

# RELIABILITY MONITOR

PRODUCT	MONITOR DATE	DATE CODE	ASSEMBLY FACILITY	ASSEMBLY LOT NO	PROCESS TYPE	PACKAGE TYPE
DS80C320	Aug-96	9613 B3	ANAM, K.	DN603217AAA	0.8μ OX/NI	44 PLCC

**STRESS/JOB NO.**

**READPOINT  
(Sample Size/No. of Fails)**

Preconditioning (P/C):  
HTC Vapor Phase  
P-18008

<u>Electrical</u>	<u>Cum %</u>
151/0	0.0%

Sonoscan  
P-18051

<u>Post Vapor Phase</u>	
8/7	F1

Infant / High Voltage Life  
125°C, 7.0 V.  
P-18052, P-18073

<u>48 Hr</u>	<u>336 Hr</u>	<u>1KHr</u>	<u>*Failure Rate</u>
149/0	42/2	40/0	190 Fits
	F2		

\*Chi Squared Method, 60% C. L., 55°C & 5.5V; Temperature Derating: Ea = 0.7 ev; Voltage Derating B = 1.0

Temp Cycle  
-55°C to +125°C  
P-18074

<u>300 ~</u>	<u>1K ~</u>	<u>Cum %</u>
38/0	38/3	7.9%
	F3	

Biased Moisture (HAST)  
120°C/85% RH, 5.5 V.  
P-18075

<u>100 Hr</u>	<u>Cum %</u>
30/0	0.0%

Autoclave  
121°C/100% RH, 2 Atmos  
P-18076

<u>96 Hr</u>	<u>Cum %</u>
37/0	0.0%

**Failure Mode**

F1: 7-Delamination  
F2: 2-Bandgap  
F3: 3-Continuity

**Failure Analysis**

Die surface to package.  
Devices pass @ 25°C. Suspect Fab para. (B out of spec) resulted in marginal shift.  
Die surface to package delamination resulting in ball bond craters.