

## Carbon Series Resistors

Product Name : Carbon Film Fixed Resistors

Item No. : CR

### Description

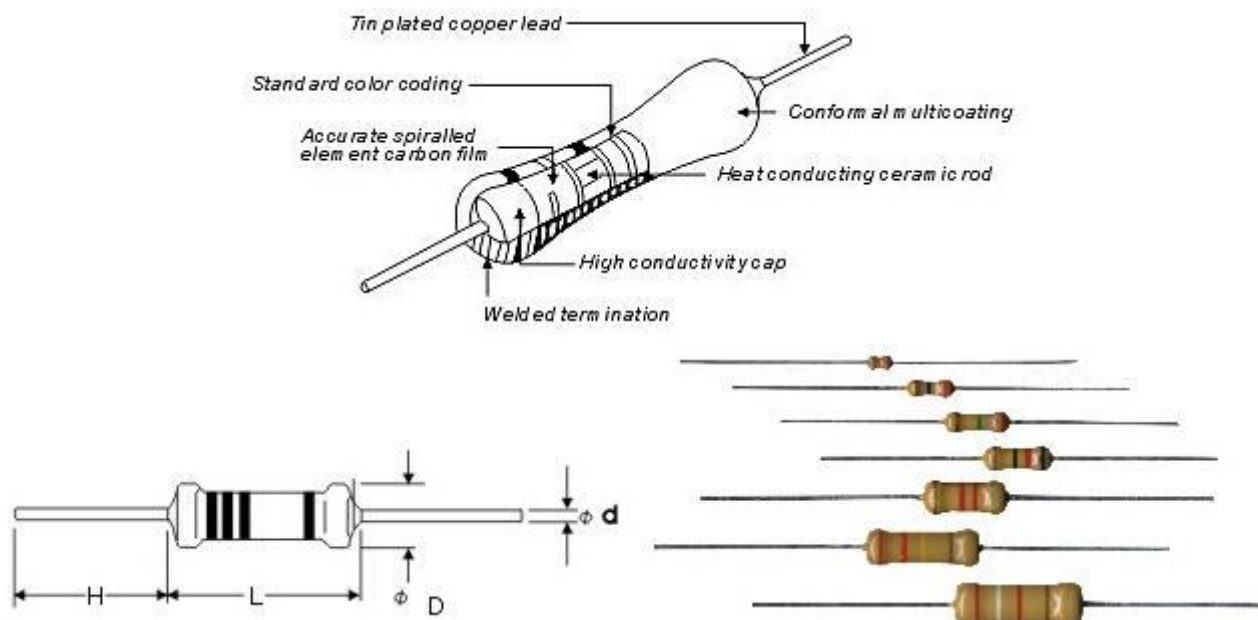
#### INTRODUCTION:

The resistance temperature coefficient of carbon film resistors is relatively high. Their resistance value changes inversely with temperature. But, as they are big in volume, causing quick dissipation of heat and low temperature rise, they are good enough in quality stability and reliability, and are therefore popularly used in consumer electronic appliances. In addition to the above general features, our CR series carbon film fixed resistors have the following features in particular.

#### FEATURES:

- Automated mass production, low prices.
- Selected superior quality materials to ensure stability and reliability.
- Variety of packaging-bulk, strip pack, 26mm and 52mm tape and reel, cut and formed, or radial Panasert / Avisert.

