

Data Sheet for Precision Resistors

SMD Resistor (wirewound)

Series MSIV



- SMD - Wirewound Resistor
- Power up to 5 Watt
- Resistance values from 0.1 Ω ..1.2 k Ω
- Resistance tolerance up to $\pm 0.5\%$
- TCR up to $\pm 20\text{ppm}/^\circ\text{C}$
- Working temperature range $-55^\circ\text{C}..+155^\circ\text{C}$
- Non-inductive windings (option)
- Flame resistant UL94 V-0

Electrical Specification	MSIV			
	2615	3816	4525	6327
Resistance range	0.22 Ω ..50 Ω	0.1 Ω ..200 Ω	0.1 Ω ..1k Ω	0.1 Ω ..1.2k Ω
Resistance tolerance	$\pm 0.5\%.. \pm 5\%$			
Power rating @ 70°C (0W @ +235°C)	0.5W / 1W	1W / 2W	2W / 3W	4W / 5W
Max. working voltage in V	200V	250V	350V	500V
Max. dielectric strength	350V	500V	700V	800V
TCR-rate	$\pm 20\text{ppm}/^\circ\text{C}$ @ R > 10 Ω , $\pm 50\text{ppm}/^\circ\text{C}$ @ R = 1 Ω ..10 Ω $\pm 100\text{ppm}/^\circ\text{C}$ @ R = < 1 Ω			
Working temperature range (max.)	-55°C up to $+155^\circ\text{C}$			

Mechanical Specification	
Resistance technology / material	SMD / Wire alloy
Housing material	Epoxy - Moulded
Connections	Axial tin plated copper

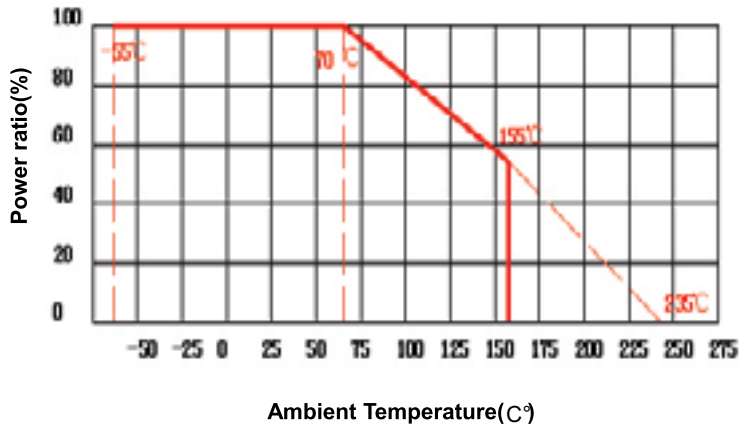
Test data		
Item	Requirement	Test Method
Temperature Shock Test	$\pm(5\% +0.05\Omega)$	-25°C for 30min, 25°C for 10min and 70°C for 30min as a cycle, 5cycles
Short Time Overload	$\pm(2\% +0.05\Omega)$	RCWV*2.5 or Max. overload voltage whichever is lower for 5 seconds
Endurance	$\pm(5\% +0.05\Omega)$	$70\pm 3^\circ\text{C}$, RCWV for 1000 ± 48 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\pm(5\% +0.05\Omega)$	$40\pm 2^\circ\text{C}$, 90~95% R.H. RCWV for 1000 ± 48 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	95% min. coverage	$245\pm 5^\circ\text{C}$ for 3 seconds
Dielectric Withstand Voltage	1000M Ω	Apply 500V~1000V for 1 minute

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Power Derating Curve



Rated Voltage

Rated voltage is defined as the DC or AC (effective Value at commercial frequency example 50 C/S, 60 C/S)

Voltage when rated power is applied and can be calculated By the following:

$$V = \sqrt{P \times R}$$

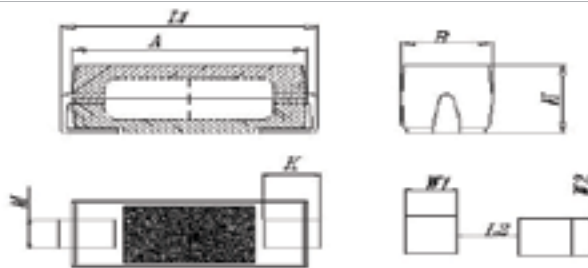
V = RATED VOLTAGE

P = RATED POWER (WATTS)

R = NOMINAL RESISTANCE VALUE (OHM)

When the calculated rated voltage exceeds the Maximum usable voltage flue shown in CHART, the Maximum usable voltage is defined as the voltage According to the power decreasing curve shown in CHART.

Drawing



Unit: mm

Size (Inch)	L1	A	B max.	H	K min.	M	W1	W2	L2	Packaging 330mm/13"
2615	6.6±0.5	5.6±0.5	4.0	3.2±0.25	1.2	1.0±0.4	2.0	2.0	4.0	2000pcs
3816	9.6±0.5	8.6±0.5	4.2	3.5±0.25	1.8	1.2±0.4	3.0	2.2	5.2	2000pcs
4525	11.4±0.5	10.2±0.5	6.5	4.6±0.25	2.2	2.0±0.4	3.2	2.5	7.0	1000pcs
6327	15.9±0.5	14.7±0.5	7.0	6.4±0.25	3.0	2.0±0.4	4.5	3.0	8.8	800pcs

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Order code

Description							
Selection: standard=black/bold , possible <i>options=grey/italic</i>							
Series:	MSIV						
Type / size:							
615 (min. 0.22Ω / max. 400Ω)		2615					
3816 (min. 0.1Ω / max. 200Ω)		3816					
4525 (min. 0.1Ω / max. 1kΩ)		4525					
6327 (min. 0.1Ω / max. 1.2kΩ)		6327					
Power / watt:							
0.5W (type 2615)			-0,5				
1W (type 2615 / 3816)			-1				
2W (type 3816 / 4525)			-2				
3W (type 3816 / 6327)			-3				
5W (type 6327)			-5				
Resistance tolerance:							
±5% @R > 0.22Ω				W5%			
±2% @R > 1Ω				W2%			
±1% @R > 1Ω				W1%			
±0.5% @R > 10Ω				W0,5%			
Temperature coefficient:							
±20ppm/°C @ R >10Ω					TK20		
±50ppm/°C @ R = 1Ω..10Ω					TK50		
±100ppm/°C @ R = < 1Ω					TK100		
Resistance value - please choose:							
See type / size						xxkxxx	
Option non-inductive windings (min. 0,1Ω):							
max. resistance / 2							
							N

Order Example	Series	Type	Power	Resistance tolerance	Temperature coefficient	Resistance value	Inductance
Choice	MSIV	2615	1W	±1%	20ppm/°C	10.1kΩ	Standard
Code	MSIV	2615	-1	W1%	TK20	10k100	-