-210C	RES 523Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-185600-210C	RES 560Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-185621-210C	RES 5.62KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-186040-210C	RES 604Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-186049-210C	RES 60.4Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-186192-210C	RES 61.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-187870-210C	RES 787Ω,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-188062-210C	RES 80.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-188459-210C	RES 84.5Ω,F(1%),SMD,0402 (None JP)RoHS	0.0873	1	0.1162
263-188661-210C	RES 8.66KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-189092-210C	RES 90.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-189312-210C	RES 93.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-189531-210C	RES 9.53KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	2	0.2152
263-189761-210C	RES 9.76KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
263-189762-210C	RES 97.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.0873	1	0.1162
273-100402-301S	THERM RES 10KΩ,J(5%),SMD,0603, (B25/85=3435,3%),TSM1A103J34D3RZ(TKS)	2.6513	2	8.8927
314-AL5531-109G	PCB AL553 R.A (10L 146x102x1.6mm) OSP (CIRCUITECH)RoHS	6.5651	1	12.5107
342-101903-120G	HDMI CONN 19P,FEMALE,R/A,DIP,15u",POSTx1/SPRING,WHDM- 19D6L1BC3U4(WIN WIN)RoHS	5.5551	1	9.6181
343-111514-110G	DSUB CONN 15SA,90D,FASTEN SCREW,G/F,Blue,,D4324-15F-422B(XIAN YI)RoHS	5.5551	1	9.6181
343-500426-112G	USB CONN*2,,R/A,W/O external SPRING,30u,UB1112C-8HS6-4F(FOXCONN)RoHS	5.5551	1	9.6181
343-500642-111G	Giga LAN CONN RJ45 30μ,W/Transformer&LED,24- 000939N13-1(UDE)RoHS	5.5551	2	16.8329
343-503600-100S	USB 3.0*2 ,A Type,30u,UEA1112C-8FS6-4F (FOXCONN)	5.5551	1	9.6181
344-002003-610G	Mini JUMPER RED 2.0mm,200-72-PBGR0B(PINREX) RoHS	5.5551	3	23.6449
346-110320-000G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,220- 96-03GB01(PINREX)RoHS	38.8854	2	117.8306
346-120320-800S	PIN PLUG 2*3,2.0mm,M,H=6.7mm,180D,SMT,W/CAP,222-97- 03GBE1(R)(PINREX)	38.8854	2	117.8306
346-120322-201G	PIN PLUG 2*3-1(K6)/2.0mm,Vertical,SMD,222-97- 03GBEG(PINREX),OOX/OOO,RoHS	38.8854	1	67.3264
346-120520-821G	PIN PLUG 2*5/2.0mm,W/Pick & CAP,SMD,222-97- 05GBE1(PINREX)RoHS	38.8854	1	67.3264

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
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MTBF (hrs): 396242
Failure Rate: 2,523.7128
Temperature: 45
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
346-120521-040G	PIN PLUG 2*5-1 (K8),2.0mm,M,H=5.9mm,180D,DIP,220-97-05GB18 (PINREX),OOOXO/OOOOO,RoHS	38.8854	1	67.3264
346-120521-100G	PIN PLUG 2*5-1(K9)/2.0mm,220-97-05GB19 (PINREX),OOOOO/OOOOX,RoHS	38.8854	1	67.3264
346-120521-800G	PIN PLUG 2*5-1(K10)/2.0mm SMD W/cap,222-97-05GBEA(R)(PINREX),OOOX/OOOOO,RoHS	38.8854	1	67.3264
346-510223-102G	WAFER 1*2,2.0mm,M,H=6.1mm,180D,DIP,WHITE,721-81-02TW00(PINREX)RoHS	38.8854	1	67.3264
346-510430-100S	BOX HEADER 1*4/2.5mm,B4B-XH-A(LF)(SN)/(JST)	38.8854	1	67.3264
346-510801-100G	BOX HEADER 1*8, 8P/2.0mm/180D,721-81-08TW00 (PINREX)RoHS	38.8854	1	67.3264
346-600750-101S	SATA3 CONNECTOR 7Pin,15u",180D,DIP,DARK BLUE,W/LOCK,LE18077-Z54D-4H(FOXCONN)	38.8854	1	67.3264
346-714000-204G	WTB HEADER 40P,1.25mm,M,H=4.8mm,180D,SMT,BEIGE,712-76-40GWE0(PRINEX)RoHS	38.8854	1	67.3264
347-103010-113G	BOX HEADER 1*3,2.54mm,M,H=10.05mm,180D,DIP,RED,744-81-03TR00(PINREX)RoHS	5.5551	1	9.6181
347-202041-100G	POWER CONN BTX 2*2P/5.5*4.2mm,DIP,90D,WHITE,LATCH=3.4mm,740-47-04TW00(PINREX)RoHS	5.5551	1	9.6181
348-220800-200S	SOCKET SPI 8Pin,GF,H=5.65mm,180D,SMT,ACA-SPI-004-K01(LOTES)	3.0300	1	4.9378
348-370750-210G	NGFF CONN 75/0.5mm,B Key,R/A,SMD,AS0BC21-S40BB-7H,(FOXCONN)HF	3.0300	1	4.9378
348-370750-280G	NGFF CONN 75P/0.5mm,H=8.5mm,E key,90D,BLACK,SMT,2E0BC21-S85BE-7H(FOXCONN) HF	3.0300	1	4.9378
