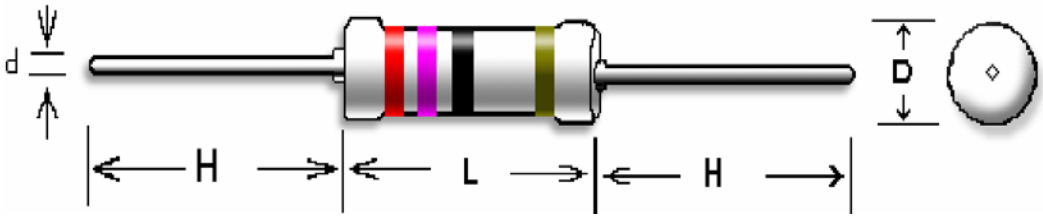
R-series Carbon Film Fixed Resistor

Specifications Per

- IEC 115-1 115-4
- MIL R-10509
- DIN 44051 44052

Features

- Conformal Multi-layer Coating
- Color Code Per MIL & EIA Standards
- Special Tin Plated Electrolytic Copper Lead Wire



Dimensions:

Type No.	Body Length (L , mm)	Body Diameter (D , mm)	Lead Wire Length (H , mm)	Lead Wire Diameter (d , mm)	Net Weight Per 1000Pcs
R16	3.2±1.0	1.9±0.2	28±3.0	0.45±0.02	145 Grams
R20	3.2±1.0	1.9±0.2	28±3.0	0.45±0.02	145 Grams
R25	6.5±1.0	2.4±0.2	26±3.0	0.55±0.03	220 Grams
R51	8.8±1.0	3.2±0.2	26±3.0	0.60±0.03	340 Grams
R52	6.5±1.0	2.6±0.3	26±3.0	0.55±0.03	300 Grams
R100	12.0±1.0	4.5±0.5	26±3.0	0.70±0.03	600 Grams
R200	15.5±1.0	6.0±0.5	26±3.0	0.80±0.03	1200 Grams

General Specifications:

Type No.	Power Rating At 70°C	Max. Working Voltage	Max. Overload Voltage	Min. Resistance	Max. Resistance	Resistance Tolerance	Standard Resistance Values
R16	1/6W	200V	400V	1Ω	1.0MΩ	±5%	E-24
R20	1/4W	250V	500V	1Ω	1.0MΩ	±5%	E-24
R25	1/3W	250V	500V	1Ω	10MΩ	±5%	E-24
R51	1/2W	350V	650V	1Ω	10MΩ	±5%	E-24
R52	1/2W	350V	500V	1Ω	4.7MΩ	±5%	E-24
R100	1W	500V	1000V	1Ω	1.0MΩ	±5%	E-24
R200	2W	500V	1000V	1Ω	1.0MΩ	±5%	E-24

Special sizes, values, and specifications not listed available on special order.

May. 26, 2000

FIRST RESISTOR & CONDENSER CO., LTD. 9F, No. 233, Sec. 4, Sinyi Rd., Taipei 106, Taiwan
Telephone : +886-2-27051878 Fax: +886-2-27036701
Email: QR@Firstohm.com.tw http://www.Firstohm.com.tw

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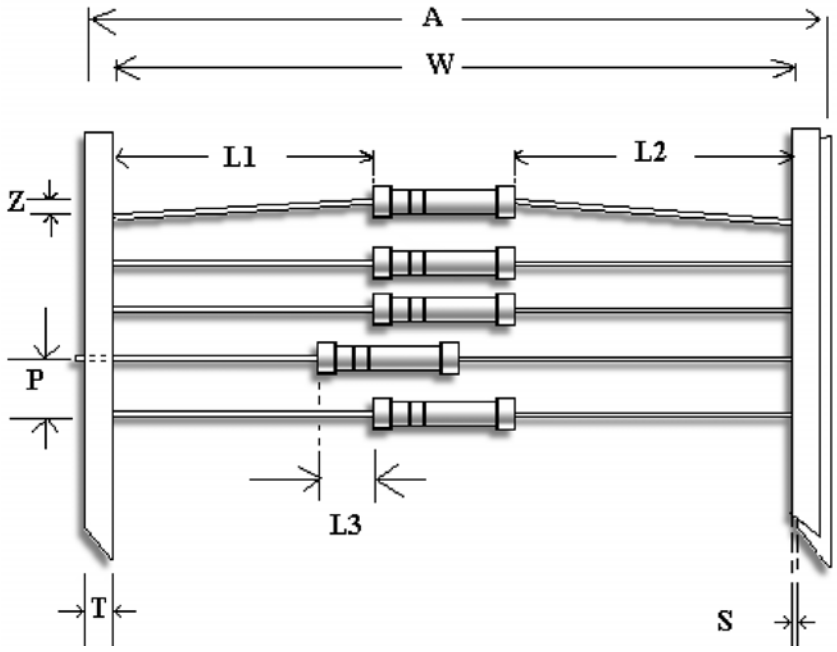
Taping/Packing Specifications:

