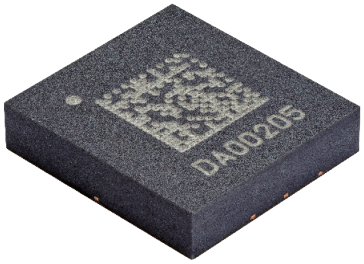
PRELIMINARY PRODUCT BRIEF

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 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 (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

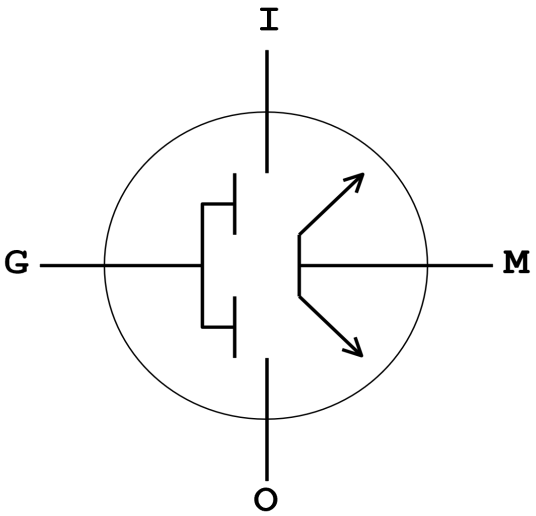
APPLICATIONS

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

MARKETS

- Industrial automation
- Sustainable buildings
- Transport electrification
- Infrastructure modernization

FIG. 1 MM9200 Functional Block Diagram



ideal switch®

FIG. 2 RON vs Load Current

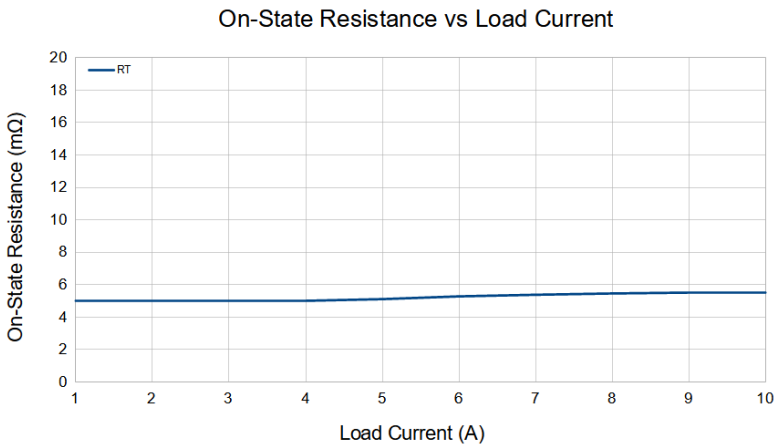


FIG. 3 Case Temperature vs Load Current

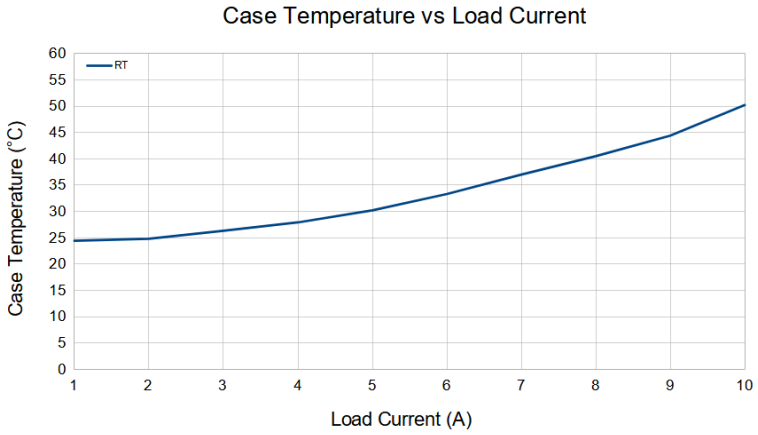


TABLE 1 DC and AC Electrical Specifications

Parameter	Min	Typ	Max	Unit
On-State Contact Resistance		8	20	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		$1x10^9$		Cycle
Standoff Voltage			300	VAC_{PK}/VDC