348-652042-222G	SOCKET DDR-III SO DIMM 1*204P,10u,H=9.2mm 1.5V,STD,SMD,AS0A626-HASN-7H(FOXCONN) RoHS/HF	3.0300	1	4.9378
348-660522-200S	MINI PCI-EXPRESS 1*52,0.8mm,10u",F,H=9.9mm,90D,SMT,IVORY,GENERAL TYPE,AS0B226-S99Q-7H(FOXCONN)HF	3.0300	1	4.9378
622-010140-000G	BATTERY CR2032 3V 220mAh W/CABLE (L=150mm&TAPE),BIN-CR2032-I-CT-SL-PV-01(RE-ENERGY)RoHS Belong to UN3090	25.0000	1	34.9638
686-110322-100G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,W/BLACK JUMPER,22S-96-03GB01(PINREX)RoHS	5.5551	2	16.8329
143-10160I-402G	CPU Intel Atom x7-E3950 1.6GHz C/2M,D0,LH8066803102601 SR33P/FCBGA-1296 (INTEL)RoHS	159.0000	1	159.0000
292-301000-500S	BUZZER 3V,100mA,12Ω,4Khz,85db,SMD (5*4.2mm),SMT-G5030A(KEPO)	600.0000	1	600.0000

File Name: AL553-BN-E3950.rfp
System: 770-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.83
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Assembly Name	Part Number	Quantity	Failure Rate (Fit)	MTBF (Hrs)
AL553-BN-E3950	770-AL5531-200G	1	3743.83	267,106
AL553-BN-E3950	774-AL5531-200G	1	3743.83	267,106

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
113-500000-210G	IC TTL,Single 2-Input Positive-NAND Gate,SN74LVC1G00DCKR/SC70-5(TI)RoHS	8.2795	1	12.4540
113-500007-210S	IC TTL,Single Buffer/Driver,SN74LVC1G07DCKR/SC70-5(TI)	8.2795	1	12.4540
113-500008-210G	IC TTL,Single 2-Input Positive-AND Gate,SN74LVC1G08DCKR/SC70-5(TI)RoHS	8.2795	4	41.3430
113-500014-210S	IC TTL,Single Schmitt-Trigger Inverter Gate,SN74AHC1G14DBVR/SOT23-5(TI)	8.2795	3	31.9831
113-500125-600G	IC TTL,Single Bus Buffer Gate,SN74LVC1G125DCK/SC70-5(TI)RoHS	8.2795	2	22.4187
113-906408-400G	IC LOW-VOLTAGE 8-BIT I2C AND SMBus I/O EXPANDER,UQFN16, TCA6408ARSVR(TI)RoHS	8.2795	1	12.4540
121-000104-400G	TRANSLATING TRANSCIEVER,NTB0104GU12/XQFN12(NXP)RoHS	8.2795	1	12.4540
121-000104-420G	IC 4-BIT BIDIRECTIONAL VOLTAGE-LEVEL TRANSLATOR,NTS0104GU12/XQFN12(NXP) RoHS	8.2795	2	22.4187
121-000204-400G	4-Bits Bidirectional Multi-Voltage Level Translator,LSF0204RUTR/UQFN12(TI)RoHS	8.2795	6	59.7113
121-003941-200G	IC 4 Times Linear Fan Driver,NCT3941S/SOP-8 (NUVOTON)RoHS	8.2795	1	12.4540
121-009233-200G	IC BUFFER FOR PCIE,GEN3,9DB233AGLF/TSSOP-20 (IDT)RoHS	8.2795	1	12.4540
121-009406-200G	IC DUAL BIDIRECTIONAL I ² C-bus and SMBus TRANSLATOR,TCA9406DCUR/micro SO8(TI)RoHS	8.2795	1	12.4540
121-022976-200G	IC Switch,5.7-V,6-A,14-mΩ On-Resistance Dual-Channel Load,TPS22976DPU/WSON-14(TI)RoHS	8.2795	2	22.4187
121-081439-400G	IC RS232/RS422/RS485 Multiprotocol Transceivers,F81439N/TQFN40(FINTEK)RoHS	8.2795	1	12.4540
123-100341-200G	IC OP Amplifier,LMV341IDCK/SC70-6(TI)RoHS	8.2795	1	12.4540
135-301004-201G	EEPROM 8K(1024*8)M24C08-WMN6TP/SO-8(ST) RoHS	18.4992	1	28.7152
135-301282-210G	SPI SERIAL FLASH 128Mbit,W25Q128FWSIQ/SOIC-8 (WINBOND)RoHS	18.4992	1	28.7152
136-115090-400G	Flash 8-Bit Microcontroller PIC16F1509-I/ML/QFN-20 (MICROCHIP)RoHS	18.4992	1	28.7152
141-003460-403G	eDP to LVDS bridge PTN3460BS/F6,HVQFN56(NXP) RoHS	8.2795	1	12.4540
141-006850-401G	IC Synchronous Buck Converter,4.5-26Vin,12A,NB685AGQ/QFN16(MPS)RoHS	8.2795	1	12.4540
141-014422-400G	HDMI/DVI Level Shifter ASM1442K/QFN-48 (ASMEDIA)RoHS	8.2795	1	12.4540
141-029390-403G	IC Controller,Multi-Rail PWM for Intel IMVP8,MP2939GQK-Z/QFN-48,D/C after 1650(MPS) RoHS	8.2795	1	12.4540
141-034280-400G	IC Synchronous Boost Converter,MP3428AGL-Z/QFN-22(MPS)RoHS	8.2795	1	12.4540
141-232120-400G	IC PCIE 3.0 Switch 2:1 Mux/DeMux,PI3PCIE3212ZBE/TQFN-20(PERICOM) RoHS	8.2795	1	12.4540

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
141-262001-200G	AUDIO CODEC ALC262-VC2-GR/LQFP48(REALTEK) RoHS	8.2795	1	12.4540
141-290800-400G	IC Controller,4V-60V Input Current Mode Synchronous Step-Down,MP2908AGL-Z/(MPS)RoHS	8.2795	2	22.4187
141-562150-400G	IC Synchronous Step-down Converter,TPS56C215RNN/VQFN-18(TI)RoHS	8.2795	1	12.4540
