**Texas Instruments Enhanced Plastic Products Reliability Report**  
(Subject To Attached Disclaimers)  
UC1854BMDWREP

### Package Related Tests

<table>
<thead>
<tr>
<th>Description</th>
<th>Condition</th>
<th>Referenced Method</th>
<th>Sample Size</th>
<th>Rejects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biased Humidity or HAST</td>
<td>85°C / 85% / 1000 hours</td>
<td>JESD22-A101</td>
<td>304</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td>JESD22-A110</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>130°C / 85% / 96 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoclave</td>
<td>121°C @ 2 atmospheres absolute for 96 hours</td>
<td>JESD22-A102</td>
<td>77</td>
<td>0</td>
</tr>
<tr>
<td>Temperature Cycle</td>
<td>-65°C to +150°C non-biased for 500 cycles or equivalent</td>
<td>JESD22-A104</td>
<td>308</td>
<td>0</td>
</tr>
<tr>
<td>High Temp Storage</td>
<td>150°C / 1,000 hours</td>
<td>JESD22-A103-A</td>
<td>77</td>
<td>0</td>
</tr>
</tbody>
</table>

* Preconditioning per JEDEC Std. 22, Method A112/A113

### Biased Life Test

**Test Method:** JESD22-A108

**Test Condition:** 125°C / 1000 hours

- Rejects: 0
- Activation Energy (eV): 0.7eV
- Equivalent Device Hours: 1.00E+10
- Failure Rate (FIT)*: 0.6

*Derated to +55°C with a 60% Confidence Level
## Initial Product Qualification

<table>
<thead>
<tr>
<th>Condition</th>
<th>Referenced Method</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Characterization</td>
<td>TI Data Sheet</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 units/lot</td>
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<tr>
<td>Electrostatic Discharge Sensitivity</td>
<td>HBM</td>
<td>EIA/JESD22-A114</td>
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<tr>
<td></td>
<td>MM</td>
<td>EIA/JESD22-A115</td>
</tr>
</tbody>
</table>
|                           | Per Technology                  | EIA/JESD78  | 5/0
| Latch-up                  |                                  |             |
| Physical Dimensions       | TI Data Sheet                   | EIA/JESD22- B100 |
|                           |                                  | 5/0         |
| Bias Life Test            | 125°C / 1000 hours or equivalent| JESD22-A108 |
|                           |                                  | 116/0       |
| Biased Humidity           | 85°C / 85% / 1000 hours or 130°C / 85% / 96 hours | JESD22-A101 |
|                           |                                  | 77/0        |
| HAST                      |                                  | JESD22-A110 |
| Autoclave                 | 121°C @ 2 atmospheres absolute for 96 hours | JESD22-A102 |
|                           |                                  | 77/0        |
| Temperature Cycle         | -65°C to +150 °C non-biased for 1,000 cycles | JESD22-A104 |
|                           |                                  | 77/0        |
| Solder Heat               | 260°C for 10 seconds            | JESD22-B106 |
|                           |                                  | 22/0        |
| Solderability             | Condition A (steam age for 8 hours) | ANSI/J-STD-002-92 |
|                           |                                  | 22/0        |
| Bond Strength             | -                               | ASTM F-459  |
|                           |                                  | 76/0 wires  |
| High Temp Storage         | 150°C / 1,000 hours             | JESD22-A103-A |
|                           |                                  | 45/0        |
| Moisture Sensitivity      | Surface Mount Only              | J-STD-020-A |
|                           |                                  | 12/0        |

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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