Recommended soldering conditions (Lead Free)

- Series DS, DSK, DVN, DVL, DVS

Reflow soldering conditions.

Profile

Temperature on the surface of capacitor (°C)

Time (s)

T200: Duration while capacitor head temperature exceeds 200°C (s).
T217: Duration while capacitor head temperature exceeds 217°C (s).
T230: Duration while capacitor head temperature exceeds 230°C (s).
The measurement temperature point is the case top.

<table>
<thead>
<tr>
<th>Series</th>
<th>Size</th>
<th>Peak temp. (5sec or less)</th>
<th>T230</th>
<th>T217</th>
<th>T200</th>
<th>Reflow cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS</td>
<td>DSK</td>
<td>φ4.8 to φ6.8</td>
<td>250°C Max.</td>
<td>20sec. max.</td>
<td>30sec. max.</td>
<td>40sec. max.</td>
</tr>
<tr>
<td>DVN</td>
<td>DVL</td>
<td>φ12.5</td>
<td>260°C Max.</td>
<td>20sec. max.</td>
<td>30sec. max.</td>
<td>50sec. max.</td>
</tr>
</tbody>
</table>

Attention: Carry out soldering work at low temperature and in the shortest time within above conditions. Do NOT reflow solder, when cell voltage is above 0.5V.

* Please consult with us about reflow soldering conditions other than the above.
Cautions when soldering

(1) Do not dip the capacitor into melted solder.
(2) Do not flux other part than the terminals.
(3) If there is a direct contact between the sleeve of the capacitor and the printed circuit pattern or a metal part of another component such as a lead wire, it may cause shrinkage of crack.
(4) If it is a coin type, please manage so that main part temperature including preheating does not exceed 90°C.
(5) Please refer to cautions for using on page 239 to 240 and the specification about other notes.

Recommended soldering conditions (Lead free)

Electric Double Layer capacitors

(1) Soldering iron conditions
   Iron tip temperature should be 400°C±5°C within the duration of 4 secons.
   However, if it is series DC or DCK, iron tip temperature should be 360°C±5°C and the time should be 4 seconds or less.

(2) Flow soldering conditions
   The recommendation soldering conditions of the product in which flow soldering is possible are as graph.

<table>
<thead>
<tr>
<th>Type</th>
<th>Series</th>
<th>Size</th>
<th>Preheat</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Temperature</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Temperature</td>
</tr>
<tr>
<td>Coin cell</td>
<td>DB, DBN, DBJ DBS, DX, DXN DXJ, DXS, DH DHL, DHC</td>
<td>φ11.5 to φ21.5</td>
<td>100 to 110 30sec. max.</td>
<td>260°C Max 5sec. max.</td>
</tr>
<tr>
<td>Cylindrical cell</td>
<td>DZ, DZH, DZN DU, DU, DUK, DZP</td>
<td>φ6.3 to φ35</td>
<td>100 to 130 30 to 60s</td>
<td>260°C±5°C 10sec. max.</td>
</tr>
</tbody>
</table>