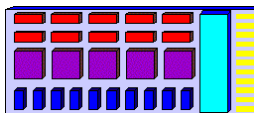


**Standard Reliability Prediction Report**

**Part Number** HESC-SERD-V3-R3  
**Reference Des**  
**Date** June 9, 2004  
**Environment** GB, GC - Ground Benign, Controlled  
**Temperature** 30.00

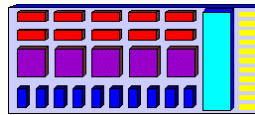


**Description** Top-level assembly  
**File Name** HESC-SERD.RPJ  
**Time** 4:50 PM  
**Failure Rate** 7.862304  
**MTBF** 127,189

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
HESC-SERD	HESC-SERD-V3-R3		1.00	7.862304	127,189

**Standard Reliability Prediction Report**

**Part Number** HESC-SERD-V3-R3  
**Reference Des**  
**Date** June 9, 2004  
**Environment** GB, GC - Ground Benign, Controlled  
**Temperature** 30.00

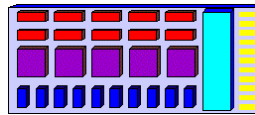


**Description** Top-level assembly  
**File Name** HESC-SERD.RPJ  
**Time** 4:50 PM  
**Failure Rate** 7.862304  
**MTBF** 127,189

Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
CAP-0805-0.1U	Capacitor	C11,12,15-19,31,39--46,49-54,59-69	0.013062	33.00	0.431056
CAP-0805-10N	Capacitor	R63	0.010617	1.00	0.010617
CAP-0805-1.0U	Capacitor	C20,48,70,71	0.016070	4.00	0.064281
CAP-0805-100P	Capacitor	C33,34,35,55	0.007015	4.00	0.028059
CAP-0805-1N	Capacitor	C24,25	0.008630	2.00	0.017260
CAP-0805-330P	Capacitor	C21,22,23	0.007811	3.00	0.023432
CAP-1206-1U	Capacitor	C29,30,27	0.032465	3.00	0.097395
CAP-D-4U7	Capacitor	C8,28	0.008183	2.00	0.016365
CAP-D-4U7-35V	Capacitor	C13,26,38	0.008183	3.00	0.024548
DIODE-SI-UMELF	Semiconductor	D7,17,43,41,44,42,4-5,46	0.020765	9.00	0.186884
DIODE-SMB-60V	Semiconductor	D2-6,8-16,19-22,39,-40	0.001895	20.00	0.037909
FET-DPAK-N	Semiconductor	Q1,2,3	0.186219	3.00	0.558656
FET-DPAK-P	Semiconductor	Q14	0.151439	1.00	0.151439
FET-P-N-COMP	Semiconductor	Q7	0.434560	1.00	0.434560
FET-SO8-0.01R	Semiconductor	Q9,16	0.435187	2.00	0.870374
FET-SO8-P-.017	Semiconductor	Q17	0.435187	1.00	0.435187
FET-SOT23-J-PCH	Semiconductor	Q15	0.057118	1.00	0.057118
FET-SOT23-N	Semiconductor	Q5	0.152315	1.00	0.152315
FET-SOT363-N	Semiconductor	Q4,6,21	0.152315	3.00	0.456946
FUSE-SMF-10A	Miscellaneous	F1,2	0.010000	2.00	0.020000
IC-CRNT-MIRR	Integrated Circuit	CM1,2	0.024900	2.00	0.049800
IC-LT1620CS8	Integrated Circuit	IC3	0.051008	1.00	0.051008
IC-LTC1694CS5	Integrated Circuit	IC6	0.000310	1.00	0.000310
IC-PIC18F6720	Integrated Circuit	IC5	0.300280	1.00	0.300280
IC-MAX232A	Integrated Circuit	IC7	0.054568	1.00	0.054568
LED-SV-GRN	Semiconductor	LED1-6	0.001476	6.00	0.008858
OPTO-SO8-DUAL	Semiconductor	IC8	0.109121	1.00	0.109121
PCB-HESC-SER-V3	Connection	~	0.068000	1.00	0.068000
OSC-SMD-4.0RES	Miscellaneous	XTAL1	0.038000	1.00	0.038000
RES-0805-100K	Resistor	R36	0.016257	1.00	0.016257
RES-0805-100R	Resistor	R11,14,15,16	0.016257	4.00	0.065028
RES-0805-10K0	Resistor	R12,17,42,49,50,51,-26,61,67,68	0.016257	10.00	0.162571
RES-0805-110K	Resistor	R43	0.016257	1.00	0.016257
RES-0805-130K	Resistor	R24,28,32,54,64-66	0.016257	7.00	0.113799
RES-0805-15K0	Resistor	R18,29,30,52	0.016257	4.00	0.065028
RES-0805-18K0	Resistor	R23	0.016257	1.00	0.016257
RES-0805-1K00	Resistor	R8,9,10,22	0.016257	4.00	0.065028
RES-0805-1K21	Resistor	R20,21,27	0.016257	3.00	0.048771
RES-0603-20K	Resistor	R4,39-41,44-46,55--57,59	0.014902	11.00	0.163923
RES-0805-20K	Resistor	R34,69,71	0.016257	3.00	0.048771
RES-0805-243K	Resistor	R38,70	0.016257	2.00	0.032514
RES-0805-32K4	Resistor	R47,48	0.016257	2.00	0.032514
RES-0805-330K	Resistor	R31,72,73	0.016257	3.00	0.048771
RES-0805-3K32	Resistor	R6,60	0.016257	2.00	0.032514

