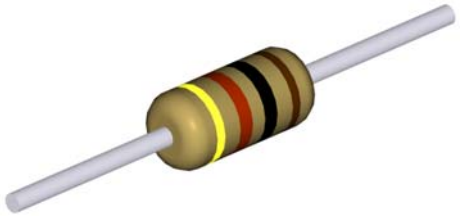
Data sheet
Carbon Film Leaded Resistor - RS Series

■Features

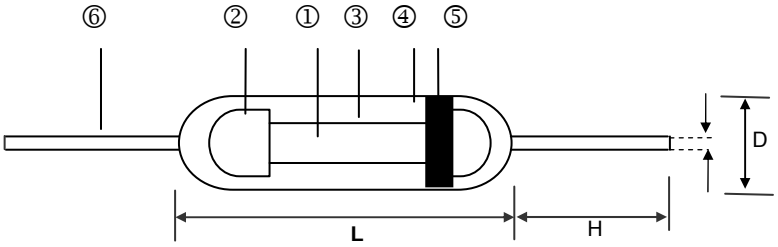
—The most economic industrial investment
—Standard tolerance: +/-5%
—Excellent long term stability
—Termination: Standard solder-plated copper lead



■Applications

- Automotive
- Telecommunication
- Medical Equipment

■Construction



①	Ceramic Rod	④	Non-flame Paint With Sol Vent-proof
②	Tinned Iron Caps	⑤	Colour Code
③	Carbon Film	⑥	Lead Wire

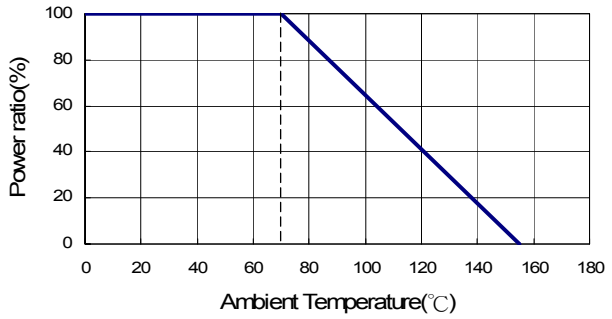
■Dimensions

Unit: mm

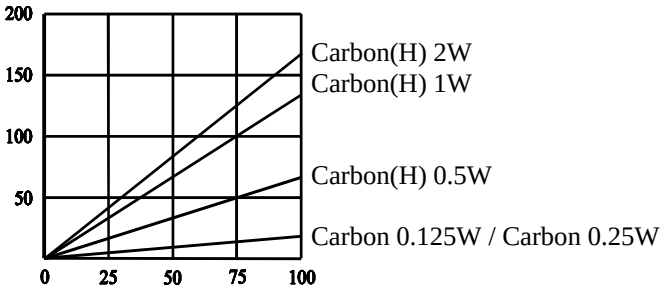
Type	L	D	H	d	Weight (g) (1000pcs)
Carbon 0.125W	3.3+0.4/-0.2	1.8±0.3	29.3±2.0	0.452.3±0.03	92
Carbon 0.25W	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03	155
Carbon 0.5W (H)	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03	155
Carbon 1W (H)	9.0±0.5	3.2±0.5	26±2.0	0.65±0.03	352
Carbon 2W (H)	11.5±1.0	4.5±0.5	35±2.0	0.78±0.03	775

Pb RoHS Compliant

■Derating Curve



■Hop-Spot Temperature



■Part Numbering

RS-	Carbon-	1R-	5%-	0.125W
Series	Type	Resistance	Tolerance	Power rating @ 70℃
	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

Item / Type	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

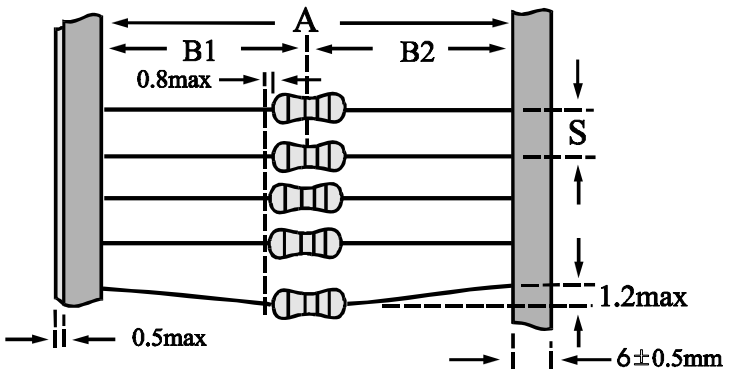
■Environmental Characteristics

Item	Requirement	Test Method
Short Time Overload	±(0.75%+0.05Ω)	**JIS-C-5201-1 5.5** RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	＞1000MΩ	**JIS-C-5201-1 5.6** Apply 100V_{DC} for 1 minute
Endurance	±(3%+0.05Ω)	**JIS-C-5201-1 7.10** 70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	□100KΩ±3% □100KΩ±5%	**JIS-C-5201-1 7.9** 40±2°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±5°C for 3 seconds
Dielectric Withstanding Voltage	By Type	**JIS-C-5201-1 5.7** Apply Max. Overload Voltage for 1 minute
Temperature Coefficient	< 100KΩ +350ppm~-500ppm 100KΩ~1MΩ -0ppm~-700ppm > 1 MΩ -0ppm~-1500ppm	Resistance value at room temperature and room Temperature+100°C
Pulse Overload	±(1%+0.05Ω)	**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: □2.5 kg	Direct Load for 10 seconds In the direction off the terminal leads

■ **Rated Continuous Working Voltage(RCWV) = $\sqrt{P*R}$**
■ **Storage Temperature: 25±3°C; Humidity < 80%RH**

■Taping/Packing Specifications

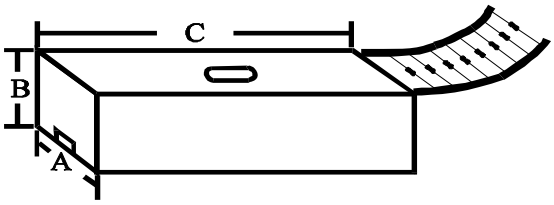
Packing Methods (Ammo)



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

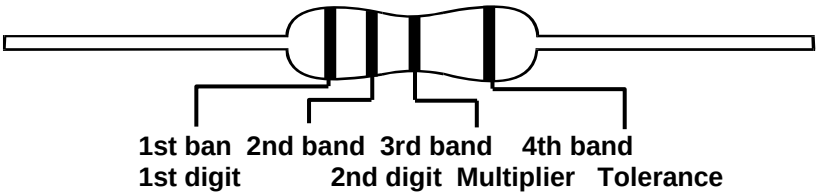
Ammo Packing



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

Cold	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}	-	-