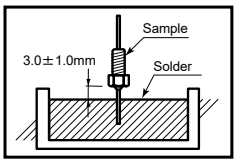
Performance and Test Methods

■Performance and Test Methods

<table>
<tr><th colspan="2">Item</th><th>Performance</th><th>Test Methods and Conditions</th></tr>
<tr><td colspan="2">Withstanding Voltage</td><td>No damage</td><td>Rated Voltage ＜DC400V
: 250% of rated voltage applied for 1-5sec.
Rated Voltage ≧DC400V
: 200% of rated voltage applied for 1-5sec.</td></tr>
<tr><td colspan="2">Insulation Resistance</td><td>10000 MΩ or more</td><td>Rated voltage applied for 1 min. ±5sec.</td></tr>
<tr><td colspan="2">Capacitance Temperature Characteristics</td><td>Capacitance Change Rate
CG:0±30ppm/℃
B:±10%
D:+20, −30%
E:+20, −55%
F:−30, −80%
R:±15%
S:±22%
SL:+350～−1000ppm/℃</td><td>The maximum capacitance change rate within the rated temperature range (#) , 20℃ as a reference.<table><tr><th>#</th><th>CG, R</th><th>B, D, E, F, S, SL</th></tr><tr><td>Maximum Operation Temp.</td><td>+125℃</td><td>+85℃</td></tr><tr><td>Maximum Operation Temp.</td><td>-55℃</td><td>-25℃</td></tr></table></td></tr>
<tr><td colspan="2">Solderability (Terminal)</td><td>75% or more of the immersed area shall be covered with new solder.</td><td>Soldering Temp.: 245℃±3℃
Immersion Time: 3.0±0.5 sec.
Flux: Rosin/IPA（25wt%）</td></tr>
<tr><td colspan="2">Tensile Strength of Termination</td><td>No particular issue</td><td>Use nuts and fasten by torques which are specified in table below.<table><tr><th>Type No.</th><th>Fastening Torque</th></tr><tr><td>FTA30, FTB30, FTA32</td><td>0.294N･m</td></tr><tr><td>FTT30</td><td>0.294N･m</td></tr><tr><td>FTA35, FTP30</td><td>0.490N･m</td></tr><tr><td>FTA41, FTA4D</td><td>0.588N･m</td></tr><tr><td>FTT4C</td><td>0.392N･m</td></tr><tr><td>FTP40,FTT40,FTT41,FTB50</td><td>0.588N･m</td></tr><tr><td>FTA5B,FTA5C,FTA5D,FTB61</td><td>0.588N･m</td></tr><tr><td>FTP82</td><td>0.735N･m</td></tr></table></td></tr>
<tr><td colspan="2">Lead Bending Strength</td><td>No particular issue</td><td>(1) Bending 45° angle, then bending to original place
(2) Bending 45° angle on opposite direction, then bending to original place</td></tr>
<tr><td colspan="2">Lead Pull Strength</td><td>No particular issue</td><td>Fasten the screw, and pull the lead wire with static load 2.0±0.3kg for 10±1 sec.</td></tr>
<tr><td colspan="2">Vibrations</td><td>No particular issue</td><td>Vibrate to X, Y, Z direction each for 2 hours
Frequency: 10~55Hz
Cycle: 1.5mm p-p
Cycle of Frequency Change: 1 min.</td></tr>
<tr><td rowspan="4">Soldering Heat Resistance</td><td>Visual</td><td>No remarkable change</td><td rowspan="4">Lead Length for Immersion: 3.0±1.0mm
Dipping Time: 10 sec.
Measurement: after 4~24 hours left
Soldering Temp.: 300±3℃
  </td></tr>
<tr><td>Capacitance Change Rate</td><td>Within ±15%</td></tr>
<tr><td>Dissipation Factor</td><td>3.5% or less</td></tr>
<tr><td>Insulation Resistance</td><td>5,000MΩ or more</td></tr>
<tr><td rowspan="4">Temperature Cycle</td><td>Visual</td><td>No remarkable change</td><td rowspan="4">The cycle specified on the right table is repeated 25 times.
Leaving a sample under the room temperature for 4~24 hours, then measuring electric al characteristics.<table><tr><td>1</td><td>Minimum Operation Temp.</td><td>30 min.</td></tr><tr><td>2</td><td>Room Temp.</td><td>5 min.</td></tr><tr><td>3</td><td>Maximum Operation Temp.</td><td>30 min.</td></tr><tr><td>4</td><td>Room Temp.</td><td>5 min.</td></tr></table></td></tr>
<tr><td>Capacitance Change Rate</td><td>Within ±20%</td></tr>
<tr><td>Dissipation Factor</td><td>5% or less</td></tr>
<tr><td>Insulation Resistance</td><td>1,000MΩ or more</td></tr>
<tr><td rowspan="4">Life Test at High Temperature Load</td><td>Visual</td><td>No remarkable change</td><td rowspan="4">Put the sample in the evaluation tank which is maximum temperature ±3℃, and apply rated voltage for 200% for 1,000±24 hours. Then, take the sample out of evaluation tank, and leave in the room temperature for 4-24 hours, and measure the electrical characteristics.</td></tr>
<tr><td>Capacitance Change Rate</td><td>Within ±20%</td></tr>
<tr><td>Dissipation Factor</td><td>5% or less</td></tr>
<tr><td>Insulation Resistance</td><td>1,000MΩ or more</td></tr>
<tr><td rowspan="4">Humidity Load Test</td><td>Visual</td><td>No remarkable change</td><td rowspan="4">Put the sample in the evaluation tank which the temperature is 40±2℃ and the relative humidity is 90-95%, then apply rated voltage for 500±12 hours. After that, take the sample out of the tank, then leave in the room temperature for 4-24 hours, and measure the electrical characteristics.</td></tr>
<tr><td>Capacitance Change Rate</td><td>Within ±20%</td></tr>
<tr><td>Dissipation Factor</td><td>5% or less</td></tr>
<tr><td>Insulation Resistance</td><td>1,000MΩ or more</td></tr>
</table>