

MM9200

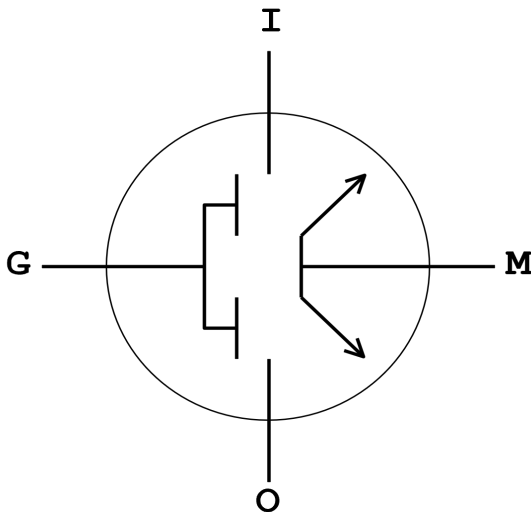
SPST Power Switch



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 100 million 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.

FIG. 1 MM9200 Functional Block Diagram



FEATURES

- Low On-State resistance 8 mΩ (typ.)
- Voltage standoff (AC_{PK} or DC): 300V
- Rated continuous current (AC_{RMS} 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

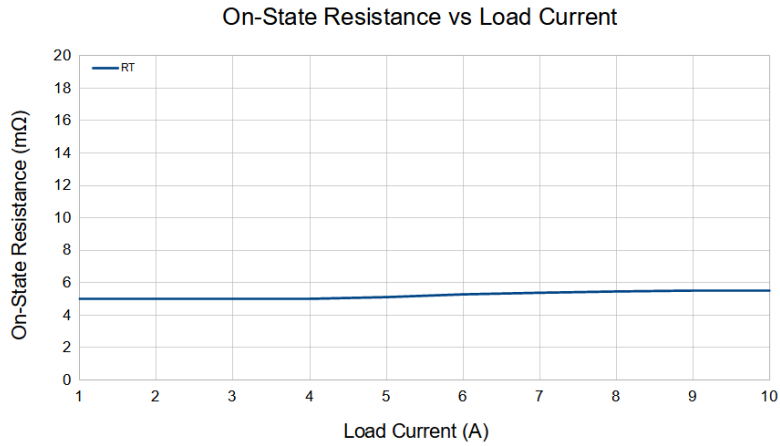


FIG. 3 Case Temperature vs Load Current

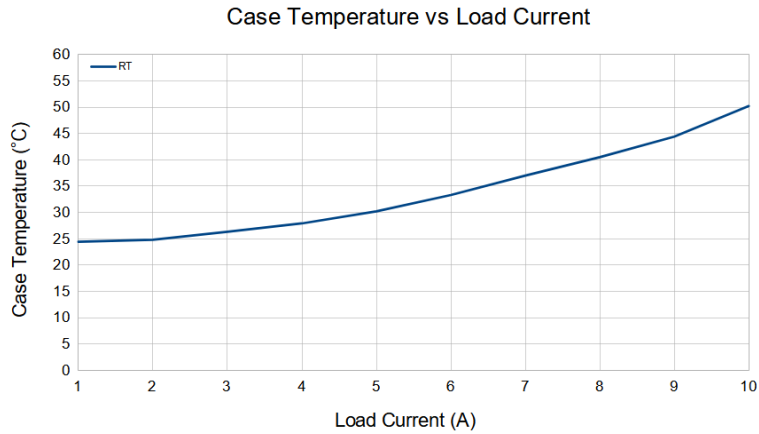


TABLE 1 DC and AC Electrical Specifications

Parameter	Min	Typ	Max	Unit
On-State Contact Resistance		8	10	mΩ
Off-State Contact Leakage Current		5		pA
Continuous Current			10	A (AC _{RMS} /DC)
Gate Bias Current		1	10	nA
Capacitance Off-State, INPUT to OUTPUT pin		3.4		pF
Switching Time On/Off		10		us
Mechanical Endurance		100x10 ⁶		Cycle
Standoff Voltage			300	VAC _{PK} /VDC

