

Carbon Film Resistors - CR/FCR Series

FEATURES

- Industry's lowest cost
- Excellent long term stability
- Used in all kinds of application
- Standard Value: 1R-10Meg in E24 series
- Standard tolerance: $\pm 5\%$ (available $\pm 2\%$)
- Body Color: yellow-brown (biege)
- Color band marking
- Flameproof coating available (As FCR type)
- Mini size available (As CR-S type)
- Operating Temperature : $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

GENERAL SPECIFICATION

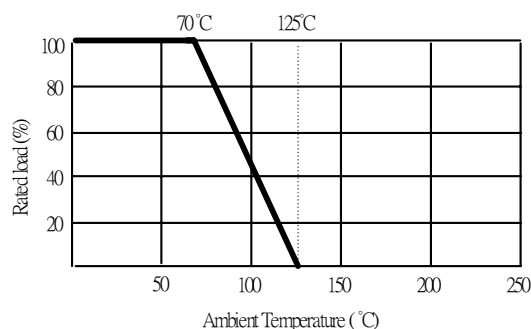
TYPE	DIMENSION (mm)				POWER	MAXIMUM WORKING VOLTAGE*	MAXIMUM OVERLOAD VOLTAGE**	RESISTANCE RANGE $\pm 5\%$
	L	D	H	d				
(F)CR-1/8W	3.2 ± 0.2	1.6 ± 0.2	27 ± 3.0	0.45 ± 0.05	1/8W	200V	400V	$10\Omega \sim 10\text{M}\Omega$
(F)CR-1/4W	6.0 ± 0.5	2.3 ± 0.3	27 ± 3.0	0.55 ± 0.05	1/4W	250V	500V	$10\Omega \sim 10\text{M}\Omega$
(F)CR-1/2W	9.0 ± 0.5	3.0 ± 0.5	27 ± 3.0	0.59 ± 0.05	1/2W	350V	700V	$10\Omega \sim 10\text{M}\Omega$
(F)CR-1W	11 ± 1.0	4.0 ± 0.5	33 ± 3.0	0.8 ± 0.05	1W	500V	1000V	$10\Omega \sim 10\text{M}\Omega$
(F)CR-2W	15 ± 1.0	5.0 ± 0.5	33 ± 3.0	0.8 ± 0.05	2W	500V	1000V	$10\Omega \sim 10\text{M}\Omega$

* Maximum Working Voltage determined by $E = \sqrt{P \times R}$, where E should not exceed value listed in column above.

** Maximum Overload Voltage equals to $2.5 \times E$, but should not exceed value listed in column above

*** Consult factory for values out of range

DERATING CURVE



CHARACTERISTIC

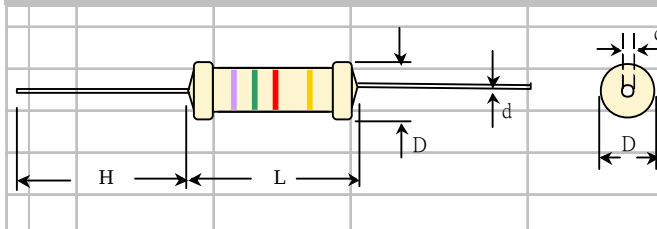
Temperature Coefficient	$\pm 300\text{ppm}$ ($< 100\text{k}\Omega$), $\pm 1000\text{ppm}$ max.
Insulation Resistance	$10,000\text{M}\Omega$ Min.
Load Life (1000 hours)	$< \pm 3\%$ typical, $\pm 5\%$ Max
Shorttime Overload	$\pm 1.0\%$ Max.
Temperature Cycling	$\pm 1.0\%$ Max.
Moisture Resistance	$\pm 5.0\%$ Max.
Shock & Vibration	$\pm 0.5\%$ Max.
Effect of Soldering	$\pm 1\%$ Max.

* Total maximum resistance change is $\Delta R = 0.05R$

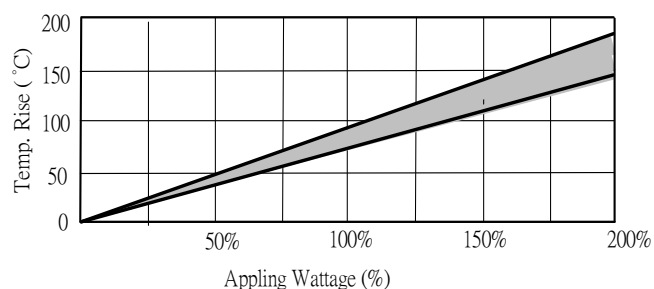
MATERIAL

- Element: Deposited Carbon Film
- Core: High Purity Ceramic Al_2O_3
- Termination: Standard solder-plated cooper lead
- Coating: Epoxy, (FCR is grey silicone)

DIMENSION



TEMPERATURE RISE



HOW TO ORDER :

CR***W Type	**** Resistance Value	J Tolerance	T Package
CR1/8W	0R1=0.1 Ω	J= $\pm 5\%$	B=axial bulk
CR1/4W	10R=10R		T= tape/box
CR1/2W	470K=470K Ω		R=tape reel
CR1W	5M6=5.6M Ω		
CR2W			