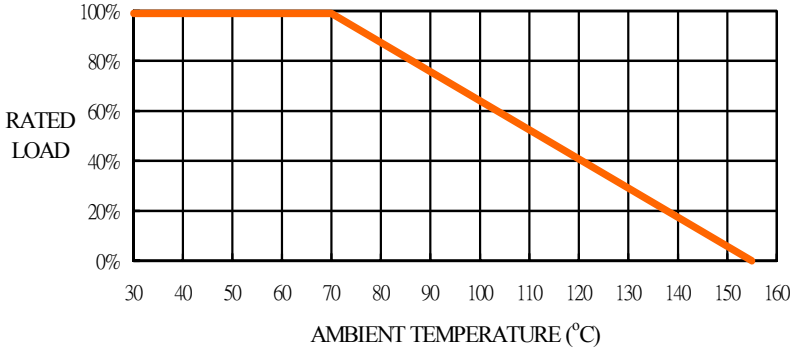


Unit (mm)

Type No.	A Max.	L1-L2 (Max.)	L3 (Max.)	P ±0.5	S (Max.)	T ±0.5	W ±1.5	Z (Max.)
R16	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R20	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R25	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R51	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R52	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R100	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
R200	76	±1.5	1.0	10.0	0.8	6.0	63.5	1.2

Type No.	Packing Type	R16	R20	R25	R51	R52	R100	R200
Minimum Packing QTY (pcs)	Reel	5000	5000	5000	3000	5000	2000	1000
	Ammo pack	5000	5000	5000	2000	2000	1000	500

POWER DERATING CURVE



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Technical Summary:

Characteristics	Limits			
Dielectric Withstanding Voltage, VAC or DC	R16/R20: 300 R25/R52: 500 R51: 700 R100/R200: 1000			
Temperature Coefficient, PPM /℃	Type	R16/R20	R25/R51/R52	R100/R200
	±300 PPM/℃	≦33K	≦33K	≦56K
	- 500 PPM/℃	36K~330K	36K~330K	68K~470K
	- 700 PPM/℃	130K~470K	360K~470K	510K~1.0M
	-1000 PPM/℃	510K~910K	510K~1.0M	>1.0M
	-1500 PPM/℃	>910K	>1.0M	
Operating Temperature Range,℃	-55 ~ +155			
Insulation Resistance, MΩ	$>10^4$			
Voltage Coefficient, PPM / V	<25			

Performance Specifications:

Test Characteristics	Test Conditions	Limits
Short Time Over Load	IEC 60115-1 4.13 5 seconds 2.5x rated voltage (not over max. overload voltage)	±(1%+0.05R)
Load Life In Humidity	IEC 60115-1 4.24 56 days at 40°C and 93% relative humidity	±5%
Load Life 1,000 hours	IEC 60115-1 4.25.1 Rated load 1.5 hours ON, 0.5 hours OFF, at 70°C	±5%
Resistance To Soldering Heat	IEC 60115-1 4.18 10 seconds at 260°C solder bath temperature	±(1%+0.05R)
Solderability	MIL-STD-202 Method 208 Solder area covered after 230±5°C/5±0.5 seconds w/ flux applied	95% Min.
Vibration	MIL-STD-202 Method 204 Six hours in each parallel and axial direction w/ a simple harmonic motion having an amplitude of 1.52mm and 10 to 20,000 Hz.	±(1%+0.05R)
Thermal Endurance	IEC 60115-1 4.25.3 1000 hours at 125°C without load	±(1%+0.05R)
Thermal Shock	IEC 60115-1 4.19 -55°C 30minutes, +125°C 30minutes, 5 cycles	±(2%+0.05R)

Ordering Information

Type	Tolerance	Resistance Value	Packaging	Special Request (Optional)
R25 R51	J (5%)	10K	TB TR	LV (Low value) HM (High meg)

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