141-620850-200G	IC Synchronous Buck Converter,2.5-6,3A,TLV62085RLT/VSON-7(TI)RoHS	8.2795	3	31.9831
147-002110-200G	IC CHIP,Giga LAN CTRL,WGI211AT SLJXZ/QFN-64 (INTEL)RoHS	8.2795	2	22.4187
147-033550-200G	IC Low power DisplayPort to VGA adapter,PTN3355BS/F3/HVQFN-40(NXP)RoHS	8.2795	1	12.4540
147-818030-200G	IC CHIP,-40~85°C,F81803U-I/TQFP-64(FINTEK) RoHS	8.2795	1	12.4540
171-200014-200G	DIODE SCHOTTKY BARRIER RECTIFIER,40V,1A,SS14S-TH-WS/SOD123S (WILLAS)RoHS	0.5385	2	1.7884
171-200046-201G	DIODE SCHOTTKY BARRIER RECTIFIER,100V,150mA,BAT46W/SOD123(SECOS) RoHS	0.5385	2	1.7884
171-200520-200G	DIODE SCHOTTKY BARRIER RECTIFIER,30V,200mA,SCS520S-C/SOD-523 (SECOS)RoHS	0.5385	5	3.8085
171-204005-210G	DIODE SCHOTTKY BARRIER 40V,200mA,BAS40-05-7-F/SOT23-3(DIODES)RoHS	0.5385	2	1.7884
171-214148-503S	DIODE Switching,SMD,1N4148W-TG-WS/SOD-123 (WILLAS)	0.5385	1	1.0403
171-215817-213G	DIODE Schottky,SMA,FM5817P-T-FM/DO214AC (FMS)RoHS	0.5385	1	1.0403
171-224148-309G	DIODE Switching,1N4148WS-7-F/SOD323(DIODES) RoHS	0.5385	1	1.0403
171-230502-200G	DIODE ESD Protection,VRWM=5.0V,IRM=100nA,VESD=10KV,SM T,SOT883,PESD5V0U2BM(NXP)RoHS	0.5385	4	3.1546
171-360360-500G	DIODE TVS,36V,600W,SMBJ36CA/DO-214AA (LITTELFUSE)RoHS	0.5385	1	1.0403
171-404001-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4E001DBVR/SOT23-6(TI)	8.2795	4	41.3430
171-404010-200S	DIODE 4-CHANNEL ESD PROTECTION,TPD4S010DQAR/SON-DQA10(TI)	8.2795	5	50.5731
171-451715-200G	DIODE Zener,15V,Vz=14.34V~14.98V,UDZVTE-1715B/SOD323F(ROHM)RoHS	0.5385	2	1.7884
171-451736-200G	DIODE Zener,36V,Vz=35.07V~36.87V,UDZVTE-1736B/SOD323(ROHM)RoHS	0.5385	1	1.0403
171-451756-200G	DIODE Zener,5.6V,Vz=5.49V~5.73V,UDZVTE-175.6B/SOD-323F(ROHM)RoHS	0.5385	1	1.0403
171-505430-207G	DIODE SCHOTTKY BARRIER 30V,200mA,BAT54CLT1G/SOT23-3(ON)RoHS	0.5385	2	1.7884
171-505431-203G	DIODE Schottky,BAT54A/SOT23(NXP)RoHS	0.5385	2	1.7884

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
172-001380-209G	MOSFET N-Ch,VDS:50V,ID:200mA,VGS:±20V,RDS:3.5Ω,BSS138-7-F/SOT-23(DIODES)RoHS	17.9506	1	26.4362
172-207002-239S	MOSFET N-Ch,VDS:60V,ID:300mA,VGS:±20V,@10V,RDS:2Ω,2N7002K-7/SOT-23(DIODES)	17.9506	3	68.3735
172-223904-206S	TRANSISTOR NPN,MMBT3904LT1G/SOT23(ON)	2.8884	4	15.9723
172-223904-400G	TRANSISTOR Dual NPN,MBT3904DW1T1G/SOT-363(ON)RoHS	2.8884	1	5.1202
172-223906-207S	TRANSISTOR PNP,PMBS3906/SOT23(NXP)	2.8884	1	5.1202
172-300612-200G	MOSFET Dual N-Ch,VDS:30V,VGS:±20V,ID:100mA,@4V,RDS:8Ω,EM6K1GT2R/SOT-563(ROHM)RoHS	17.9506	16	319.8349
172-301402-200G	MOSFET Dual N-Ch VDS:20V,ID:9.5A,VGS:±12V,@4.5V,RDS:14mΩ,EMZF14R02W/8-DFN(3x3)(EXCELLIANCE)RoHS	17.9506	1	26.4362
172-305113-210G	MOSFET P-Ch,VDS:-60V,ID:-64A,VGS:±20V,@-10V,RDS:14mΩ,NVMFS5113PLT1G/DFN5(5x6)(ON)RoHS	17.9506	4	88.5215
172-318543-200G	MOSFET N-Ch,VDS:60V,ID:12A,VGS:±20V,at 10V,RDS:8.1mΩ,CSD18543Q3A/SON- 3.3×3.3mm (TI) RoHS	17.9506	8	167.1033
172-330140-200G	MOSFET N-Ch,VDS:30V,ID:9.5A,VGS:±20V,@10V,RDS:12mΩ,FKBB3014/PRPAK-8(3x3)(FETEK)RoHS	17.9506	4	88.5215
172-331030-200G	MOSFET P-Ch,VDS:-30V,ID:-7.7A,VGS:±25V,@-10V,RDS:20mΩ,FKBB3103/PRPAK-8(3x3)(FETEK)RoHS	17.9506	1	26.4362
172-886901-200G	DrMOS Power Stage MP86901-AGQT-Z/TQFN13 (MPS)RoHS	17.9506	1	26.4362
172-886901-210G	DrMOS Power Stage MP86901-CGLT-Z/TQFN21 (MPS)RoHS	17.9506	1	26.4362
174-210010-500S	LED,RED,SMD0805,17-21VRC/TR8(HT)(EVERLIGHT)	1.1876	1	2.3295
212-156124-200G	SOLID CAP,560uF/6.3V,8mΩ,5A,SMD (Φ6.3*7.7),105°C/15000h,M (20%),APXJ6R3ARA561MF80G(NCC)RoHS	1.3266	2	3.2494
212-247145-200G	ELEC CAP,470uF/16V,12mΩ,1504mA,SMD,φ8x10mm,160AV5K471M0810C(APAQ)RoHS	1.3266	1	1.7512
213-150330-200C	MLCC 3.3pF/50V,NPO,C(0.25pF),SMD,0402,(None JP)RoHS	0.1118	2	0.2438
213-151005-200C	MLCC 10pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1118	8	0.9347
213-151805-200C	MLCC 18pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1118	4	0.4757
