The MM9200 is a high-power SPST micro-electromechanical switch. The innovative Ideal Switch® technology enables highly reliable micro-electromechanical switches capable of carrying high voltage and high current in a small form factor.

The MM9200 provides ultralow on-state resistance, low leakage current and high voltage stand-off, with greater than 1 billion switching cycles. Because of its long lifetime, extremely low current consumption, and small form factor, the MM9200 is an ideal solution for replacing electromechanical relays, as well as solid-state switches such as IGBT and MOSFETs where size, weight, power efficiency and thermal management are critical system-level design parameters.

**FEATURES**
- Low On-State resistance 8 mΩ (typ.)
- Voltage standoff (ACpk or DC): 300V
- Rated continuous current (ACrms or DC): 10A
- Fast switching time (10μs to open, 10μs to close)
- High mechanical endurance: 100 million operations
- QFN low-profile 6.5 mm x 6.0 mm Package

**APPLICATIONS**
- LV industrial controls
- Solid State Relay replacement
- Electromechanical Relay replacement

**MARKETS**
- Industrial automation
- Sustainable buildings
- Transport electrification
- Infrastructure modernization
**FIG. 2** RON vs Load Current

![On-State Resistance vs Load Current](image)

**FIG. 3** Case Temperature vs Load Current

![Case Temperature vs Load Current](image)

**TABLE 1** DC and AC Electrical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-State Contact Resistance</td>
<td>8</td>
<td>20</td>
<td></td>
<td>mΩ</td>
</tr>
<tr>
<td>Off-State Contact Leakage Current</td>
<td>5</td>
<td></td>
<td></td>
<td>pA</td>
</tr>
<tr>
<td>Continuous Current</td>
<td></td>
<td>10</td>
<td></td>
<td>A (AC_{RMS}/DC)</td>
</tr>
<tr>
<td>Gate Bias Current</td>
<td>1</td>
<td>10</td>
<td></td>
<td>nA</td>
</tr>
<tr>
<td>Capacitance Off-State, INPUT to OUTPUT pin</td>
<td>3.4</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Switching Time On/Off</td>
<td>10</td>
<td></td>
<td></td>
<td>us</td>
</tr>
<tr>
<td>Mechanical Endurance</td>
<td>1x10^9</td>
<td></td>
<td></td>
<td>Cycle</td>
</tr>
<tr>
<td>Standoff Voltage</td>
<td></td>
<td>300</td>
<td></td>
<td>VAC_{P_{K}}/VDC</td>
</tr>
</tbody>
</table>
**FIG. 4** MM9200: 1P1S Low Temperature Rise at 5A with 5mohm

**FIG. 5** MM9200: 2P1S Low Temperature Rise at 5A with 2.6mohm

**FIG. 6** MM9200: 3P1S Low Temperature Rise at 5A with 1.8mohm