Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use. Oct. 2019

When the components are polluted by ionic impurities such as flux etc. that are attached to these products or those mounted onto a PCB, negatively affect their moisture resistance, corrosion resistance, etc. The flux may contain ionic substances like chlorine, acid, etc. Please wash them to get rid of these ionic substances especially when using lead-free solder that may contain much of the said substances for improving a wetting characteristic. Using RMA solder or RMA flux, or well-washing is needed. Also, attaching ionic substances such as perspiration, salt etc. by storage environments or mounting conditions/environments negatively affects their moisture resistance, corrosion resistance etc. Please wash them to remove the ionic substances when they are polluted.

When the components are polluted by ionic impurities like sodium(Na⁺), chlorine(Cl⁻) etc. included in perspiration and saliva, it leads to electric erosion. Avoid the pollution when storage, mounting and using. Consider not to remain ionic substances on the components. Wash by pure water etc. and dry them when you find pollution.

Precautions for Use

Avoid storing components under direct sun rays, high temperature/humidity. Direct sun rays will cause quality change of taping and difficulty of keeping appropriate peeling strength. 5〜35℃/35〜75%RH, there is no deterioration of solderability for 12 months, but take special care for storing, because condensation, dust, and toxic gas like hydrogen sulfide, sulfurous acid gas, hydrogen chloride, etc. may drop solderability.

Thermal Sensors

SDT73H・SDT73S Platinum Thin Film Thermal Chip Sensors

Coating color : SDT73H Black SDT73S Milky white

Features

- SMD platinum thin film thermal sensors.
- T.C.R. is equivalent to JIS - IEC standards.
- Suitable for temperature control in various industrial equipment.
- Suitable for both flow and reflow solderings.
- Products meet EU-RoHS requirements.

Applications

- Temperature compensation for various kinds of sensor drive circuits.
- Temperature compensation for telecommunication, measuring and medical equipment.
- Temperature compensation for ICs.

Reference Standards

- IEC 60751
- JIS C 1604

Ratings

<table>
<thead>
<tr>
<th>Type</th>
<th>Resistance (Ω at 0℃)</th>
<th>Resistance Tolerance (%)</th>
<th>Thermal Time Constant (s)</th>
<th>Thermal Dissipation Constant (mW/℃)</th>
<th>T.C.R. (×10⁻⁶/K)</th>
<th>T.C.R. Tolerance (×10⁻⁶/K)</th>
<th>Operating Temperature Range (℃)</th>
<th>Specified Current (mA)</th>
<th>Taping &amp; Q’ty/Reel (pcs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDT73H2B</td>
<td>100, 500</td>
<td>±0.2</td>
<td>6.5</td>
<td>2.4</td>
<td>3850</td>
<td>±50</td>
<td>−55〜+155</td>
<td>1000, 500</td>
<td>TEK 1000 5000</td>
</tr>
<tr>
<td>SDT73S2B</td>
<td>100</td>
<td>F: ±1</td>
<td>100</td>
<td>F: ±1</td>
<td>3850</td>
<td>±50</td>
<td>−55〜+250</td>
<td>1000</td>
<td>TE 1000</td>
</tr>
</tbody>
</table>

Type Designation

Example

Products meet EU-RoHS requirements.

For further information on taping, please refer to APPENDIX C on the back pages.

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### Performance

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Performance Requirements A.R± (% +0.05Ω)</th>
<th>Test Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance</td>
<td>Within specified tolerance ≤0.1%</td>
<td>0°C ±100°C</td>
</tr>
<tr>
<td>T.C.R.</td>
<td>3850±50×10⁻⁶/K ≤0.004</td>
<td>+260°C, 10s</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>100Ω or more</td>
<td>1.5h ON/0.5h OFF cycle</td>
</tr>
<tr>
<td>Dielectric withstanding voltage</td>
<td>0.5</td>
<td>dn.c.100V</td>
</tr>
<tr>
<td>Rapid change of temperature</td>
<td>0.5</td>
<td>−0.004</td>
</tr>
<tr>
<td>Moisture resistance</td>
<td>0.5</td>
<td>−0.016</td>
</tr>
<tr>
<td>Normal temperature load life</td>
<td>0.5</td>
<td>−0.010</td>
</tr>
<tr>
<td>High temperature load life</td>
<td>0.5</td>
<td>−0.017</td>
</tr>
<tr>
<td>High temperature exposure</td>
<td>0.5</td>
<td>−0.022</td>
</tr>
<tr>
<td>Low temperature exposure</td>
<td>0.5</td>
<td>−0.029</td>
</tr>
</tbody>
</table>

### Approximate Expression for Resistance-Temperature Characteristics

#### −55℃~0℃: RT=R₀(1+C₁T+C₂T²)

- R₀: Resistance value at 0℃
- T: Ambient temperature (℃)
- Constants C₁, C₂:
  - C₁=3.9083×10⁻³℃⁻¹
  - C₂=−5.775×10⁻⁷℃⁻²

#### 0℃~+250℃: RT=R₀(1+C₁T+C₂T²)

- R₀: Resistance value at 0℃
- T: Ambient temperature (℃)
- Constants C₁, C₂:
  - C₁=3.9083×10⁻³℃⁻¹
  - C₂=−5.775×10⁻⁷℃⁻²

### Specifications

- Performance values are obtained by adjusting temperatures in the vertical and horizontal axes. When calculating a resistance value of 105℃, read the value in the column where 100℃ in the vertical axis and 5℃ in the horizontal axis cross. The value will be 140.40Ω. The value for 500Ω at 0℃ will be the value obtained by multiplying the resistance value in this table by 5.

- Note: Desired temperature values are obtained by adding temperatures in the vertical and horizontal axes. When calculating a resistance value of 105℃, read the value in the column where 100℃ in the vertical axis and 5℃ in the horizontal axis cross. The value will be 140.40Ω. The value for 500Ω at 0℃ will be the value obtained by multiplying the resistance value in this table by 5.

- Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

- Contact our sales representatives before you use our products for applications including automotive, medical equipment and aerospace equipment.

- Malfunction or failure of the products in such applications may cause loss of human life or serious damage.

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