

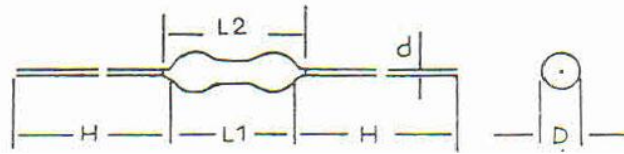
CARBON FILM / METAL FILM RESISTORS

METAL FILM RESISTORS

TYPE MFR 125, MFR 250, MFR 500, MFR 1000
 POWER DISSIPATION: 0.125W, 0.25W, 0.5W and 1W

FEATURES

- Miniature
- High reliability
- Tolerance range 0.1%, 0.25%, 0.5%, 1%, 2% & 5%
- Temp. Coefficient ± 15ppm, ± 25ppm, ± 50ppm, ± 100ppm & ± 200ppm
- Power rating
 0.125W, 0.250W, 0.5W, 1W..... at 70°C
 0.05W, 0.1W, 0.125W, 0.25W..... at 125°C



GENERAL SPECIFICATION

TYPE NO	DIMENSIONS(mm)			d	H	Power rating (W)		Limiting voltage(V)	Limiting Resistor70°	Resistance Range +5%
	L1	L2	D			at 70°	at 125°			
MFR 125	3.2+0.3	3.5+0.3	1.8±0.2	0.45	28 ±2	0.125	0.05	200	320K	1E-1M
MFR 250	6+0.5	6.5+0.5	2.3±0.2	0.6	28 ±2	0.25	0.10	250	250K	1E -1M
MFR 500	9+0.5	9.6+0.5	3.8±0.2	0.6	28 ±2	0.50	0.25	350	245K	1E-10M
MFR 1000	9+0.5	9.6+0.5	3.8±0.2	0.6	28 ±2	1.00	0.33	350	122K	1E-10M

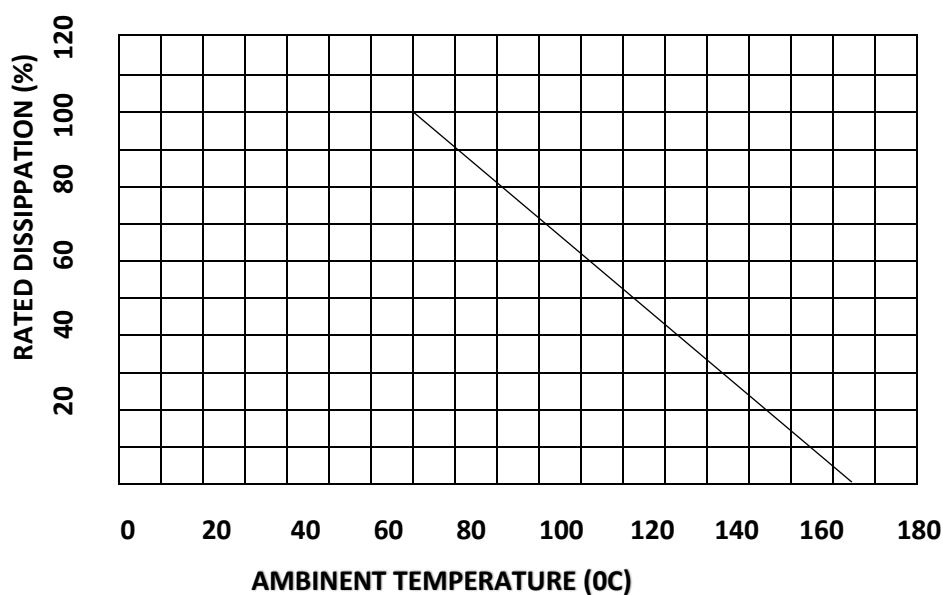
Performance Characteristics

Metal Film Resistors

MFR 125/250/500/1000

Performance Characteristics

1. Climatic Category : 55/165/56
2. Short time overload $\Delta R/R$: ≤ 0.2%
3. Resistance to soldering heat $\Delta R/R$: ≤ 0.2%
4. Noise : ≤ 0.μV/V
5. Voltage Coefficient : ≤ 5ppm/V
6. Insulation Resistance : > 10,000 mega ohms
7. Vibration : 10 to 2000 Hz 200m/s²
8. Impact (Shock) : 1 KM/S² 6 ms
9. Acceleration (Steady State) : 1KM/S²
10. Bump : 4000 bumps 40 gm