#### DIMENSIONS:

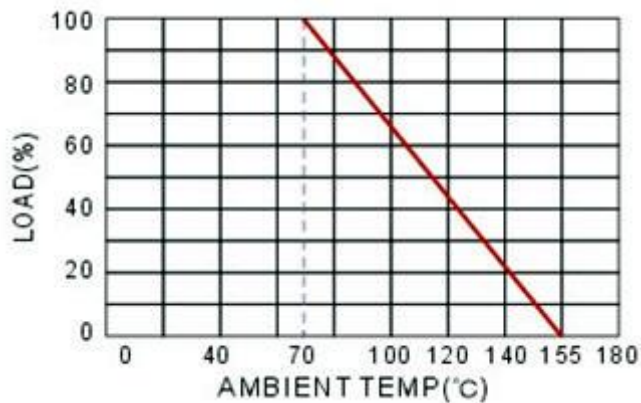


#### GENERAL SPECIFICATIONS:

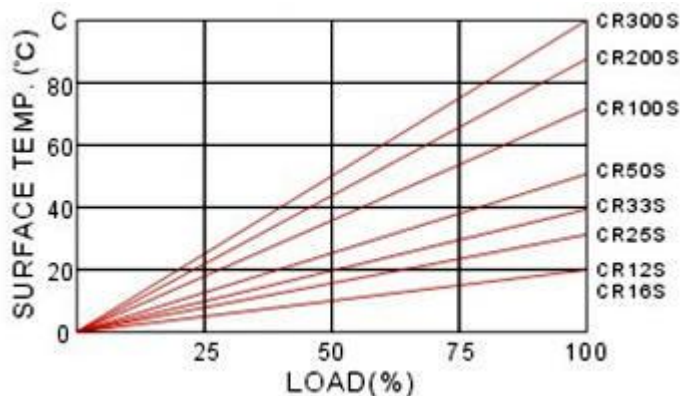
MIL STYLE	STYLE	POWER RATING	DIMENSION (mm)				MAX WORKING VOLTAGE	MAX OVERLOAD VOLTAGE	RESISTANCE RANGE	
			L	D	d ±0.03	H(min)			±2%(G)	±5%(J)
RD-50	CR-12 CR-16	1/8W 1/6W	3.7±0.4	1.8±0.2	0.46	27	200	400	10Ω~470KΩ	0.1Ω~47MΩ
RD-50	CR-25	1/4W	6.8±0.5	2.5±0.2	0.53	27	250	500	10Ω~1MΩ	0.1Ω~47MΩ
RD-60	CR-50	1/2W	9.0±1.0	3.2±0.5	0.56	25	350	700	10Ω~1MΩ	0.1Ω~47MΩ
RD-65	CR-100	1W	12±1.0	4.5±0.5	0.8	30	500	1000	10Ω~1MΩ	0.1Ω~47MΩ
RD-70	CR-200	2W	16±1.0	5.5±0.5	0.8	30	500	1000	10Ω~1MΩ	0.1Ω~47MΩ
RD-75	CR-300	3W	17±1.0	5.5±0.5	0.8	30	650	1200	10Ω~470KΩ	0.1Ω~47MΩ

MIL STYLE	SMALL STYLE	POWER RATING	DIMENSION (mm)				MAX WORKING VOLTAGE	MAX OVERLOAD VOLTAGE	RESISTANCE RANGE	
			L	D	d ±0.03	H(min)			±2%(G)	±5%(J)
RD-50S	CR-25S	1/4WS	3.7±0.4	1.8±0.2	0.46	27	300	500	10Ω~470KΩ	0.1Ω~47MΩ
RD-60S	CR-50S	1/2WS	6.8±0.5	2.5±0.2	0.53	27	350	700	10Ω~1MΩ	0.1Ω~47MΩ
RD-65S	CR-100S	1WS	9.0±1.0	3.2±0.5	0.56	27	400	1000	10Ω~1MΩ	0.1Ω~47MΩ
RD-70S	CR-200S	2WS	12±1.0	4.5±0.5	0.8	30	500	1000	10Ω~1MΩ	0.1Ω~47MΩ
RD-75S	CR-300S	3WS	16±1.0	5.5±0.5	0.8	30	600	1000	10Ω~1MΩ	0.1Ω~47MΩ
	CR-500S	5WS	17±1.0	6.0±0.5	0.8	30	700	1500	10Ω~470KΩ	0.1Ω~47MΩ

