

ADiS16385 ASSEMBLY
BOM # 05-4523801 / 05-4523901
RELIABILITY PREDICTION

Prepared By:
 Date:

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COMPONENT TYPE:	METHOD OF CALCULATION USED & JUSTIFICATION: Actual device manufacturer's published FIT data was used in place of MIL-STD-217 in some cases. The mfg's data is considered more accurate and based on actual device hours. All data was converted to MTTF in hours and combined for the total FIT number.
Integrated Circuits	Arrhenius Equation. These device types are continuously undergoing rel monitor testing by the manufacturer. Some MIL-STD-217 info such as number of transistors in considered proprietary and unavailable. The failure rate may be estimated from the performance of the same units during HTOL. The Arrhenius equation determines the amount of acceleration achieved by stress of the samples at evaluated temperature, activating the latent failure mechanisms, using industry standard activation energy value of 0.7 eV. To convert this failure rate to FITs, the result is multiplied by 1E+09. Values on this sheet are given in FITs = failures per billion device hours.
Resistors	MIL-HDBK-217 Standard Calculation, Airborne Inhabited Cargo Environment.
Capacitors	MIL-HDBK-217 Standard Calculation, Airborne Inhabited Cargo Environment.
Connectors	MIL-HDBK-217 Standard Calculation, Airborne Inhabited Cargo Environment.
Printed Circuit Board	MIL-HDBK-217 Standard Calculation, Airborne Inhabited Cargo Environment.

Failures/10 ⁶ hrs.	IC's	0.005
	Resistors	0.0039
	Caps	0.6681
	Connectors	0.0200
	PCB	0.164500
Total Failures	All	0.861500
Total MTTF		1160766.106