Type	Tolerance	TCR 15ppm 25 ppm	50 ppm	100 ppm	200 ppm	Remarks
MFR 125	± 5% ± 1% ± 0.5% ± 0.25%	100E-100K 100E-100K 100E-100K	47E- 470K 47E- 470K 47E- 470K	10E-470K 10E-470K 10E-470K 10E-470K	1E-470K 10E-470K 10E-470K 10E-470K	Standard resistor below or above range at each TCR & tolerance on request ± 5% in E24 series ±1% in E96 series All other close tolerance on E192 series.
MFR 250	± 5% ± 1 % ± 0.5% ± 0.25% ± 0.1%	10E-470K 10E-470K 10E-470K 10E-470K 10E-470K	10E- 470K 10E- 470K 10E- 470K 10E- 470K 10E- 470K	1E-1M 1E-1M 10E-1M 10E-1M 10E-1M	1E-1M 1E-1M 1E-1M 1E-1M 1E-1M	
MFR 340	± 5% ± 1 % ± 0.5% ± 0.25% ± 0.1%	10E-470K 10E-470K 10E-470K 10E-470K 10E-470K	10E- 470K 10E- 470K 10E- 470K 10E- 470K	10E-1M 10E-1M 10E-1M 10E-1M 10E-1M	1E-1M 1E-1M 1E-1M 1E-1M 1E-1M	
MFR 500	± 5% ± 1 % ± 0.5% ± 0.25% ± 0.1%	10E-1M 10E-1M 10E-1M 10E-1M 10E-1M	10E-1M 10E-1M 10E-1M 10E-1M 10E-1M	10E-1M 10E-1M 10E-1M 10E-1M 10E-1M	1E-10M 1E-1M 1E-1M 1E-1M 1E-1M	
MFR 1000	± 5% ± 1%	10E-1M 10E-1M	10E-1M 10E-1M	10E-1M 10E-1M	1E-10M 1E-1M	

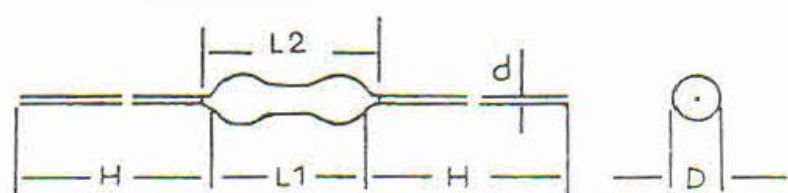
CARBON FILM RESISTORS

TYPE : KRC 125, KRC 250, KRC 500, KRC 1000

POWER DISSIPATION: 0. 125W, 0.25W, 0.5W and 1W

FEATURES

- Miniature
- High reliability
- Exceptional long term stability
- Standard tolerance ±5%
- Variety of packaging bulk strip pack etc.
- 52mm & 26mm



GENERAL SPECIFICATION

TYPE NO	DIMENSIONS(mm)			d	H	Power rating (W)		Limiting voltage(V)	Limiting Resistor70°	Resist-ance Range +5%
	L1	L2	D			at 70°	at 40°			
KRC 125	3.2+0.3	3.5+0.3	1.8±0.2	0.45	28 ±2	0.125	0.166	200	320K	1E-1M
KRC 250	6+0.5	6.5+0.5	2.3±0.2	0.6	28 ±2	0.25	0.34	250	250K	1E -1M
KRC 500	9+0.5	9.6+0.5	3.8±0.2	0.6	28 ±2	0.50	0.75	350	245K	1E-10M
KRC 1000	9+0.5	9.6+0.5	3.8±0.2	0.6	28 ±2	1.00	1.50	350	122K	1E-10M

