Welding diode

Properties
- High forward current capability
- Low forward voltage drop
- International standard cases

Applications
- Welding equipment
- High current application up to 1000 Hz

Key parameters
- \( V_{RRM} = 200-400 \) V
- \( I_{FAV_m} = 7110 \) A
- \( I_{FSM} = 55000 \) A
- \( V_{TO} = 0.750 \) V
- \( r_T = 0.025 \) m\( \Omega \)

Types

<table>
<thead>
<tr>
<th>Type</th>
<th>( V_{RRM} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZP7100-400</td>
<td>400 V</td>
</tr>
<tr>
<td>ZP7100-200</td>
<td>200 V</td>
</tr>
</tbody>
</table>

Conditions:
- \( T_j = -40 \) - 170 °C,
- half sine waveform,
- \( f = 50 \) Hz

Mechanical data

<table>
<thead>
<tr>
<th>( F_m )</th>
<th>Mounting force</th>
<th>22 ± 2 kN</th>
</tr>
</thead>
<tbody>
<tr>
<td>( m )</td>
<td>Weight</td>
<td>0.14 kg</td>
</tr>
<tr>
<td>( D_S )</td>
<td>Surface creepage distance</td>
<td>4 mm</td>
</tr>
<tr>
<td>( D_s )</td>
<td>Air strike distance</td>
<td>4 mm</td>
</tr>
</tbody>
</table>
# Welding Diode

## Parameters

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Characteristic</th>
<th>Conditions</th>
<th>$T_j$ [°C]</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>V RRM</td>
<td>Repetitive peak reverse voltage</td>
<td></td>
<td>170</td>
<td>200-400</td>
<td>V</td>
</tr>
<tr>
<td>V RSM</td>
<td>Non-repetitive peak reverse voltage</td>
<td></td>
<td>170</td>
<td>300-600</td>
<td>V</td>
</tr>
<tr>
<td>I RRM</td>
<td>Repetitive peak reverse current</td>
<td>$V=V_{RRM}$</td>
<td>170</td>
<td>60</td>
<td>mA</td>
</tr>
</tbody>
</table>

## Blocking

- **V RRM**: Repetitive peak reverse voltage
- **V RSM**: Non-repetitive peak reverse voltage
- **I RRM**: Repetitive peak reverse current

## Conducting

- **I F (AV)**: Mean forward current
- **I FSM**: Surge forward current
- **I²t**: Sine wave, 10 ms without reverse voltage
- **V FM**: Forward voltage
- **V F(TO)**: Threshold voltage
- **r F**: Forward slope resistance

## Switching

- **t rr**: Reverse recovery time
- **Q rr**: Reverse recovery charge
- **I rr**: Peak reverse recovery current

## Mounting

- **R th(j-h)**: Thermal impedance, DC
- **R th(c-h)**: Thermal impedance
- **T j**: Operating junction temperature
- **F**: Mounting force
- **Mass**: Mass

**Ordering Information**: ZP7100/200-400V standard specification VRRM/100
Welding Diode

Characteristics

ON-STATE CHARACTERISTIC \( T_j = 170 ^\circ C \)

SURGE CHARACTERISTIC \( T_j = 170 ^\circ C \)

TRANSIENT THERMAL IMPEDANCE

single phase welding rating
Welding Diode

Outline and Drawing

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