

Data sheet

Carbon Film Leaded Resistor

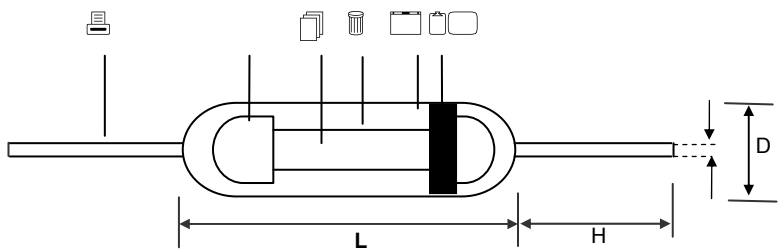
■Features

- The most economic industrial investment
- Standard tolerance: +/-5%
- Excellent long term stability
- Termination: Standard solder-plated copper lead

■Applications

- Automotive
- Telecommunication
- Medical Equipment

■Construction



	Ceramic Rod		Non-flame Paint With Sol Vent-proof
	Tinned Iron Caps		Colour Code
	Carbon Film		Lead Wire

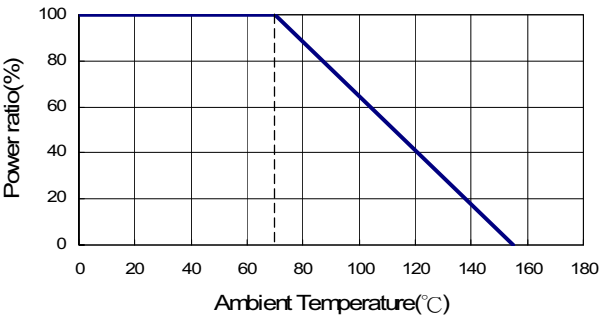
■Dimensions

Unit: mm

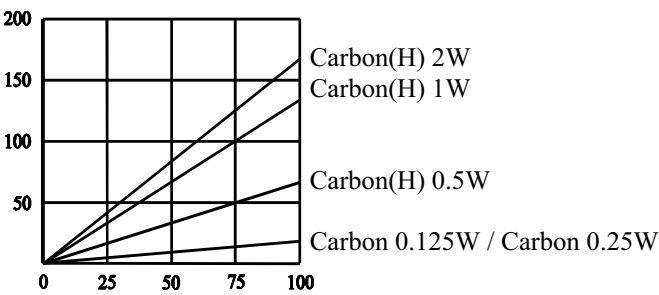
Type	L	D	H	d	Weight (g) (1000pcs)
Carbon 0.125W	3.3+0.4/-0.2	1.8±0.3	29.3±2.0	0.452.3±0.03	92
Carbon 0.25W	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03	155
Carbon 0.5W (H)	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03	155
Carbon 1W (H)	9.0±0.5	3.2±0.5	26±2.0	0.65±0.03	352
Carbon 2W (H)	11.5±1.0	4.5±0.5	35±2.0	0.78±0.03	775



Derating Curve



Hop-Spot Temperature



Part Numbering

RS-	Carbon-	1R-	5%-	0.125W
Series	Type	Resistance	Tolerance	Power rating @ 70°C
	Carbon Carbon(H)	0.5R: 0.5 Ω 1R: 1Ω 10R: 10Ω 10K: 10KΩ 100K: 100KΩ	±5%	0.125W 0.25W 0.5W 1W 2W

Electrical Specifications

Type \ Item	Power Rating at 70°C	Operating Temp. Range	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage	Resistance Range
						±5%
Carbon	0.125W	-55 ~ +155°C	150V	300V	300V	0.1Ω - 22MΩ
Carbon	0.25W		250V	500V	500V	1Ω - 10MΩ
Carbon(H)	0.5W		300V	500V	500V	0.1Ω - 22MΩ
Carbon(H)	1W		400V	800V	800V	1Ω - 10MΩ
Carbon(H)	2W		500V	1000V	1000V	0.1Ω - 10MΩ

