The TWD series is an axial leaded wet electrolytic tantalum capacitor designed for DC (hold-up) and low frequency pulse applications.

Utilizing high CV Tantalum powders the TWD series achieves extreme high capacitance values that are similar to the Super capacitor range. The TWD offers extended temperature range up to 175°C and extended life up to 10000 hrs.

Components are suitable for automatic mounting and soldering.

Well-established wet tantalum design is suitable for applications with hi-reliability requirements. Contact the factory about design possibilities beyond those contained in this datasheet.

FEATURES

• Super high capacitance
• -55 to 175°C operation temperature
• Hermetic packaging
• Endurance up to 10 000 hrs. on selected codes
• High electrical and mechanical stability

APPLICATIONS

• Special industrial
• Avionics
• Military
• Down hole drilling

OUTLINE DIMENSIONS

CASE DIMENSIONS: millimeters (inches)

<table>
<thead>
<tr>
<th>DLA Case Size</th>
<th>AVX Case Size</th>
<th>L (±0.79 (0.031) -0.41 (0.016))</th>
<th>Without Insulating Sleeve ±0.41 (0.016)</th>
<th>With Insulating Sleeve Max</th>
<th>E ±6.35 (0.250)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4 E</td>
<td></td>
<td>26.97 (1.062)</td>
<td>9.52 (0.375)</td>
<td>10.31 (0.406)</td>
<td>57.15 (2.250)</td>
</tr>
</tbody>
</table>

CAPACITANCE AND RATED VOLTAGE, \( V_R \) (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

<table>
<thead>
<tr>
<th>DC Capacitance</th>
<th>Rated Voltage DC ( (V_R) ) to 85°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3V</td>
</tr>
<tr>
<td>mF</td>
<td>Code</td>
</tr>
<tr>
<td>25</td>
<td>253</td>
</tr>
<tr>
<td>50</td>
<td>503</td>
</tr>
<tr>
<td>100</td>
<td>104</td>
</tr>
</tbody>
</table>

Available Ratings
HOW TO ORDER

AVX PART NUMBER:

<table>
<thead>
<tr>
<th>TWD</th>
<th>E</th>
<th>503</th>
<th>*</th>
<th>006</th>
<th>B</th>
<th>0</th>
<th>Z</th>
<th>0</th>
<th>^</th>
<th>00</th>
</tr>
</thead>
</table>
| Type | Case | Size | Capacitance Code
| pf code: | 1st two digits represent significant figures | 3rd digit represents multiplier (number of zeros to follow) |
| Capacitance | Tolerance | Voltage Code | Insulation Sleeve | Packaging | Inspection Level | Reliability | Qualification Level | Termination Finish | Custom Test Options |
| K = ±10% | M = ±20% | 006 = 6.3Vdc | 010 = 10Vdc | C = Without Sleeve | B = Tray Pack | 0 = N/A | Z = Non-ER | 0 = SnPb 60/40 | 7 = Matte tin | 00 = Standard |

TECHNICAL SPECIFICATIONS

Technical Data: All technical data relate to an ambient temperature of +25°C

Capacitance Range: 25mF to 50mF (for extended range under development, contact manufacturer)

Capacitance Tolerance:

- ±10%
- ±20%

Rated Voltage (V_r) ≤ +105°C:
- 3
- 6.3
- 10

Category Voltage (V_c) ≤ +125°C:
- 2
- 4.2
- 6.6

Category Voltage (V_h) ≤ +150°C:
- 2
- 4.2
- 6.6

High Temperature Voltage (V_t) ≤ +175°C:
- 1.5
- 3.15
- 5

Surge Voltage (V_s) ≤ +105°C:
- 3.45
- 7.2
- 11.5

Temperature Range:
- -55°C to +175°C

Endurance:
- 10,000h at +105°C/V_r and 2000h at +175°C/V_t

Reliability:
- 1% per 1000 hours at 85°C, VR with 0.1Ω/series impedance, 60% confidence level

Termination Finish:
- Sn Plating, SnPb Plating 60/40

RATINGS & PART NUMBER REFERENCE

<table>
<thead>
<tr>
<th>AVX Part Number</th>
<th>Cap (mF)² at 25°C</th>
<th>Rated Voltage (V)</th>
<th>Rated Temperature (°C)</th>
<th>DC Leakage max (μA)²</th>
<th>Maximum Capacitance Change (%)</th>
<th>ESR Max (mOhms) at 1kHz</th>
<th>Case Size</th>
<th>Lifetime at 105°C (hrs.)</th>
<th>Lifeime at 175°C (hrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWD104<em>003□B0Z0</em>00</td>
<td>100</td>
<td>3</td>
<td>85</td>
<td>40</td>
<td>60</td>
<td>500</td>
<td>-25</td>
<td>38</td>
<td>55</td>
</tr>
<tr>
<td>TWD103<em>006□B0Z0</em>00</td>
<td>50</td>
<td>6.3</td>
<td>85</td>
<td>20</td>
<td>60</td>
<td>600</td>
<td>-15</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>TWD253<em>010□B0Z0</em>00</td>
<td>25</td>
<td>10</td>
<td>85</td>
<td>20</td>
<td>60</td>
<td>600</td>
<td>-15</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>

1/ DCL is measured at rated or category voltage after 20 minutes.
2/ DC capacitance is measured by discharging initially fully charged capacitor down to 0.37Ur through 1kOhm.