Performance Characteristics

Carbon Film Resistors

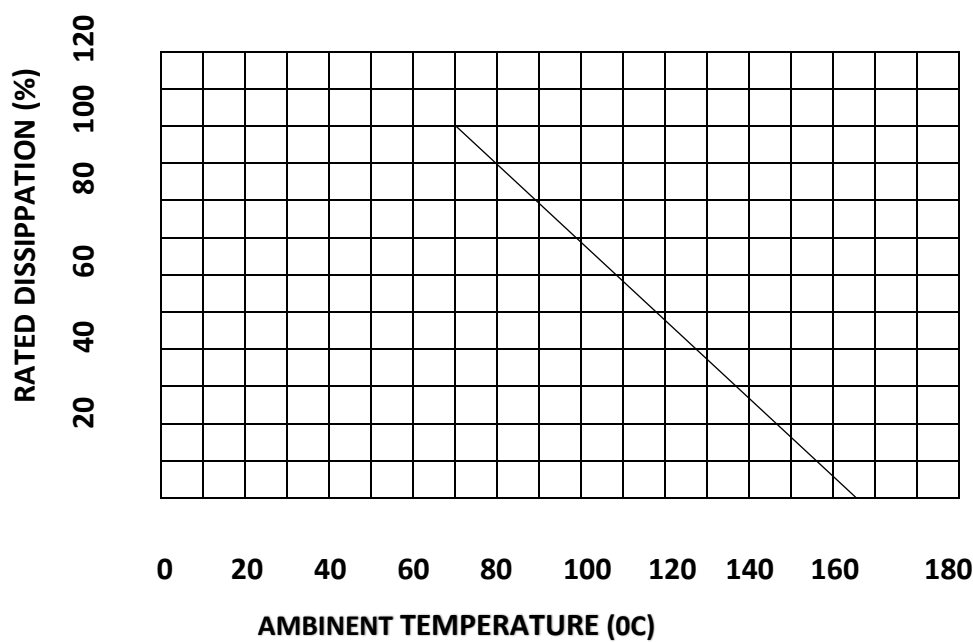
KRC 125/250/500/1000

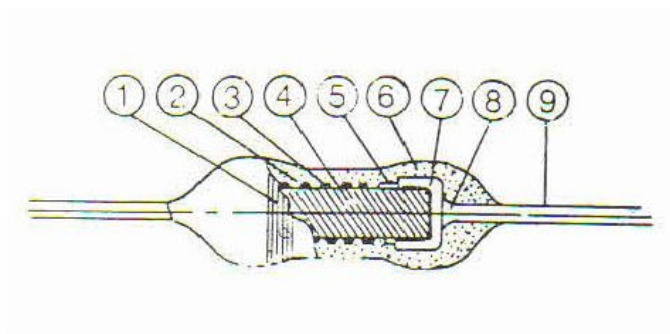
Performance Characteristics

1. Climatic Category : 55/155/56
2. Stability : +/-3%
3. Temperature Coefficient of Resistance PPM/°C

	<u>1 ohm to 100K</u>	<u>>100K to 1M ohm</u>	<u>>1M ohm to 10M ohm</u>
KRC 125	300	500	800
KRC 250	350	500	800
KRC 340	350	500	900
KRC 500	350	500	800
KRC 1000	350	600	900

4. Vibration : 10 Hz to 1000 Hz 200 m/s
5. Impact (Shock) : 1 KM/S²
6. Acceleration : 1 KM/S²
7. Bump : 4000 bumps 40 gm





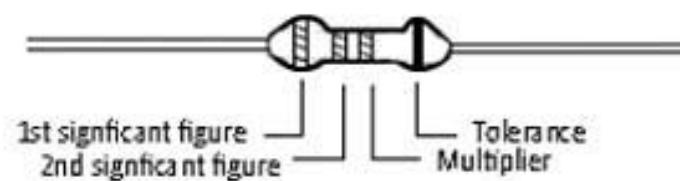
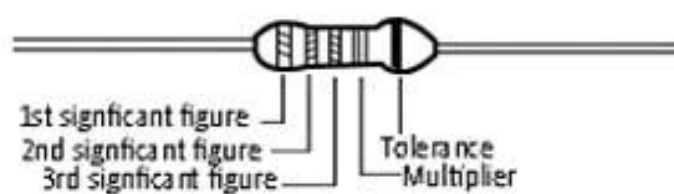
- 1) Colour Bands
As per international colour codes)
- 2) Spiralling Track
- 3) Film
- 4) Ceramic Substrate
- 5) Pre Coat
- 6) Lacquer coating
- 7) Pre formed caps
- 8) Welded joints
- 9) Tin coated Copper wire

