

CARBON FILM FIXED RESISTORS

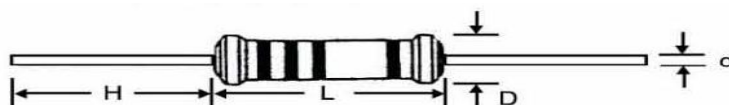
(CR SERIES)

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:

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



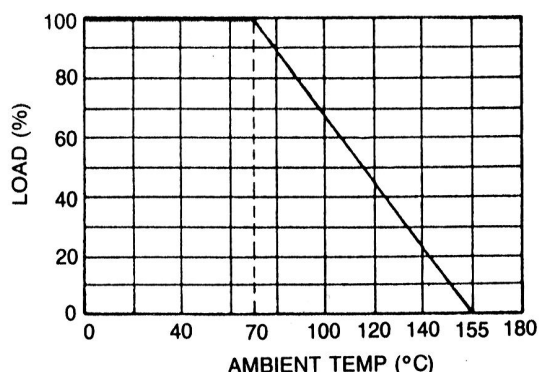
Dimensions



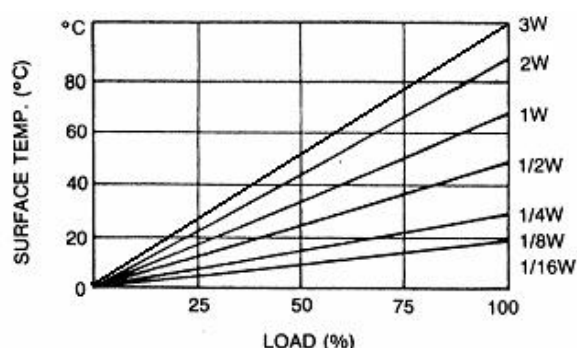
General Specification

MIL Style	Style	Power Rating	Dimensions				Max. Working V.	Max. Overload V.	Resistance Range	
			L	D	d	H (MIN)			±2% (G)	±5% (J)
RD-50	CR-012	1/8W (0.125W)	3.7 ± 0.4	1.7 ± 0.2	0.45 ± 0.05	25	200V	400V	10Ω~470K	1Ω~10M
	CR-016	1/6W(0.16W)	3.7 ± 0.4	1.7 ± 0.2	0.45 ± 0.05	25	200V	400V	10Ω~470K	1Ω~10M
RD-55	CR-025	1/4W(0.25W)	6.5 ± 0.5	2.3 ± 0.2	0.50 ± 0.05	25	250V	500V	10Ω~10M	10Ω~10M
	CR-033	1/2W Small Size	8.5 ± 0.5	2.8 ± 0.3	0.55 ± 0.05	25	300V	600V	10Ω~10M	10Ω~10M
RD-60	CR-050	1/2W (0.5W)	9 ± 1	3.3 ± 0.5	0.55 ± 0.05	25	350V	700V	10Ω~10M	10Ω~10M
	CR-100	1W	12 ± 1	4.5 ± 0.5	0.73 ± 0.05	25	500V	1000V	10Ω~10M	10Ω~10M
RD-65	CR-100S	1W Small Size	9 ± 1	3.3 ± 0.5	0.60 ± 0.05	25	400V	800V	10Ω~10M	10Ω~10M
RD-70	CR-200	2W	16 ± 1	5.0 ± 0.5	0.75 ± 0.05	25	500V	1000V	10Ω~10M	10Ω~10M
RD-75	CR-300S	3WS	18 ± 1	6.5 ± 0.5	0.75 ± 0.05	25	650V	1200V	10Ω~470K	1Ω~1M