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

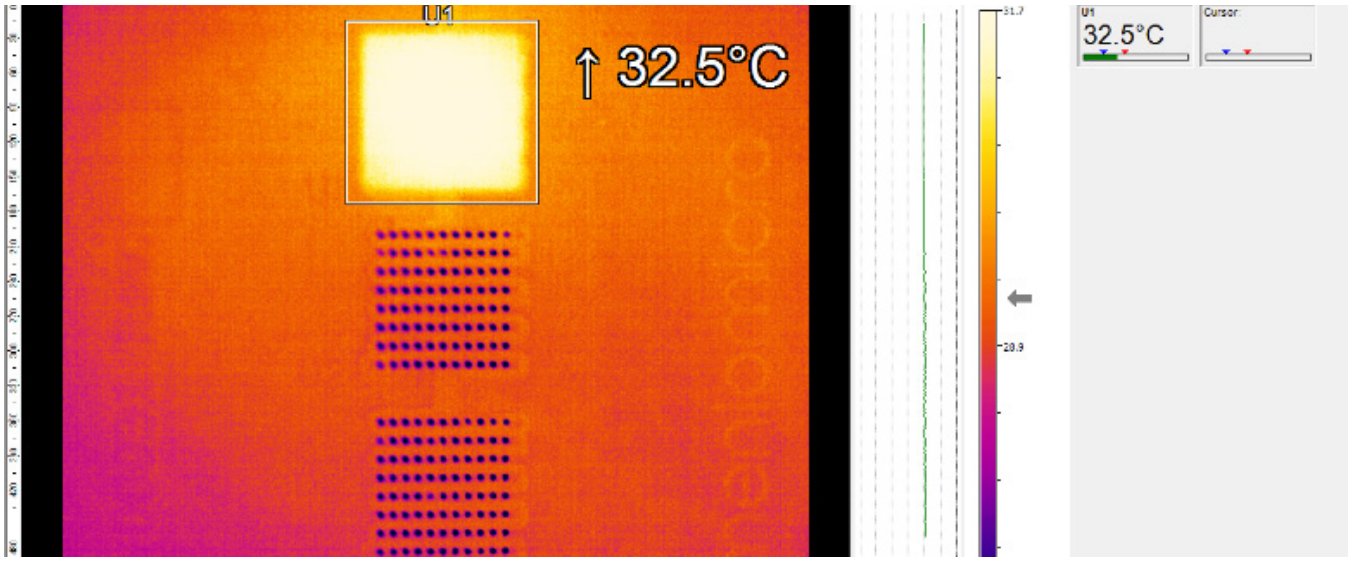


FIG. 5 MM9200: 2P1S Low Temperature Rise at 5A with 2.6mohm

