

# RELIABILITY PREDICTION

## TELESCOPE

ITEM	QTY	$\lambda_b$	$\Pi_Q$	$\Pi_L$	$\Pi_E$	$\Pi_T$	$\lambda_{PART}$
CONNECTOR	6	.011	1.0				0.066
JFET, N CHANNEL	12	.0069	1.0				0.0828
RESISTOR, MF, CHIP (MIL-PRF-55342)	24	.0018	0.1				0.00432
CAPACITOR,CER,CHIP,(MIL-PRF-55681)	24	.0017	0.1				0.00408
PREAMP (A250)	6	.03785					0.2271
OP AMP, DUAL (RH1498)	3	.0095	0.25	1.0			0.007125
VOLTAGE REFERENCE (AD584)	1	.0095	0.25	1.0			0.002375
NAND GATE, QUAD (SMD)	1	.0057	0.25	1.0			0.001425
TEMPERATURE TRANSDU.(AD590LF/883)	2	.0095	0.25	1.0			0.00475
CONNECTOR, RACK AND PANEL	6	0.011	1.0				0.066

**TELESCOPE FAILURES X 10 <sup>-6</sup> HRS**

**0.46598**

## ANALOG BOARD

PEAK HOLD DETECTOR (PH300RH)	6	.03785					0.23
QUAD OP AMP (RH1814MW)	6	0.0095	1.0	1.0			0.057
DUAL COMPARATOR ((RH119W)	6	0.0095	0.25	1.0			0.01425
CAPACITOR,CER,CHIP,(MIL-PRF-55681)	120	.0017	0.1				0.0204
RESISTOR, MF, CHIP (MIL-PRF-55342)	120	.0018	0.1				0.0216
CONNECTOR, RACK AND PANEL	1	0.011	1.0				0.011

**ANALOG BOARD FAILURES X 10 <sup>-6</sup> HRS**

**0.35**

## DIGITAL BOARD AND CHASSIS

TRANSISTOR, NPN/PNP, <200MHz	4	.00073	0.7				0.002044
DIODE,GENERAL PURPOSE(MIL-PRF-19500)	3	.0018	0.7				0.00378
RESISTOR, MF, CHIP (MIL-PRF-55342)	108	.0018	0.1				0.01944
CAPACITOR,CER,CHIP,(MIL-PRF-55681)	88	.0017	0.1				0.01496
CAPACITOR,TANT, CHIP,(MIL-PRF-55365)	10	.000068	0.1				0.000068
IC, MOS, LINEAR,(1-100 TRANSISTORS)	16	.0095	1.0	1.0			0.152
IC,MOS,LINEAR,(300-1000 TRANS.)	4	.033	1.0	1.0			0.132
IC,MOS,LINEAR,(1000+ TRANSISTORS)	7	.05	1.0	1.0			0.35
OSCILLATOR	2	.016	1.0				0.032
DIGITAL LOGIC, CMOS	2	.0036	1.0				0.0072
FPGA (72K GATES)	1	.13	1.0	1.0			0.13
EMI FILTER	1	.22	1.0	1.0			0.22
DC-DC CONVERTER	2	.20783		1.0			0.42
1553 MODULE	1	1.2		1.0			1.20
SRAM (CMOS, 32K)	1	.014					0.01
CONNECTOR, RACK AND PANEL	4	0.011	1.0				0.044
TRANSFORMER, AUDIO (MIL-T-27)	2	.0075	1.0				0.015

**DIGITAL/CHASSIS FAILURES X 10 <sup>-6</sup> HRS**

**2.75215**

**CRATER FAILURES PER MILLION HOURS**

**3.56948**