

## Typical Environmental Tests & Mechanical Tests For LCD

### Typical Environmental Tests\*

| TEMPERATURE TESTS                               | COMMERCIAL GRADE  | EXTENDED GRADE  |
|---|---|---|
| <b>High temperature storage</b><br>(IEC 68-2-2) | +70°C/3 days  | +85°C/4 day   |
| <b>Low temperature storage</b><br>(IEC 68-2-1)  | -25°C/3 days  | -40°C/4 days  |
| <b>Temperature, cyclic</b><br>(IEC 68-2-14)     | -25°C/30 min<br>+25°C/30 min<br>+70°C/30 min<br>+25°C/30 min<br>10 cycles | -40°C/30 min<br>+25°C/30 min<br>+85°C/30 min<br>+25°C/30 min<br>10 cycles |
| <b>Damp heat, cyclic</b><br>(IEC 68-2-30)       | 25°C/95% RH/24h<br>40°C/93% RH/24h<br>6 cycles                            | 25°C/95% RH/24h<br>40°C/93% RH/24h<br>21 cycles                           |
| <b>Damp heat, steady state</b><br>(IEC 68-2-3)  | 40°C/93% RH<br>every 4 days   | 40°C/93% RH<br>every 21 days  |

- \* Expected lifetime under normal operating conditions  
 -- 50,000 hours (commercial) /100,000 hours (extended temperature).  
 These are minimum test. For other specifications, please consult VARITRONIX.

### Mechanical Tests

|  |   |  |
|--|---|--|
| <b>Low air pressure</b><br>(IEC 68-2-13)   | i@  | 25°C/86 to 106Pa   |
| <b>Vibration</b><br>(IEC 68-2-6)<br>cells must be mounted<br>on a suitable connector | frequency<br>amplitude<br>duration                      | 10 to 55 Hz<br>0.75 mm<br>20 cycles in each<br>direction                                   |
| <b>Shock</b><br>(IEC 68-2-27)<br>Half-sine pulse shape                               | pulse duration<br>peak acceleration<br>number of shocks | 11 ms<br>$981 \text{ m/s}^2 = 100\text{g}$<br>3 shocks in 3 mutually<br>perpendicular axes |
| <b>Bump</b><br>(IEC 68-2-29)   | pulse duration<br>peak acceleration<br>number of shocks | 6 ms<br>392 m/s <sup>2</sup><br>1000±10  |

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