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(SMW)
Power Wire Wound Chip Resistors

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Product Introduction

Token SMD wirewound resistors, providing high precision power, excellent stability, and superior surge capability.

Features :

- Flameproof UL94V0 molded package, resistant to heat, humidity & insulation.
- All-welded wire wound structure, high-quality resistance wire, with excellent stability and surge capacity.
- Automatic surface mount special design. Excellent mechanical strength and electrical stability.
- Low thickness with non-inductive metal plate components. Reduce assembly costs.

When the current through the resistance element, the heat generated. And the temperature change causes mechanical changes by expansion or contraction in each material involved in the components. Thus, the ideal resistor element incorporates these natural phenomena into a self-balanced stability enhancement system which maintains its physical integrity through the resistor manufacturing process and eliminates the need to compensate for the effects of heat or stress during use.

Token Electronics (SMW) Chip Series Precision Power Wound Resistors are specifically designed to meet the ever-increasing surface mount resistor requirements and provide high precision power, compact, reliable, and rugged performance. Compared with the surface temperature rise of other SMD power resistors, (SMW) thermal design has been optimized to provide greater thermal efficiency.

Power wirewound Chip Resistor (SMW) series includes 2W, 3W and 5W three kinds of power. Resistance range from 0.1Ω to 680Ω and accuracy tolerance options are 1%, and 5% with low TCR and high overload capacity, suitable for surge and pulse applications.

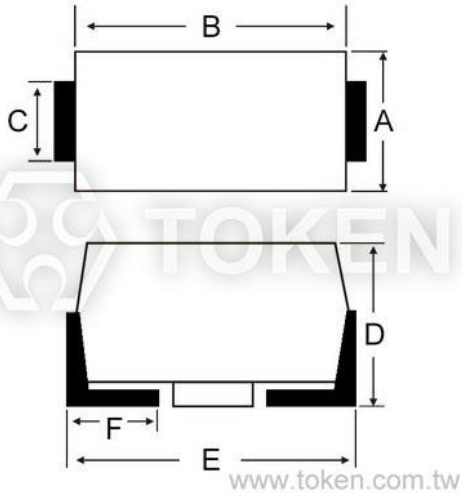
When the first release of enhanced power handling capability, the 3W and 5W (5% tolerance) versions are SMD resistors, Token setting a new high power standard. At present, it is still one of the most powerful chip resistors on the market. Power wirewound Chip Resistors (SMW) series optimize thermal design to provide higher efficiency and higher surge capacity while reducing surface temperature rise and long-term thermal damage to PCB boards and adjacent electronic components.

Surface Mount (SMW) Series is available in tape, RoHS compliant and 100% lead free. For conventional parameters, specifications outside the parameters, or technical requirements, please contact Token.Detailed specifications, both mechanical and electrical, please contact us with your specific needs, or link to Token official website “Chip Resistors” to get more information.

Construction & Dimensions

Construction & Dimensions (Unit: mm) (SMW)

Rated Wattage	A ±0.3	B ±0.3	C ±0.3	D ±0.3	E Max.	F ±0.3	Resistance Range (Ω)	Rated Wattage
2W	4.0	6.7	1.4	3.55	7.9	1.5	0.1 ~ 200	2W
3W	5.5	10.5	1.7	5.0	12	2.3	0.1 ~ 300	3W
5W	7.3	13.5	1.7	6.8	17	2.5	0.1 ~ 680	5W



Power Wire Wound Chip Resistor Dimensions (SMW)

Note:

- **Rated Continuous Working Voltage (RCWV) = √ (P × R) , or Max. Operating Voltage listed in above table whichever is lower.**
- **Resistance or specifications outside the parameters can be on request.**

Electrical Spec.

