



MP108 Reliability Report

Date Prepared:	7/25/2005	By:	G. Scofield	Model:	MP108
Date Life Test Complete:	7/17/2005	Lot:	3B7440445 20, 4B4420511 25, 4B1580504 15, 3B9780450 20		

MTBF and reliability determination when no failures are observed in a test

Reliability and Life Testing Handbook Volume 1, Dimitri Kececioglu, PTR Prentice Hall, 1993 pp194 -196

n =	80	units tested
r =	0	units failed
T =	2179	hrs. Life test duration
α =	0.2	alpha
T _C =	85	Case temperature
CL (1- α) =	0.8	Confidence level for MTBF
$\chi^2_{\alpha,df}$ =	3.219	Critical value of the Chi-Squared distribution for α = 0.2 and df = 2
T _a =	174320	accumulated unit hours of operation

$MTBF_{L1} = 2T_a / \chi^2_{\alpha,df} = 108311.1$ hours (eq 7.29 pg 195) Lower Confidence Limit for MTBF
 Thus MTBF at 80% confidence is (108311.1 hr; ∞)(12.36 yr; ∞) and failure rate
 ≤ 9.232664 failures per million hours.

