

PRODUCT BRIEF

# MM9250

## SPST Power Relay (Form A)



Menlo Microsystems, Inc. is developing a novel power relay using Ideal Switch™ technology. The new relay reduces the size, weight and volume with a very low-height, surface mount package.

The MM9250 family of relays can handle AC or DC loads of up to 300V and 10A and can be scaled up to higher ratings.

The unique solution implements a bypass circuit in parallel with the Ideal Switch™ contacts. The bypass circuit ensures zero-volt conditions across the contacts during the open/close transitions. The Ideal Switch™ handles the steady state current providing exceptionally low on-resistance. The Ideal Switch™ technology endurance provides applications with high reliability without need for a heatsink remedy.

The MM9250 family of relays ...

### FEATURES

- Single Pole, Single Throw Form A
- 650V dielectric withstand
- 10<sup>7</sup>+ cycles electrical endurance
- 20mΩ on-state resistance.
- 100mW on-state control power.
- Instantaneous, Zero-Cross, or Voltage-Ramp switching
- Instantaneous short circuit protection
- Overcurrent Protection

### SMART FEATURES

- Integrated load monitoring
- Power metering
- Voltage and Current measurements
- Over/Under frequency monitoring
- Source/Load phasor monitoring
- Over/Under voltage monitoring
- Overheating protection
- Contact wear alarm
- Auto-reclosing sequence
- More features on-demand as allowed by microcontroller



FIG. 1 MM9250 Block Diagram

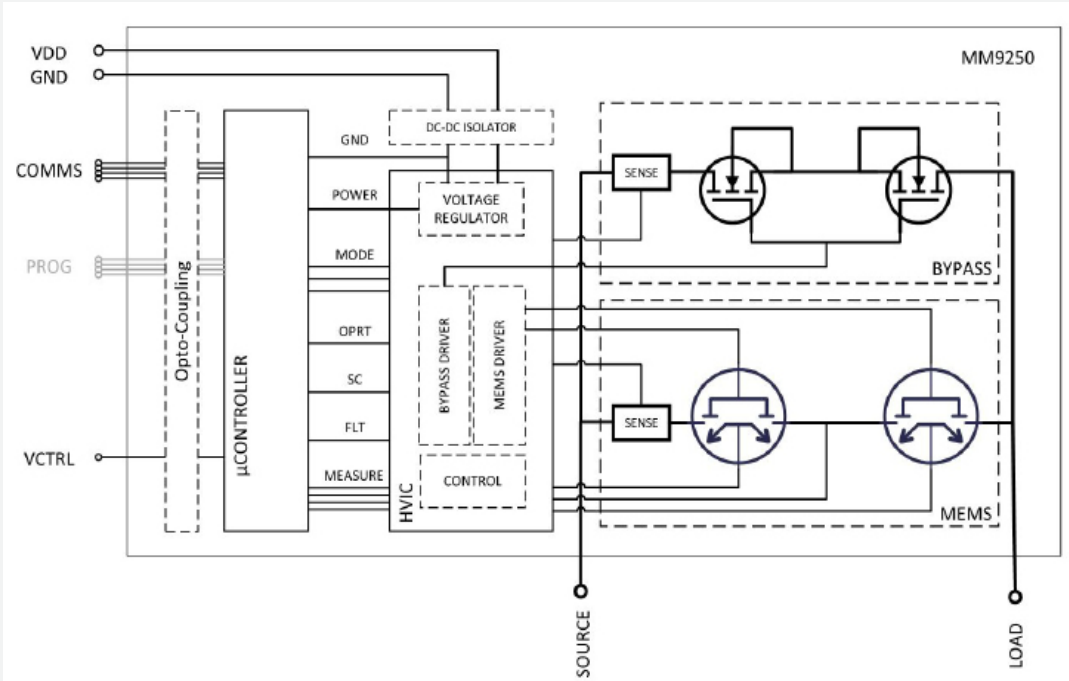


FIG. 2 Package Description

**LGA PACKAGE**  
**(29.5MM X 45MM X 4MM)**

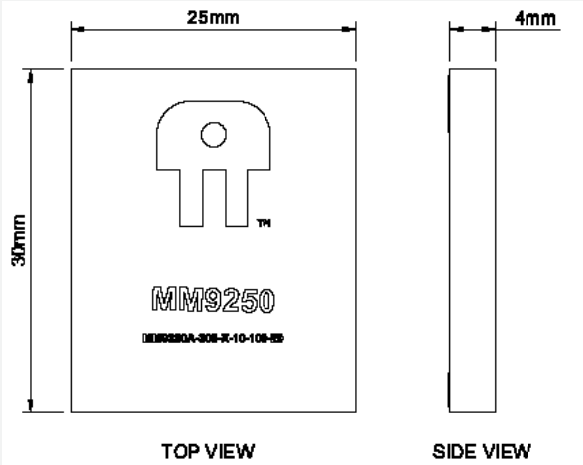


FIG. 3 Specifications

	MM9250	SS Relay	EM Relay	Benefit
Size	3 cm <sup>3</sup>	225 cm <sup>3</sup>	65 cm <sup>3</sup>	>75x reduction in volume
Weight	<10g	320g	85g	>30x reduction in weight
Turn on/off Time	20/10 $\mu$ s	75/100 $\mu$ s	30ms	>1000x faster
On resistance	20m $\Omega$	500m $\Omega$	<20m $\Omega$	25x reduction in resistance
Power Consumption	<100mW	<100mW	1.5W	>15x reduction in power
Lifetime	10 <sup>8</sup> operations	>10 <sup>8</sup> operations	10 <sup>5</sup> operations	>1000x more operations
Ratings	300V/10A DC & AC	200V/10A DC	240V/10A AC	Scalable to higher V/I



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