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
$\alpha =$	0.2	alpha
$T_C =$	85	Case temperature
CL $(1-\alpha) =$	0.8	Confidence level for MTBF

$X^2_{\alpha;df} =$ 3.219   Critical value of the Chi-Squared distribution for $\alpha =$ 0.2   and df = 2

$T_a =$ 174320   accumulated unit hours of operation

$MTBF_{L1} = 2T_a/X^2_{\alpha;df} =$ 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.