213-152205-200C	MLCC 22pF/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1118	6	0.7057
213-152215-200C	MLCC 221P/50V,NPO,J(5%),SMD,0402,(None JP)RoHS	0.1118	6	0.7057

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
213-152705-200C	MLCC 27pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	4	0.4757
213-152715-200C	MLCC 271P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
213-153319-200C	MLCC 331P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	8	0.9347
213-155605-200C	MLCC 56pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
213-156805-200C	MLCC 68pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	2	0.2438
213-156815-200C	MLCC 681P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	2	0.2438
213-158205-200C	MLCC 82pF/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
213-251028-200C	MLCC 102P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	4	0.4757
213-251038-250C	MLCC 103P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	16	1.8457
213-251048-230J	MLCC 104P/50V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1118	7	0.8203
213-251049-130J	MLCC 104P/10V,X5R,K(10%),SMD,0201,(JP)RoHS	0.1118	65	7.3807
213-251049-200J	MLCC 104P/16V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1118	126	14.2442
213-251049-270J	MLCC 104P/25V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1118	3	0.3601
213-251059-109G	MLCC 105P/6.3V,X5R,K(10%),SMD,0201,CC0201KRX5R5BB105(YAGEO) RoHS	0.1118	22	2.5262
213-251059-220J	MLCC 105P/10V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1118	16	1.8457
213-251059-230J	MLCC 105P/16V,X5R,K(10%),SMD,0402,(JP)RoHS	0.1118	35	3.9968
213-251068-200J	MLCC 106P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1118	31	3.5447
213-251068-300J	MLCC 106P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.1118	4	0.4757
213-251069-320J	MLCC 106P/10V,X5R,K(10%),SMD,0603,(JP)RoHS	0.1118	8	0.9347
213-251069-520J	MLCC 106P/10V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1118	9	1.0489
213-251069-540J	MLCC 106P/16V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1118	13	1.5047
213-251069-610J	MLCC 106P/25V,X5R,K(10%),SMD,1206,(JP)RoHS	0.1118	4	0.4757
213-251069-680J	MLCC 106P/50V,X5R,K(10%),SMD,1206(JP)RoHS	0.1118	12	1.3909
213-252229-200C	MLCC 222P/50V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	2	0.2438
213-252249-210C	MLCC 224P/10V,X5R,K(10%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
213-252249-270J	MLCC 224P/16V,X7R,K(10%),SMD,0402(JP)RoHS	0.1118	1	0.1261
213-252249-330C	MLCC 224P/25V,X7R,K(10%),SMD,0603,(None JP) RoHS	0.1118	1	0.1261
213-252249-360J	MLCC 224P/50V,X7R,K(10%),SMD,0603,(JP)RoHS	0.1118	2	0.2438
213-252259-200J	MLCC 225P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1118	11	1.2770
213-252259-330C	MLCC 225P/16V,X5R,K(10%)SMD,0603,(None JP) RoHS	0.1118	2	0.2438
213-252268-310J	MLCC 226P/6.3V,X5R,M(20%),SMD,0603,(JP)RoHS	0.1118	50	5.6900
213-252269-510J	MLCC 226P/6.3V,X5R,M(20%),SMD,0805,(JP)RoHS	0.1118	4	0.4757

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
213-252269-620C	MLCC 226P/16V,X5R,K(10%),SMD,1206,(None JP) RoHS	0.1118	6	0.7057
213-252269-620J	MLCC 226P/16V,X5R,K(10%),SMD,1206,(JP)RoHS	0.1118	2	0.2438
213-253939-240J	MLCC 393P/25V,X7R,K(10%),SMD,0402,(JP)RoHS	0.1118	2	0.2438
213-254715-200C	MLCC 471P/50V,NPO,J(5%),SMD,0402,(None JP) RoHS	0.1118	7	0.8203
213-254739-210C	MLCC 473P/16V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
213-254758-210J	MLCC 475P/6.3V,X5R,M(20%),SMD,0402,(JP)RoHS	0.1118	5	0.5909
213-254759-320C	MLCC 475P/10V,X5R,K(10%),SMD,0603,(None JP) RoHS	0.1118	3	0.3601
213-254759-510J	MLCC 475P/25V,X5R,K(10%),SMD,0805,(JP)RoHS	0.1118	1	0.1261
213-254759-540J	MLCC 475P/16V,X7R,K(10%),SMD,0805,(JP)RoHS	0.1118	2	0.2438
213-254759-660J	MLCC 475P/50V,X7R,K(10%),SMD,1206,(JP)RoHS	0.1118	1	0.1261
213-255629-200C	MLCC 562P/50V,X7R,K(10%),SMD,0402,(None JP)) RoHS	0.1118	1	0.1261