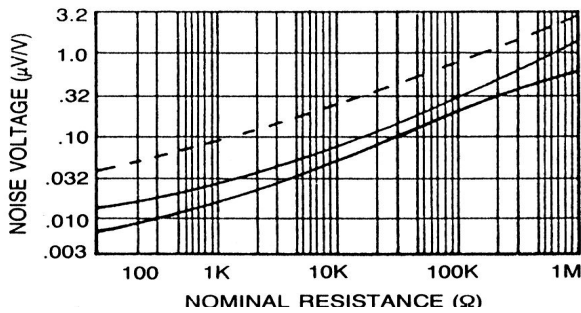
Derating Curve



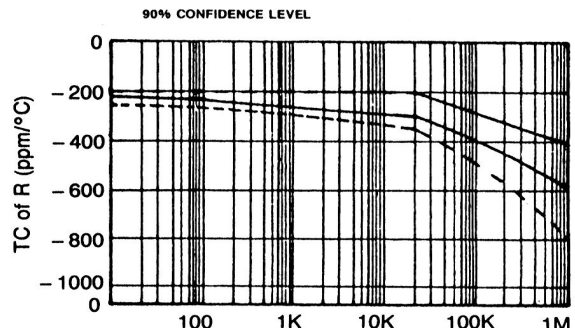
Surface Temp Rise



Current Noise



Temperature Coefficient



*For CR012 and CR025, tin plated copper clad steel lead wire also available

0 ohm available for CR012 and CR025, only one black color ring at the body center.

Characteristics

REQUIREMENTS		PERFORMANCE				TEST METHOD	
						JIS C 5202	MIL-STD-202
Operating Temp. Range		-55°C ~ + 155°C				—	—
Temp. Coefficient (ppm°C)	TCR TYPE	±450	-150 -700	-150 -1,000	-150 -1,300	5.2	METHOD304
	0.125W	under 1KΩ	1.1KΩ-47KΩ	51KΩ-510KΩ	560KΩ-1MΩ		
	0.25W	under 10KΩ	1.1KΩ-150KΩ	160KΩ-2.2MΩ	2.4MΩ-5.1MΩ		
	0.5W & over	under 22KΩ	24KΩ-470KΩ	510KΩ-2.2MΩ	2.4KΩ-10MΩ		
Noise (μV/V)	NOISE TYPE	0.1	0.3	0.6	1.0	5.9-11	METHOD308
	0.125W & 0.16W	—	under 10KΩ	11KΩ-100KΩ	over 110KΩ		
	0.25W& over	under100KΩ	110KΩ~510KΩ	560KΩ~2.2MΩ	over 2.4KΩ		
Dielectric Withstanding Voltage		No evidence of flashover or breakdown				5.7. - A	METHOD301
Resistance to solvents		Permanent Marking No physical or electrical damage or deterioration				—	METHOD215
Short Time Overload		△Rmax ≤ ±(1%+0.05Ω)				5.5- A	
Resistance to Soldering Heat		△Rmax ≤ ±(1%+0.05Ω)				6.4 350°C 3 sec	METHOD210
Temperature Cycling		△Rmax ≤ ±(1%+0.05Ω)				7.4-55°C/ 85°C	METHOD107
Vibration		△Rmax ≤ ±(0.5%+0.05Ω)				6.3.3-A	METHOD204
Moisture	R > 100KΩ	△Rmax ≤ ±5%				7.9.40°C 90-65% RH.	METHOD106
Resistance	R ≤ 100KΩ	△Rmax ≤ ±(3%+0.05Ω)				1000hrs	
Load Life	R > 100KΩ	△Rmax ≤ ±3%				7.10	METHOD108
	R ≤ 100KΩ	△Rmax ≤ ±(2%+0.05Ω)				70°C 1000hrs	

Parts Number system

CR	025	103	J	T
CR-Carbon film resistor FPC-Carbon film resistor with flameproof coating	Wattages	Resistance 3-digit code 103=10K ohm	Tolerance J=5% G=2%	Packing code T= Ammo pack R= Tape/reel B= Bulk pack

Note: 26, 52, 63 and 73 mm taping are available for different wattages, consult with factory before ordering

