Carbon Film Resistors

CR Series

1/8W，1/6W，1/4W，1/2W，1W，2W，3W

CR-12，CR-25，CR-50，CR-100，CR-200，CR-300

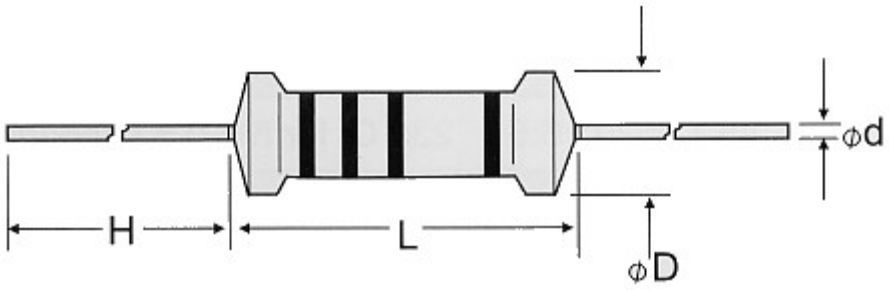
INTRODUCTION

Featuring consistency and stably-controlled, these carbon film resistors with reasonable prices are widely & largely used in the electronic, electrical and information industries. This resistor is a ceramic bar tightly coated with a carbon film which is composed of carbon separated from organic compound through the treatment of high-temperature vacuum. After the carbon-coated bar is connected with proper joint and engraved with grooves, its surface is finished with epoxy resin so that the bar is enclosed with a protective film.

FEATURES

- Industry's lower cost and deliver form stock.
- Exceptional long-term stability.
- Exceeds carbon comp MIL-R-11 performance.
- Standard tolerance：2%, 5%
- Variety of packing-bulk, strip pack, 26mm and 52mm tape and reel, cut and formed or radial Pana. / Avis..

DIMENSIONS



STYLE	DIMENSION (mm) L	ϕD	H	ϕd	POWER RATING (Watt)	VALUE RANGE
CR-12	3.3±0.4	1.8±0.3	28±2	0.5±0.05	1/6W ; 1/8W	1Ω~10M
CR-25	6.3±0.5	2.3±0.3	28±2	0.55±0.05	1/4W	1Ω~10M
CR-50	9±0.5	3.2±0.5	26±2	0.6±0.05	1/2W	1Ω~10M
CR-100	11.5±1.0	4.5±0.5	35±2	0.8±0.05	1W	1Ω~10M
CR-200	15.5±1.0	5.0±0.5	32±2	0.8±0.05	2W	1Ω~10M
CR-300	17.5±1.0	6.5±0.5	35±2	0.8±0.05	3W	1Ω~10M

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ELECTRICAL CHARACTERISTICS

Style	CR-12	CR-25	CR-50	CR-100	CR-200	CR-300
Power Rating 70°C	1/6;1/8W	1/4W	1/2W	1W	2W	3W
Operating Temp. Range	-55°C~+155°C					
Max. Working Voltage	200V	250V	350V	500V	500V	600V
Max. Overload Voltage	400V	500V	700V	1000V	1000V	1000V
Dielectric Withstanding Voltage(AC)	300V	500V	700V	1500V	1500V	1500V
Max. Intermittence Overload Voltage	500V	750V	1000V	1500V	2000V	2000V

T.C.R. (PPM)	CR-12 / CR-25 / CR-50			CR-100 / CR-200 / CR-300		
	100KΩ以下	100KΩ~1MΩ	1MΩ以上	100KΩ以下	100KΩ~1MΩ	1MΩ以上
	+350/-500	+350/-700	+350/-1000	+350PPM	+350/-500	+350/-1000