213-256829-200C	MLCC 682P/25V,X7R,K(10%),SMD,0402,(None JP) RoHS	0.1118	1	0.1261
217-301078-325G	POLYMER(TAN) CAP 100uF/6.3V,40mΩ,1.8A,SMD,B3528,105°C/2000H,M (20%),T520B107M006ATE040(KEMET)RoHS	1.3266	1	1.7512
217-302278-326G	POLYMER(TAN)CAP 220uF/6.3V,45mΩ,1700mA,105°C/2000H,M (20%),B3528(1.9),T520B227M006ATE045(KEMET) RoHS	1.3266	6	8.9678
217-303378-720G	POLYMER(TAN) CAP 330uF/2.5V,9mΩ,3900mA,SMD,D7343-D2E,105°C/2000H,M(20%),2R5TPE330M9(SANYO) RoHS	1.3266	1	1.7512
223-015122-600G	CHOKE 0.15uH,M (20%),RDC ≤ 0.66mΩ,Idc ≤ 36A,Isat=45A,SMD, (7.6*6.6*3.8),PCME064T-R15MS0R667(CYNTEC) RoHS	0.1536	1	0.1903
223-015223-120G	CHOKE 1.5uH,M (20%),RDC ≤ 3.8mΩ,Idc=16A,Isat=33A,SMD, (11.5x10x4),PCMC104T-1R5MN(CYNTEC)RoHS	0.1536	1	0.1903
223-022223-010G	CHOKE 2.2uH,M (20%),RDC ≤ 6.7mΩ,Idc=12A,Isat=27A,SMD, (10.85x10x3.8),PCMC104T-2R2MN(CYNTEC)RoHS	0.1536	2	0.3588
223-033122-620G	CHOKE 0.33uH,M (20%),RDC ≤ 3.74mΩ,Irms=20A,Isat=30A,SMD (7.3*6.6*3),MCS0630-R33MBB(PDC)RoHS	0.1536	1	0.1903
223-036121-700G	CHOKE 0.36uH,M (20%),DCR ≤ 12mΩ,Irms=9A,Isat:11A,SMD (4.5*4*1.8),GSTD4020PJ-R36M(GOTREND)RoHS	0.1536	1	0.1903
223-047120-820G	CHOKE 0.47uH,M (20%),RDC ≤ 39mΩ,Irms=3.5A,SMD, (2.5x2x1.2),AWP252012AF-R47M(TAI TECH)RoHS	0.1536	3	0.5238

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
223-068122-500G	CHOKE 0.68uH,M (20%),RDC ≤ 5.5mΩ,Idc=15.5A,Isat=25A,SMD, (6.95x6.6x2.8),PCMC063T-R68MN(CYNTEC)RoHS	0.1536	1	0.1903
223-410040-501S	COMMON CHOKE Z ≥ 90Ω,M (20%),RDC ≤ 0.35Ω,Idc ≤ 330mA,SMD, (2.05*1.25*1.2),CMM21T-900M-N(CHILISIN)	0.1536	6	1.0093
223-490020-500G	COMMON CHOKE 90Ω,M(20%),300mA,SMD(0805) (2012),ACM2012H-900-2P(TDK)RoHS	0.1536	4	0.6860
223-490090-500S	COMMON CHOKE 90Ω,60-100Ω,300mA (Max),RDC ≤ 300mΩ,HDMI/USB3.0 6GHz,SMD0805 (2*1.2*1.2mm),GLECM2012B-900QT(GOTREND)	0.1536	4	0.6860
231-107168-200G	REGULATOR 0.8A,GS7168TD-R/TDFN8(GSTEK)HF	19.2561	2	64.3188
241-219206-300G	X'TAL 19.200Mhz,12pf,±30ppm,TOPR=-40°C ~+105°C,SMD3225(4PAD),X32-19.200-12-30/50M (MEC)RoHS	7.5521	1	12.4488
241-225006-340G	X'TAL 25MHz,18pF,±10ppm,TOPR=-40°C ~+85°C,SMD3225(4PAD),7M25090002(TXC)RoHS	7.5521	2	21.9893
241-227006-360G	X'TAL 27MHz,18pF,±30ppm,ESR:50Ω(Max),TOPR=- 40°C~+105°C,SMD3225(4PAD),7M27000056(TXC) RoHS	7.5521	1	12.4488
241-432773-300G	X'TAL 32.768kHz,12.5pf,*/-20ppm,TOPR=-40°C ~+125°C,SMD3215(2PAD),FC- 13A,X1A000091000100(Seiko Epson)RoHS	7.5521	1	12.4488
242-248006-200G	OSC 48Mhz,3.3V,15pf,25ppm,TOPR=-40°C ~+85°C,SMD2520(4PAD),FCO-236A 48.000MAC (FUJICOM)RoHS	11.1310	1	18.1204
251-160808-083S	BEAD CORE 160808 80Ω,300mA,25%,SMT0603,SBK160808T-800Y-N (CHILISIN)	0.8378	2	2.7874
251-160808-615S	BEAD CORE 160808 600Ω,1A,25%,SMT0603,PBY160808T-601Y-N (CHILISIN)	0.8378	1	1.6218
251-201200-804S	BEAD CORE 201209 80Ω,3A,25%,SMT0805,PBY201209T-800Y-N (CHILISIN)	0.8378	1	1.6218
251-647000-301S	BEAD CORE 160808 47Ω,400mA,25%,SMT0603,SBK160808T-470Y-N (CHILISIN)	0.8378	8	8.8971
253-100115-604S	POLYSWITCH 1.1A,8V,SMT1206,1206L110THYR (LITTELFUSE)HF	0.4000	2	1.1579
253-100116-401G	POLYSWITCH 1.1A,16V,SMT1812,1812L110/16DR (LITTELFUSE)HF	0.4000	1	0.6546
253-100155-604S	POLYSWITCH 1.5A/8V,SMD1206 TYPE PTC,1206L150THWR(LITTELFUSE)	0.4000	4	2.1022
253-100265-404S	POLYSWITCH 2.6A,8V,SMT1812,1812L260THDR (LITTELFUSE)HF	0.4000	2	1.1579
253-100266-403S	POLYSWITCH 2.6A/13.2V,SMD1812,miniSMDC260F/13.2 (LITTELFUSE)RoHS	0.4000	2	1.1579

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
261-361515-200C	RES NET 150Ω 8P4R J(5%),0402*4,(None JP)RoHS	0.1117	2	0.2753
261-364725-200C	RES NET 4.7KΩ 8P4R J(5%),0402*4,(None JP)RoHS	0.1117	1	0.1487
263-120047-912S	PMS RES,4mΩ,F (1%),1W,SMD,2010,TLR2HDTE4L00F(KOA)	0.1117	3	0.3984
263-180005-100C	RES 0Ω,J(5%),SMD,0201,(None JP)RoHS	0.1117	73	8.4609
263-180005-200C	RES 0Ω,J(5%),SMD,0402,(None JP)RoHS	0.1117	77	8.9160
263-180005-300C	RES 0Ω,J(5%),SMD,0603,(None JP)RoHS	0.1117	18	2.1627
