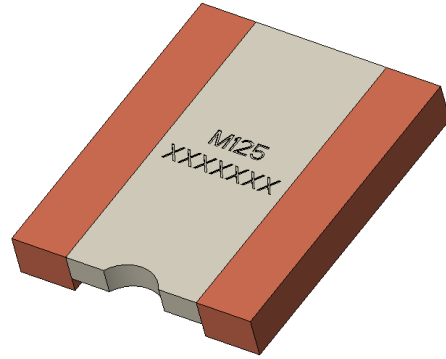


VSME1518SV-M125J, Shunt Sensor (Lead / Halogen Free)

Features / Applications :

- High power rating is up to 15W
- Low inductance (< 5 nH)
- Low thermal EMF (< 3 $\mu\text{V}/^\circ\text{C}$)
- Welding construction; Excellent long-term stability
- RoHS compliant
- Automotive applications & Current sensing for BMS



Electrical Specifications :

Characteristics	Feature
Power Rating*	15 W
Resistance Value	125 $\mu\Omega$
Temperature Coefficient of Resistance	$\pm 100 \text{ ppm}/^\circ\text{C}$
Operation Temperature Range	$-65^\circ\text{C} \sim +170^\circ\text{C}$
Resistance Tolerance	$\pm 5\% \text{ (J)}$
Maximum Working Voltage (V)	$(P \cdot R)^{1/2}$

*Note :

For sensors operated at terminal temperature in excess of 140°C , the maximum load shall be derated in accordance with the following curve.

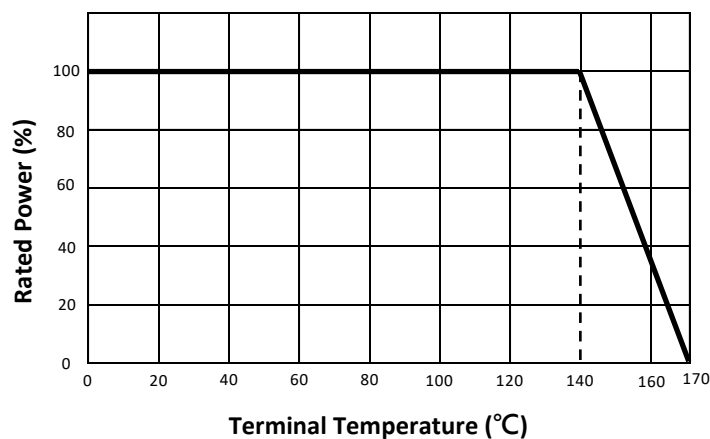
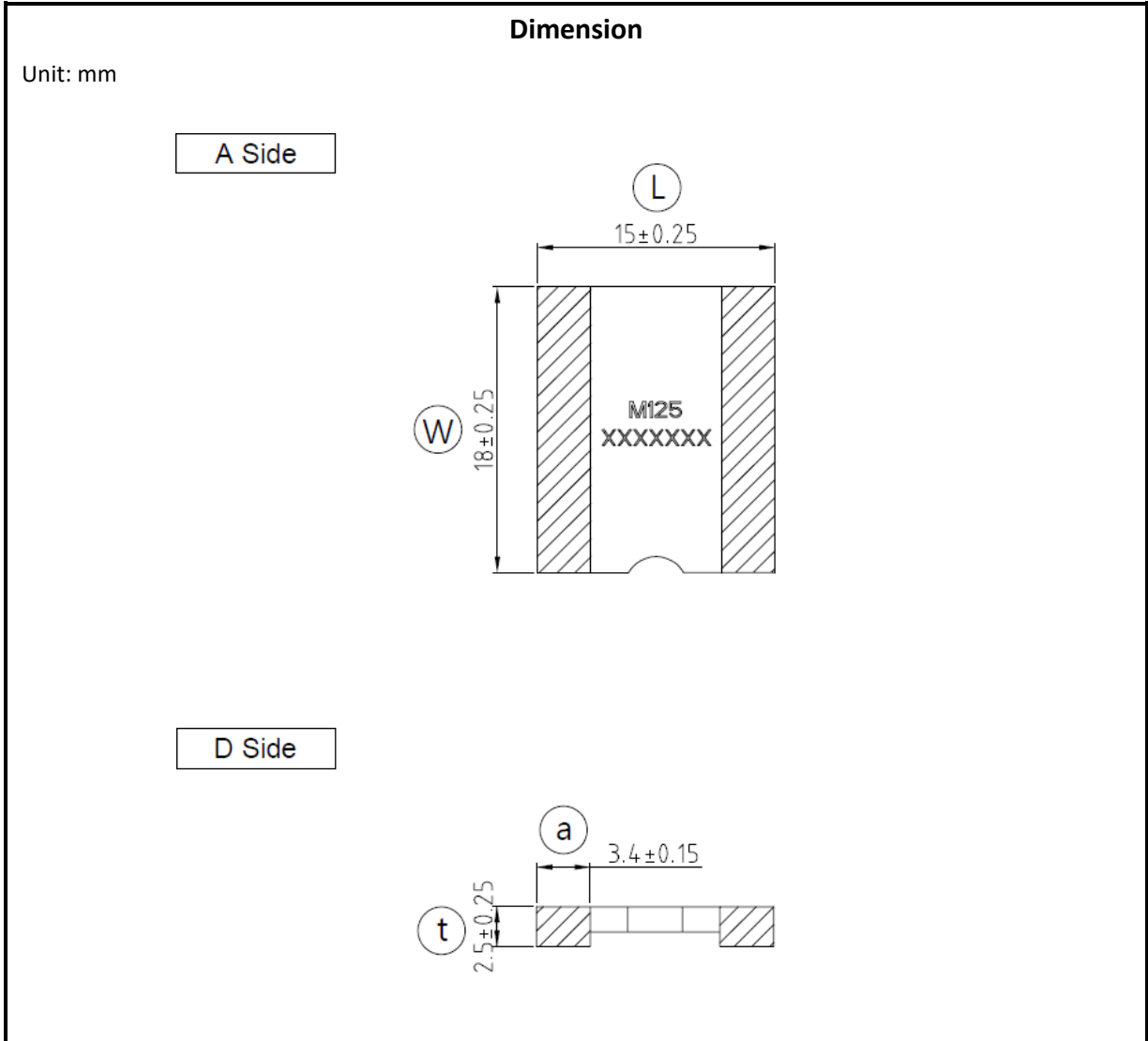
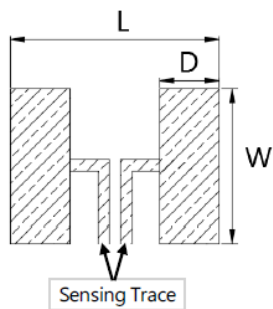