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	JIS-C-5202 5.5 : 2.5 times RCWV for 5 seconds	±(0.75%+0.05Ω)
Dielectric Withstanding V.	JIS-C-5202 5.7 : in V-Block for 60 seconds	By Type
Temperature Coefficient	JIS-C-5202 5.2 : -55°C ~ + 155°C	By Type
Insulation Resistance	JIS-C-5202 5.6 : in V-Block	≧1000 MΩ
Solderability	JIS-C-5202 6.5 : 235°C for 5 ± 0.5 seconds	95% min. Coverage
Resistance to Solvent	JIS-C-5202 6.9 : Trichroethance for 1 min. With ultrasonic	No deterioration
Terminal Strength	Direct load for 10 sec. In the direction of the terminal leads	≧2.5Kg/24.5N
Pulse Overload	JIS-C-5202 5.8 : 4 time RCWV 10000 cycles (1 sec.on,25 sec.off)	±(2%+0.05Ω)
Load Life in Humidity	JIS-C-5202 7.9 : 40±2°C, 90~95% RH at RCWV for 1000 hrs (1.5 hrs. On, 0.5 hrs. Off)	±(3%+0.05Ω)
Load Life	JIS-C-5202 7.10 : 70°C at RCWV for 1000 hrs (1.5 hrs. On, 0.5 hrs. off)	±(3%+0.05Ω)
Temperature Cycling	JIS-C-5202 7.4 : 65°C ~ room temp ~ 150°C ~ room temp. For 5 cycle	±(1%+0.05Ω)
Soldering Heat	JIS-C-5202 6.4 : 35±10°C for 3 ± 0.5 seconds	±(1%+0.05Ω)

✷ **Rated continuous Working Voltage (RCWV)= $\sqrt{\text{power rating x resistance value}}$**

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FIG.1 Derating Curve

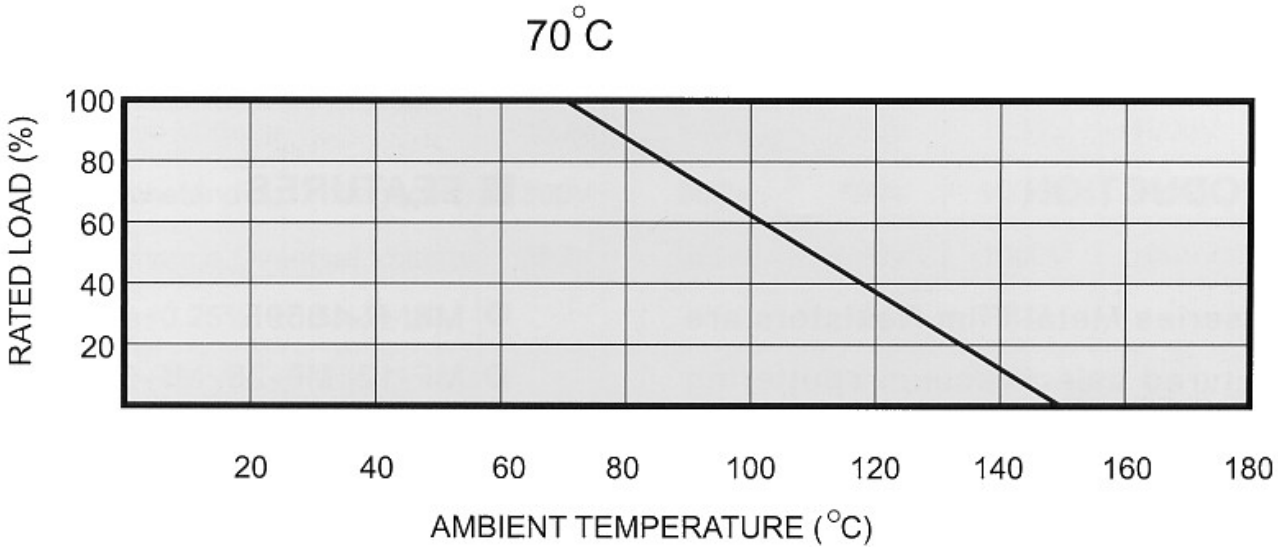

FIG.2 Hot-Spot Temperature