**Standard Reliability Prediction Report**

**Part Number** HESC-SERD-V3-R3  
**Reference Des**  
**Date** June 9, 2004  
**Environment** GB, GC - Ground Benign, Controlled  
**Temperature** 30.00



**Description** Top-level assembly  
**File Name** HESC-SERD.RPJ  
**Time** 4:50 PM  
**Failure Rate** 7.862304  
**MTBF** 127,189

Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
RES-0603-3K32	Resistor	R58	0.014902	1.00	0.014902
RES-0805-392R	Resistor	R2,13,19,25	0.016257	4.00	0.065028
RES-0805-47K5	Resistor	R53	0.016257	1.00	0.016257
RES-0805-49K9	Resistor	R7,33,35	0.016257	3.00	0.048771
RES-SL1-010	Resistor	R1, 3	0.003658	2.00	0.007316
RES-SL1-017	Resistor	R5,37	0.003658	2.00	0.007316
RES-SL1-050	Resistor	R62	0.003658	1.00	0.003658
TR-SOT23-NPN	Semiconductor	Q11	0.001289	1.00	0.001289
TR-SOT23-PNP	Semiconductor	Q10	0.000096	1.00	0.000096
VR-LTC1149CS	Integrated Circuit	IC2	0.003939	1.00	0.003939
VR-LTC1159CS	Integrated Circuit	IC1	0.003939	1.00	0.003939
VR-LTC1266CS	Integrated Circuit	IC4	0.003142	1.00	0.003142
VR-SO-78L05	Integrated Circuit	Q28	0.053343	1.00	0.053343
XORB-TVS 3KW 43V	Semiconductor	D1,18,23,24,26,27	0.035989	6.00	0.215936
CAP-OSCN-150U	Capacitor	C14,C47	0.005384	2.00	0.010768
CAP-OSCN-180U	Capacitor	C36,C37,C32, C56,C57,C58	0.005614	6.00	0.033686
CAP-OSCN-33U	Capacitor	C2,C3,C4,C5,C6,C7	0.003801	6.00	0.022803
CAP-OSCN-680U	Capacitor	C9,C10	0.007622	2.00	0.015244
CAP-RAD-330U	Capacitor	C1	0.006454	1.00	0.006454
CON-DR/HDRS	Connection	CN5	0.000120	1.00	0.000120
CON-DR/HDRS	Connection	CN10	0.000120	1.00	0.000120
CON-PCB-2POS-0.156-RA	Connection	CN1CN6	0.002600	2.00	0.005200
CON-PCB-RA6-3.5	Connection	CN7	0.007800	1.00	0.007800
CON-PCB-RA9-3.5	Connection	CN2,CN3,CN4	0.011700	1.00	0.011700
CON-PIN-0.1-2X5-RA	Connection	CN9	0.013000	1.00	0.013000
CON-PLUG2-MOLEX.156	Connection	Mate with CN1	0.124000	2.00	0.248000
CON-PLUG6-3.5	Connection	Mate with CN7	0.372000	1.00	0.372000
CON-PLUG9-3.5	Connection	Mate with CN2,3,4	0.558000	1.00	0.558000
TOR-10A-H-50U	Inductor	L1	0.000097	1.00	0.000097
TOR-5A-H-10U	Inductor	L2	0.000097	1.00	0.000097
TOR-5A-H-50U	Inductor	L3,L4	0.000097	2.00	0.000193
VR-NML0505S	Integrated Circuit	VR1	0.429738	1.00	0.429738