263-180005-600C	RES 0Ω,J(5%),SMD,1206,(None JP)RoHS	0.1117	3	0.3984
263-180100-110C	RES 10Ω,F(1%),SMD,0201,(None JP)RoHS	0.1117	1	0.1487
263-180100-210C	RES 10Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	6	0.7593
263-180100-510C	RES 10Ω,F(1%),SMD,0805,(None JP)RoHS	0.1117	2	0.2753
263-180200-210C	RES 20Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	9	1.1128
263-180220-110C	RES 22Ω,F(1%),SMD,0201,(None JP)RoHS	0.1117	8	0.9949
263-180220-210C	RES 22Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	3	0.3984
263-180330-210C	RES 33Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	11	1.3476
263-180360-210C	RES 36Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-180519-210C	RES 5.1Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-180680-210C	RES 68Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-180750-110C	RES 75Ω,F(1%),SMD,0201,(None JP)RoHS	0.1117	3	0.3984
263-180750-210C	RES 75Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-181000-210C	RES 100Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	10	1.2303
263-181000-310C	RES 100Ω,F(1%),SMD,0603,(None JP)RoHS	0.1117	2	0.2753
263-181001-110C	RES 1KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	44	5.1528
263-181001-210C	RES 1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	13	1.5813
263-181001-310C	RES 1KΩ,F(1%),SMD,0603,(None JP)RoHS	0.1117	2	0.2753
263-181002-110C	RES 10KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	66	7.6638
263-181002-210C	RES 10KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	34	4.0069
263-181003-110C	RES 100KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	11	1.3476
263-181003-210C	RES 100KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	12	1.4645
263-181004-210C	RES 1MΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181005-210C	RES 10MΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181050-210C	RES 105Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181053-210C	RES 105KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181130-210C	RES 113Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181182-210C	RES 11.8KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181201-210C	RES 1.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181202-210C	RES 12KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181213-210C	RES 121KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181273-210C	RES 127KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181400-210C	RES 140Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181500-210C	RES 150Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	6	0.7593
263-181502-210C	RES 15KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181503-210C	RES 150KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181542-210C	RES 15.4KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181623-210C	RES 162KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181651-210C	RES 1.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181653-210C	RES 165KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-181690-210C	RES 169Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-181691-210C	RES 1.69KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-181872-210C	RES 18.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182000-110C	RES 200Ω,F(1%),SMD,0201,(None JP)RoHS	0.1117	3	0.3984
263-182001-210C	RES 2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-182002-110C	RES 20KΩ,F(1%),SMD,0201(None JP)RoHS	0.1117	1	0.1487
263-182002-210C	RES 20KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	9	1.1128
263-182003-210C	RES 200KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182004-210C	RES 2MΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-182103-210C	RES 210KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182200-210C	RES 220Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182201-110C	RES 2.2KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	14	1.6979