Electrical And Mechanical Performance (SMW)

Characteristics	Standards	Test Methods
Resistance Tolerance	±5% (J) or ±1% (F)	-
TCR	±100ppm/℃	-55℃ ~ 200℃
Power Rating Load	Surface temp. 275℃ Max.	Rated voltage for 30 minutes
Short Time Overload	±(1% + 0.05Ω)	5 times rated power with applied voltage not to exceed 2 times maximum continuous operating voltage for 5 seconds.
Dielectric Withstanding Voltage	No evidence of mechanical damage or insulation breakdown.	AC 500V for 1 minutes
Insulation Resistance	10,000MΩ	DC 500V megger
Solder-ability	Minimum 95% coverage	235 ± 5℃ for 2 seconds
Resistance to Soldering Heat	No evidence of mechanical damage. ±(1% + 0.05Ω)	270 ± 5℃ for 10±1 seconds

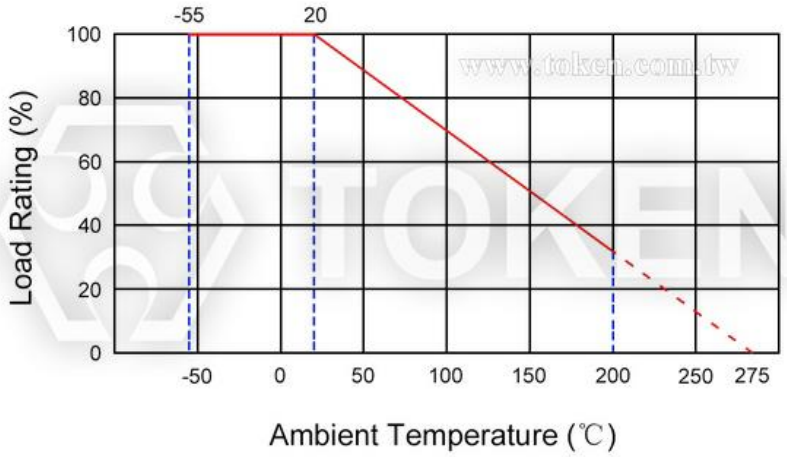
Environmental Characteristics (SMW)

Characteristics	Standards	Test Methods
Temp. Cycle	±(1% + 0.05Ω)	-55℃ (30min.) → Room Temp. (3min.) → +200℃ (30min.) → Room Temp. (3min.)/(5cycles)
Load Life	±(2% + 0.05Ω)	Rated power load 90 minutes ON 30 minutes OFF 70℃ 1000 hours
Moisture-proof Load Life	±(2% + 0.05Ω)	Rated power load 90 minutes ON 30 minutes OFF 40℃ 95% RH 500 hours

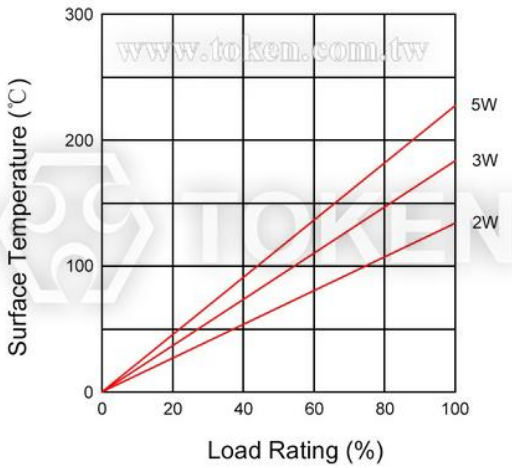
Graph

Derating Curve (SMW)

For resistors operated in ambient temperatures above 20℃, power rating must be derated in accordance with the curve below.



Surface Temperature Rise (SMW)



Order Codes

Order Codes (SMW)

SMW	2W	10Ω		J	
Part Number	Rated Wattage (W)	Resistance (Ω)		Tolerance (%)	
SMW	2W	10	10Ω	F	±1.00%
	3W	1K1	1.1KΩ	J	±5.00%
	5W	110K	110KΩ		
		1M1	1.1MΩ		