■Environmental Characteristics

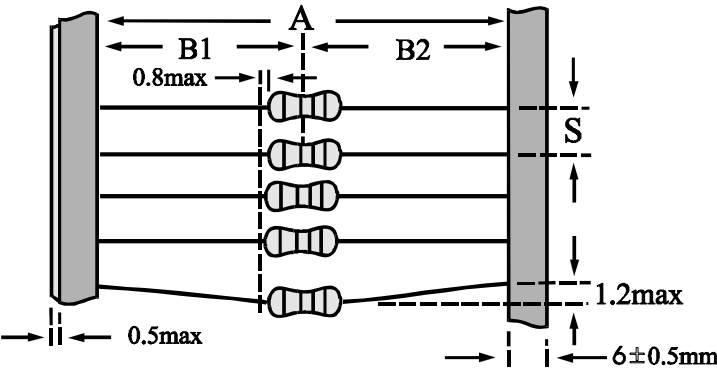
Item	Requirement	Test Method
Short Time Overload	$\pm(0.75\%+0.05\Omega)$	JIS-C-5201-1 5.5 RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	$>1000M\Omega$	JIS-C-5201-1 5.6 Apply $100V_{DC}$ for 1 minute
Endurance	$\pm(3\%+0.05\Omega)$	JIS-C-5201-1 7.10 $70\pm2^{\circ}C$, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	☐ $100K\Omega\pm3\%$ ☐ $100K\Omega\pm5\%$	JIS-C-5201-1 7.9 $40\pm2^{\circ}C$, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	90% min. Coverage	JIS-C-5201-1 6.5 $245\pm5^{\circ}C$ for 3 seconds
Dielectric Withstanding Voltage	By Type	JIS-C-5201-1 5.7 Apply Max. Overload Voltage for 1 minute
Temperature Coefficient	$< 100K\Omega +350ppm\sim-500ppm$ $100K\Omega\sim1M\Omega -0ppm\sim-700ppm$ $> 1 M\Omega -0ppm\sim-1500ppm$	Resistance value at room temperature and room Temperature+ $100^{\circ}C$
Pulse Overload	$\pm(1\%+0.05\Omega)$	JIS-C-5201-1 5.8 4 times RCWV for 10000 cycles with 1 second "ON" and 25 seconds "OFF"
Resistance To Solvent	No deterioration of coatings and markings	JIS-C-5201-1 6.9 Trichroethane for 1 min. with ultrasonic
Terminal Strength	Tensile: $\square 2.5$ kg	Direct Load for 10 seconds In the direction off the terminal leads

■ Rated Continuous Working Voltage(RCWV) = $\sqrt{P \cdot R}$

■ Storage Temperature: $25\pm3^{\circ}C$; Humidity < 80%RH

■Taping/Packing Specifications

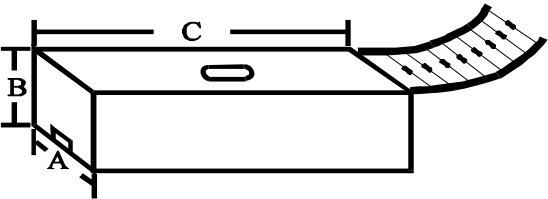
Packing Methods (Ammo)



Unit: mm

Packaging Type	Packing Methods		
	A	B1-B2	S
Carbon 0.125W	52+1/-0	1.2	5
Carbon 0.25W	52+1/-0	1.2	5
Carbon 0.5W (H)	52+1/-0	1.2	5
Carbon 1W (H)	52+1/-0	1.5	5
Carbon 2W (H)	52+1/-0	1.5	10

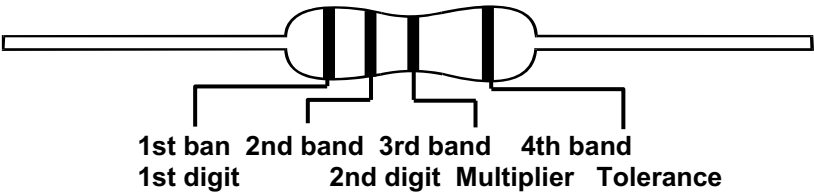
Ammo Packing



Unit: mm

Packaging Type	Packing Methods			Ammo Packing			
	A	B1-B2	S	A	B	C	Qty
Carbon 0.125W	26+1/-0	1.0	5	80	105	264	5,000
Carbon 0.25W	26+1/-0	1.0	5	80	105	264	5,000
Carbon 0.5W (H)	26+1/-0	1.0	5	80	105	264	5,000
Carbon 1W (H)	73+1/-0	1.5	5	103	82	265	1,000
Carbon 2W (H)	73+1/-0	1.5	10	103	96	265	1,000

■Marking & Resistance Tolerance



±5%	E-24	1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.3	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1
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Color	Digit	Multiplier	Tolerance	
Without	-	-	-	-
Silver	-	10 ⁻²	-	-
Gold	-	10 ⁻¹	±5.0%	J
Black	0	10 ⁰	-	-
Brown	1	10 ¹	-	-
Red	2	10 ²	-	-
Orange	3	10 ³	-	-
Yellow	4	10 ⁴	-	-
Green	5	10 ⁵	-	-
Blue	6	10 ⁶	-	-
Violet	7	10 ⁷	-	-
Grey	8	10 ⁸	-	-
White	9	10 ⁹	-	-