263-182202-210C	RES 22KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-182208-310C	RES 2.2Ω,F(1%),SMD,0603,(None JP)RoHS	0.1117	4	0.5198
263-182553-210C	RES 255KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182612-210C	RES 26.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-182702-218G	RES 27KΩ,F(1%),SMD,0402,RTT022702FTH(RALEC)RoHS	0.1117	1	0.1487
263-182872-210C	RES 28.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183000-210C	RES 300Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-183000-310C	RES 300Ω,F(1%),SMD,0603,(None JP)RoHS	0.1117	1	0.1487
263-183002-210C	RES 30KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183003-310C	RES 300KΩ,F(1%),SMD,0603(None JP)RoHS	0.1117	1	0.1487
263-183013-210C	RES 301KΩ,F(1%),SMD,0402(None JP)RoHS	0.1117	2	0.2753
263-183092-210C	RES 30.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183162-210C	RES 31.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183300-210C	RES 330Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-183301-110C	RES 3.3KΩ,F(1%),SMD,0201(None JP)RoHS	0.1117	16	1.9306
263-183302-110C	RES 33KΩ,F(1%),SMD,0201(None JP)RoHS	0.1117	4	0.5198
263-183303-210C	RES 330KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	3	0.3984
263-183305-100C	RES 33Ω,J(5%),SMD,0201(None JP)RoHS	0.1117	10	1.2303
263-183401-310C	RES 3.4KΩ,F(1%),SMD,0603,(None JP)RoHS	0.1117	1	0.1487
263-183402-210C	RES 34KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183651-210C	RES 3.65KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-183901-210C	RES 3.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-183922-210C	RES 39.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-184020-210C	RES 402Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	3	0.3984
263-184122-210C	RES 41.2KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-184532-210C	RES 45.3KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-184701-110C	RES 4.7KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	53	6.1814
263-184701-210C	RES 4.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	9	1.1128
263-184702-110C	RES 47KΩ,F(1%),SMD,0201,(None JP)RoHS	0.1117	9	1.1128
263-184702-210C	RES 47KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	3	0.3984
263-184750-210C	RES 475Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-184872-210C	RES 48.7KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-184990-210C	RES 499Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-184991-210C	RES 4.99KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
263-184992-210C	RES 49.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-184999-210C	RES 49.9Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-185101-210C	RES 5.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-185102-210C	RES 51KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	4	0.5198
263-185110-210C	RES 511Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-185112-210C	RES 51.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-185230-210C	RES 523Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-185600-210C	RES 560Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-185621-210C	RES 5.62KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-186040-210C	RES 604Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-186049-210C	RES 60.4Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-186192-210C	RES 61.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-187870-210C	RES 787Ω,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-188062-210C	RES 80.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-188459-210C	RES 84.5Ω,F(1%),SMD,0402 (None JP)RoHS	0.1117	1	0.1487
