AT-89S8252 FLASH RELIABILITY DATA

- 125°C DYNAMIC LIFETEST (PLASTIC)
- 150°C RETENTION BAKE (PLASTIC)
- 121°C/15PSG PRESSSURE POT TEST
- EXTENDED TEMPERATURE CYCLE

JULY 2003

2325 Orchard Parkway San Jose CA. 95131
AT-89S8252
PLASTIC PACKAGE

125°C DYNAMIC LIFETEST

<table>
<thead>
<tr>
<th>LOT NUMBER</th>
<th>DATE CODE</th>
<th>SAMPLE SIZE</th>
<th>TOTAL NUMBER HOURS (K)</th>
<th>NUMBER OF FAILURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A1867-1</td>
<td>8A9841</td>
<td>100</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>9B0070</td>
<td>9B9925</td>
<td>100</td>
<td>100.0</td>
<td>0</td>
</tr>
</tbody>
</table>

FAILURE RATE

TOTAL DEVICE HOURS: 200,000 DEVICE HOURS

BEST ESTIMATE

$\lambda = 0.4\% \text{ PER 1,000 HOURS}$

50°C AMBIENT

EXTRAPOLATION TO 50°C VIA ARRHENNIUS EQUATION AND ACTIVATION ENERGY OF 0.5eV

$\lambda = 0.01\% \text{ PER 1,000 HOURS (111 FITS)}$

CONFIDENCE ESTIMATE

$\lambda = 0.01\% \text{ PER 1,000 HOURS (154 FITS)}$

$\lambda = 0.04\% \text{ PER 1,000 HOURS (390 FITS)}$
AT-89S8252
PLASTIC PACKAGE

150°C RETENTION BAKE

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<tr>
<td>9B0070</td>
<td>9B9925</td>
<td>50</td>
<td>50.0</td>
<td>0</td>
</tr>
</tbody>
</table>

**FAILURE RATE**

TOTAL DEVICE HOURS
150,000 DEVICE HOURS

BEST ESTIMATE

\[ \lambda = 0.7\% \text{ PER 1,000 HOURS} \]

50°C AMBIENT

EXTRAPOLATION TO 50°C VIA ARRHENNIUS EQUATION AND ACTIVATION ENERGY OF 0.5eV

\[ \lambda = 0.01\% \text{ PER 1,000 HOURS (98 FITS)} \]

CONFIDENCE ESTIMATE

\[ \lambda = 60 = 0.01\% \text{ PER 1,000 HOURS} \]

60% CONFIDENCE (131 FITS)

\[ \lambda = 90 = 0.03\% \text{ PER 1,000 HOURS} \]

90% CONFIDENCE (326 FITS)
### AT-89S8252

**PLASTIC PACKAGE**

**121°C/15PSG PRESSURE POT TEST**

<table>
<thead>
<tr>
<th>DATE CODE</th>
<th>PACKAGE TYPE</th>
<th>SAMPLE SIZE</th>
<th>NUMBER OF FAILURES AT INDICATED HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9B9925</td>
<td>44 PLCC</td>
<td>50</td>
<td>(24) 0 0 0 0 0 0 (48) (72) (96)</td>
</tr>
</tbody>
</table>

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AT-89S8252

PLASTIC PACKAGE

EXTENDED TEMPERATURE CYCLE

-65°C to +150°C PLCC/TSOP/SOIC/PDIP
-55°C to +125°C CBGA

<table>
<thead>
<tr>
<th>DATE CODE</th>
<th>PACKAGE TYPE</th>
<th>SAMPLE SIZE</th>
<th>NUMBER OF CYCLES</th>
<th>NUMBER OF FAILURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A9841</td>
<td>44 PLCC</td>
<td>50</td>
<td>1000</td>
<td>0</td>
</tr>
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<td>9A9925</td>
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