Figure 1. : Power derating curve at terminal temperature

Outline Drawing :



Recommended PCB Pin Hole Dimensions



Resistance Range	Dimensions		
	L (mm)	D (mm)	W (mm)
125 $\mu\Omega$	16	5.2	19

Type Designation :

V S M E 1 5 1 8 S V - M 1 2 5 J
(1) (2) (3) (4) - (5) (6)

Note :

- (1) Series No.
- (2) Size
- (3) Terminal type : T = Short terminal
- (4) Power Rating : V = 15W
- (5) Resistance value : M125 = 125 $\mu\Omega$
- (6) Tolerance : J = $\pm 5\%$

Care Note :

Care note for storage

- (1) Shunt sensor shall be stored in a environment where temperature and humidity must be controlled (temperature 5 to 35°C, humidity < 60% RH) . However, the humidity should be maintained as low as possible.
- (2) Shunt sensor shall not be stored under direct sunlight.
- (3) Shunt sensor shall be stored in condition without moisture, dust, any material defect solderability, or hazardous gas (i.e. Chloridation hydrogen, sulfurous acid gas, and sulfuration hydrogen)
- (4) The sensor can be stored for at least one year under the condition mentioned above.

Care note for operating and handling

- (1) Protect the edge and coating of the sensors from mechanical stress.
- (2) Avoid bending of printing circuit board (PCB) when cutting and fixing it on support body to reduce mechanical stress on sensors.
- (3) Sensor should be used within the condition of specification.

Note: When a voltage higher than specified value is loaded to the sensor, this may damage the sensor material due to temperature rise.

- (4) The loaded voltage should consult terminal temperature of the sensor according to the derating curve.
- (5) When applying a high current exceeding suggested specification (pulse current, shock current) to the sensor, it is necessary to re-evaluate the operating condition before using it in the system.