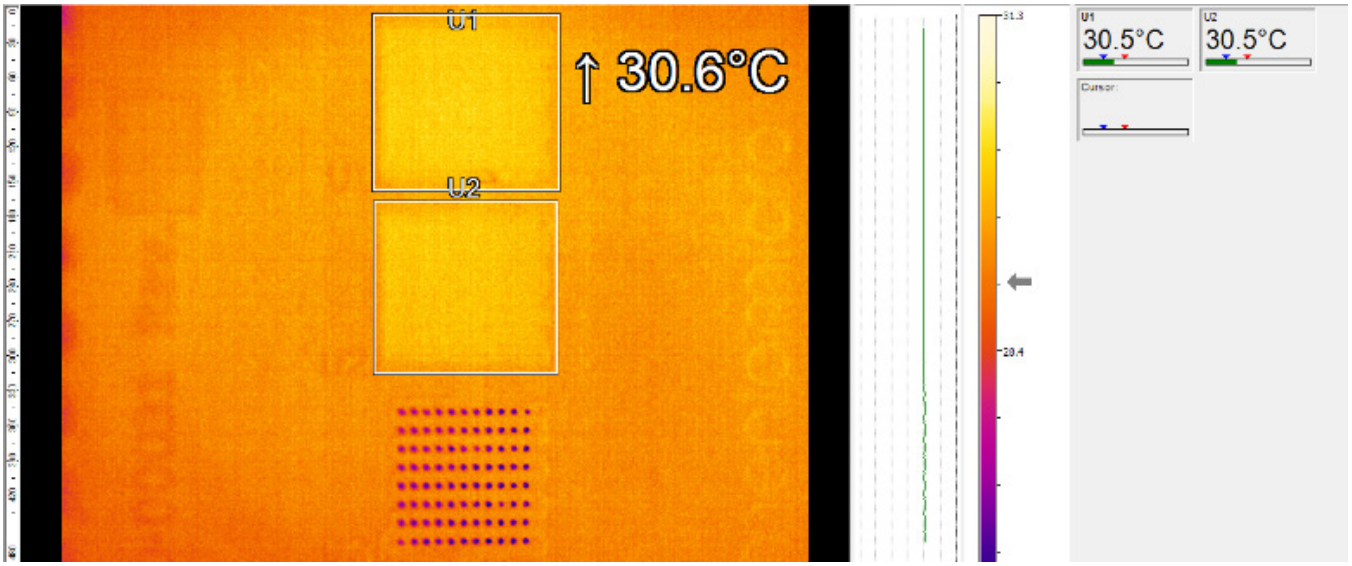
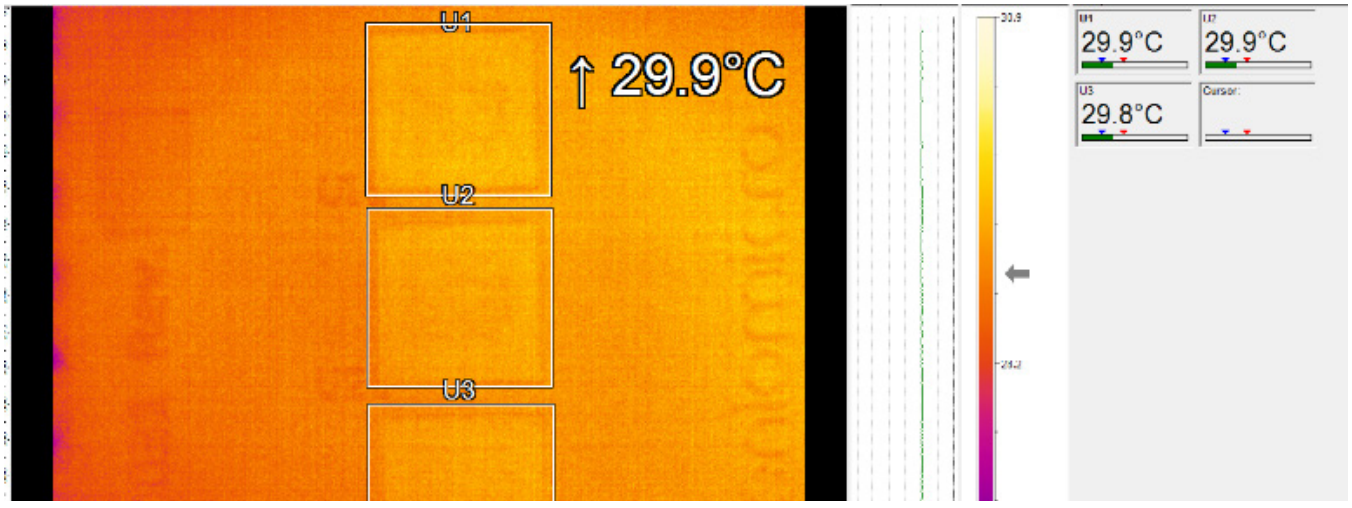


FIG. 6 MM9200: 3P1S Low Temperature Rise at 5A with 1.8mohm



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