263-188661-210C	RES 8.66KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-189092-210C	RES 90.9KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-189312-210C	RES 93.1KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-189531-210C	RES 9.53KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	2	0.2753
263-189761-210C	RES 9.76KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
263-189762-210C	RES 97.6KΩ,F(1%),SMD,0402,(None JP)RoHS	0.1117	1	0.1487
273-100402-301S	THERM RES 10KΩ,J(5%),SMD,0603, (B25/85=3435,3%),TSM1A103J34D3RZ(TKS)	5.1159	2	17.1593
314-AL5531-109G	PCB AL553 R.A (10L 146x102x1.6mm) OSP (CIRCUITECH)RoHS	12.6680	1	24.1406
342-101903-120G	HDMI CONN 19P,FEMALE,R/A,DIP,15u",POSTx1/SPRING,WHDM- 19D6L1BC3U4(WIN WIN)RoHS	10.7191	1	18.5590
343-111514-110G	DSUB CONN 15SA,90D,FASTEN SCREW,G/F,Blue,,D4324-15F-422B(XIAN YI)RoHS	10.7191	1	18.5590
343-500426-112G	USB CONN*2,,R/A,W/O external SPRING,30u,UB1112C-8HS6-4F(FOXCONN)RoHS	10.7191	1	18.5590
343-500642-111G	Giga LAN CONN RJ45 30μ,W/Transformer&LED,24- 000939N13-1(UDE)RoHS	10.7191	2	32.4809
343-503600-100S	USB 3.0*2 ,A Type,30u,UEA1112C-8FS6-4F (FOXCONN)	10.7191	1	18.5590
344-002003-610G	Mini JUMPER RED 2.0mm,200-72-PBGR0B(PINREX) RoHS	10.7191	3	45.6252
346-110320-000G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,220- 96-03GB01(PINREX)RoHS	75.0334	2	227.3661
346-120320-800S	PIN PLUG 2*3,2.0mm,M,H=6.7mm,180D,SMT,W/CAP,222-97- 03GBE1(R)(PINREX)	75.0334	2	227.3661
346-120322-201G	PIN PLUG 2*3-1(K6)/2.0mm,Vertical,SMD,222-97- 03GBEG(PINREX),OOX/OOO,RoHS	75.0334	1	129.9132
346-120520-821G	PIN PLUG 2*5/2.0mm,W/Pick & CAP,SMD,222-97- 05GBE1(PINREX)RoHS	75.0334	1	129.9132

File Name: AL553-BN-E3950.rfp
Assembly: 774-AL5531-200G
Ref Des:
Calculation Model: Telcordia Issue 4



MTBF (hrs): 267106
Failure Rate: 3,743.8344
Temperature: 60
Environment: GB, GC - Ground Benign, Controlled

Part Number	Description	Unit Failure Rate	Quantity	Total Failure Rate
346-120521-040G	PIN PLUG 2*5-1 (K8),2.0mm,M,H=5.9mm,180D,DIP,220-97-05GB18 (PINREX),OOOXO/OOOOO,RoHS	75.0334	1	129.9132
346-120521-100G	PIN PLUG 2*5-1(K9)/2.0mm,220-97-05GB19 (PINREX),OOOOO/OOOOX,RoHS	75.0334	1	129.9132
346-120521-800G	PIN PLUG 2*5-1(K10)/2.0mm SMD W/cap,222-97-05GBEA(R)(PINREX),OOOX/OOOOO,RoHS	75.0334	1	129.9132
346-510223-102G	WAFER 1*2,2.0mm,M,H=6.1mm,180D,DIP,WHITE,721-81-02TW00(PINREX)RoHS	75.0334	1	129.9132
346-510430-100S	BOX HEADER 1*4/2.5mm,B4B-XH-A(LF)(SN)/(JST)	75.0334	1	129.9132
346-510801-100G	BOX HEADER 1*8, 8P/2.0mm/180D,721-81-08TW00 (PINREX)RoHS	75.0334	1	129.9132
346-600750-101S	SATA3 CONNECTOR 7Pin,15u",180D,DIP,DARK BLUE,W/LOCK,LE18077-Z54D-4H(FOXCONN)	75.0334	1	129.9132
346-714000-204G	WTB HEADER 40P,1.25mm,M,H=4.8mm,180D,SMT,BEIGE,712-76-40GWE0(PRINEX)RoHS	75.0334	1	129.9132
347-103010-113G	BOX HEADER 1*3,2.54mm,M,H=10.05mm,180D,DIP,RED,744-81-03TR00(PINREX)RoHS	10.7191	1	18.5590
347-202041-100G	POWER CONN BTX 2*2P/5.5*4.2mm,DIP,90D,WHITE,LATCH=3.4mm,740-47-04TW00(PINREX)RoHS	10.7191	1	18.5590
348-220800-200S	SOCKET SPI 8Pin,GF,H=5.65mm,180D,SMT,ACA-SPI-004-K01(LOTES)	5.8468	1	9.5280
348-370750-210G	NGFF CONN 75/0.5mm,B Key,R/A,SMD,AS0BC21-S40BB-7H,(FOXCONN)HF	5.8468	1	9.5280
348-370750-280G	NGFF CONN 75P/0.5mm,H=8.5mm,E key,90D,BLACK,SMT,2E0BC21-S85BE-7H(FOXCONN) HF	5.8468	1	9.5280
348-652042-222G	SOCKET DDR-III SO DIMM 1*204P,10u,H=9.2mm 1.5V,STD,SMD,AS0A626-HASN-7H(FOXCONN) RoHS/HF	5.8468	1	9.5280
348-660522-200S	MINI PCI-EXPRESS 1*52,0.8mm,10u",F,H=9.9mm,90D,SMT,IVORY,GENERAL TYPE,AS0B226-S99Q-7H(FOXCONN)HF	5.8468	1	9.5280
622-010140-000G	BATTERY CR2032 3V 220mAh W/CABLE (L=150mm&TAPE),BIN-CR2032-I-CT-SL-PV-01(RE-ENERGY)RoHS Belong to UN3090	25.0000	1	34.9638
686-110322-100G	PIN PLUG 1*3,2.0mm,M,H=5.9mm,180D,DIP,W/BLACK JUMPER,22S-96-03GB01(PINREX)RoHS	10.7191	2	32.4809
143-10160I-402G	CPU Intel Atom x7-E3950 1.6GHz C/2M,D0,LH8066803102601 SR33P/FCBGA-1296 (INTEL)RoHS	159.0000	1	159.0000
292-301000-500S	BUZZER 3V,100mA,12Ω,4Khz,85db,SMD (5*4.2mm),SMT-G5030A(KEPO)	600.0000	1	600.0000