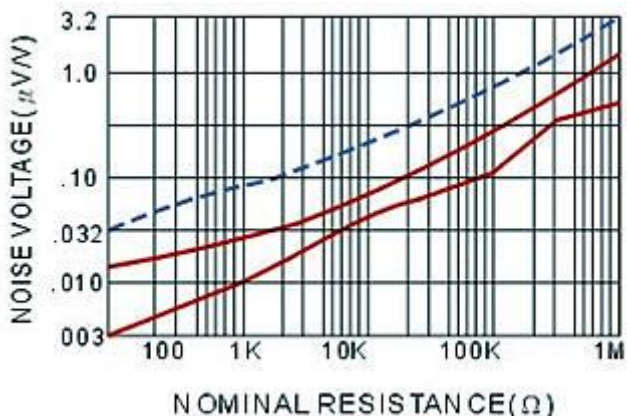
○ DERATING CURVE:



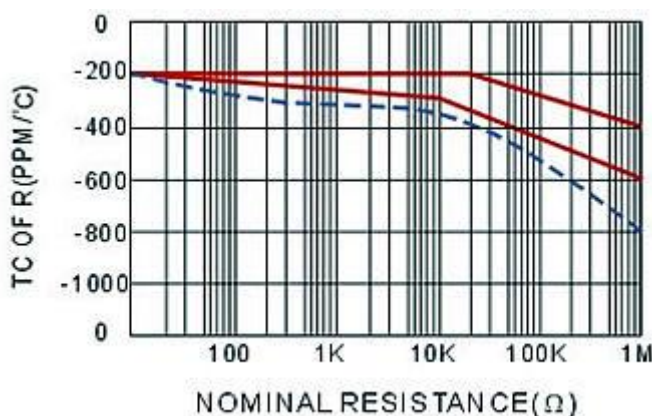
○ SURFACE TEMP RISE:



○ CURRENT NOISE:



○ TEMPERATURE COEFFICIENT:



○ CHARACTERISTICS:

REQUIREMENTS	PERFORMANCE						TEST METHOD		
							JIS C 5202	MIL-STD-202	
Operating Temp Range	-55°C~+155°C						-----	-----	
Temp. Coefficient (ppm/°C)	T Y P E	T. C. R	±450	-150 -700	-150 -1000	-150 -1300	5.2	METHOD 304	
		0.125W	under 1kΩ	1.1kΩ~47kΩ	51KΩ~510KΩ	560KΩ~1MΩ			
		0.25W	under 1kΩ	1.1kΩ~150kΩ	160KΩ~2.2MΩ	2.4MΩ~5.1MΩ			
Noise (µ V/V)	T Y P E	NOISE	0.1	0.3	0.6	1.0	5.9-11	METHOD 308	
		0.125W & 0.16W		under 10K Ω	11KΩ-100KΩ	over 110KΩ			
		0.25W & over	Under 100k Ω	110KΩ-510KΩ	560KΩ-2.2MΩ	over 2.4MΩ			
Dielectric Withstanding Voltage	No evidence of flashover or breakdown						5.7-A	METHOD 301	
Resistance to solvents	Permanent Marking No physical or electrical damage or deterioration						-----	METHOD 215	
short Time Overload	ΔRmax ±(1%+0.05Ω)						5.5-A	-----	
Resistance to Soldering Heat	ΔRmax ±(1%+0.05Ω)						6.4 350°C 3 sec	METHOD 210	
Temperature Cycling	ΔRmax ±(0.5%+0.05Ω)						7.4-55°C / 85°C	METHOD 107	
Vibration	ΔRmax ±(0.5%+0.05Ω)						6.3 3-A	METHOD 204	
Moisture Resistance	R>100KΩ	ΔRmax ±5%						7.9, 40°C 90-95% RH 1000hrs	METHOD 106
	R>100KΩ	ΔRmax ±(3%+0.05Ω)							
Load Life	R>100KΩ	ΔRmax ±3%						7.10 70°C 1000hrs	METHOD 108
	R>100KΩ	ΔRmax ±(2%+0.05Ω)							