FIG. 4 MM9200: 1P1S Low Temperature Rise at 5A with 5mohm

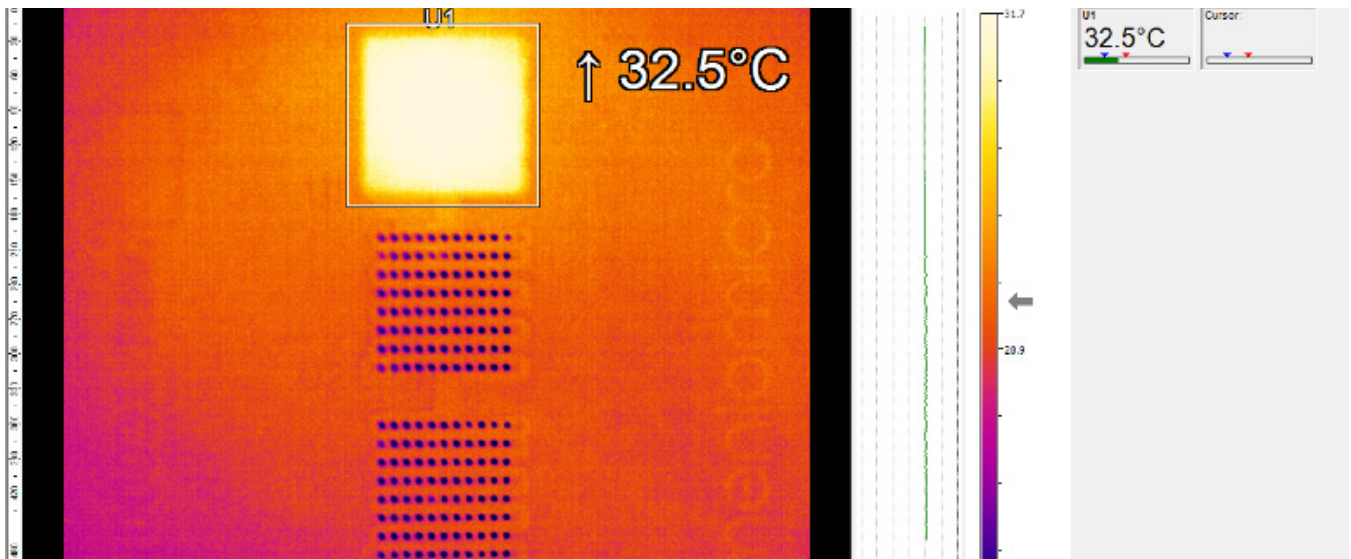


FIG. 5 MM9200: 2P1S Low Temperature Rise at 5A with 2.6mohm

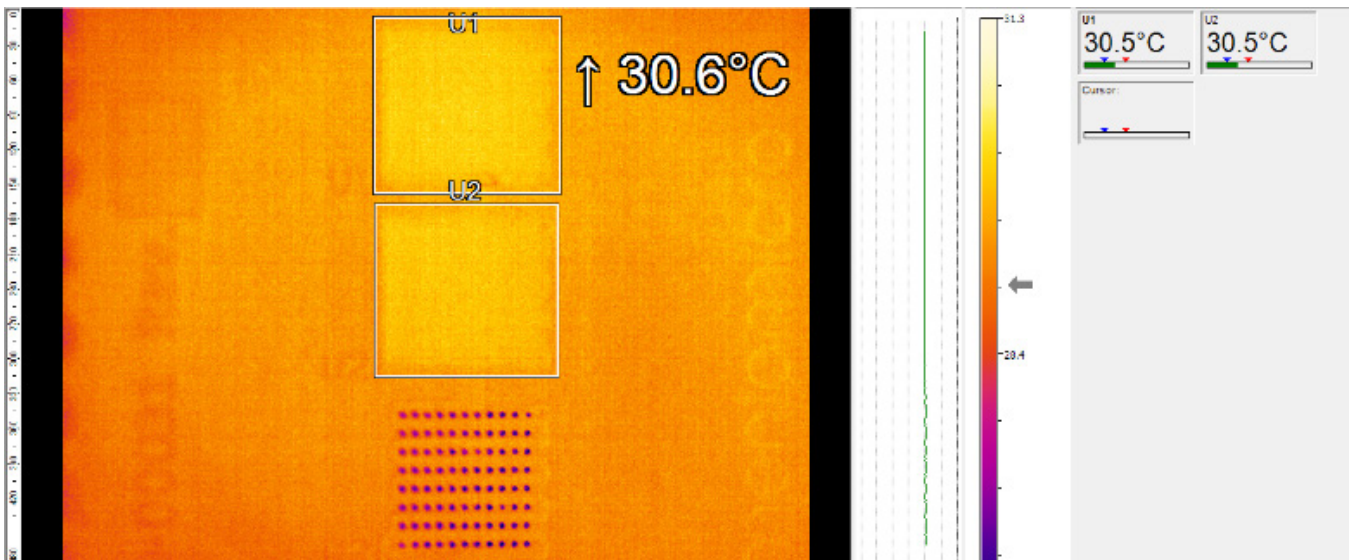


FIG. 6 MM9200: 3P1S Low Temperature Rise at 5A with 1.8mohm