SIGNIFICANT FIGURES OF NOMINAL RESISTANCES

E6	1.0				1.5				2.2				33				4.7				6.8			
E12	1.0		1.02		1.5		1.6		2.2		2.7		33		3.9		4.7		5.6		6.8		8.2	
E24	1.0	1.02	1.02	1.3	1.5	1.6	1.6	2.0	2.2	2.4	2.7	30	33	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1
E96	1.00	1.82	1.02	1.07	1.02	1.13	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.37	1.40	1.4	1.47	1.50	1.54	1.58	1.62	1.65	1.69	1.74
	1.78	1.82	1.02	1.91	1.02	2.00	2.05	2.10	2.15	2.21	2.26	2.32	2.37	2.43	2.49	2.55	2.61	2.67	2.74	2.80	2.87	2.94	3.01	3.09
	3.16	3.24	1.02	3.40	1.02	3.57	3.66	3.74	3.33	3.92	4.02	4.12	4.22	4.32	4.12	4.53	4.64	4.75	4.87	4.99	5.11	5.33	5.36	5.49
	5.62	5.76	1.02	6.04	1.02	6.34	6.49	6.66	6.91	6.96	7.15	7.32	7.50	7.68	7.87	8.06	8.25	8.45	8.66	8.87	9.09	9.31	9.53	9.76

1) five colour band (E 96)

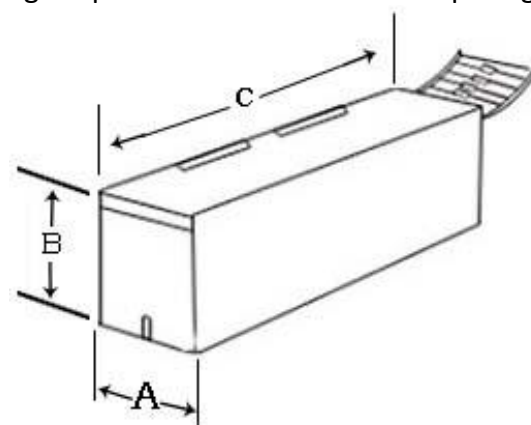
2) four colour band (E24)



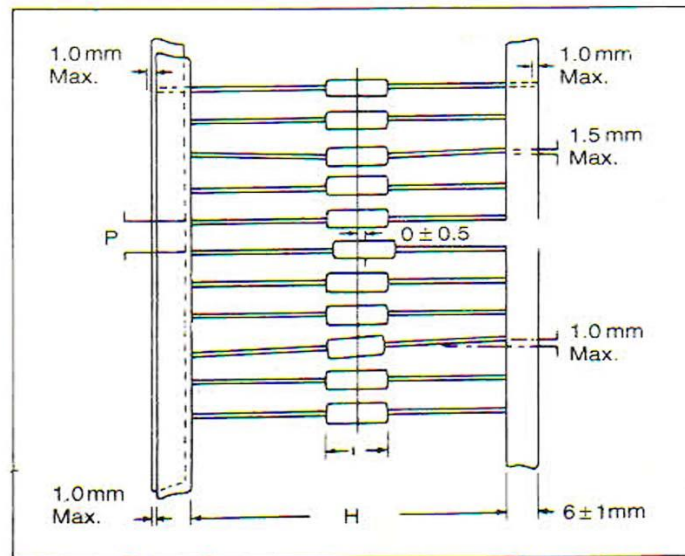
LEAD TAPE PACKING

FEATURES

Precise dimensions, uniform spacing Automatic mounting on P.C.B possible.
Preparation for P.C.B mounting simplified due to uniform i.e.d spacing.



DIMENSIONS



TYPE	PCS per box	BOX DIMENSIONS (mm)			H In "mm"	P In "mm"
		A	B	C		
KRC 125 MFR 125	5000	70	85	260	52 ± 2	5.08 ± 0.38
KRC 125 MFR 125	1000	70	22	260	52 ± 2	5.08 ± 0.38
KRC 250 MFR 250	5000	48	85	260	56 ± 1	5.08 ± 0.38
KRC 250 MFR 250	5000	50	85	260	52 ± 2	5.08 ± 0.38
KRC 250 MFR 250	1000	70	22	260	52 ± 2	5.08 ± 0.38
KRC 500 MFR 500	1500	70	85	260	52 ± 2	5.08 ± 0.38
KRC 500 MFR 500	500	70	22	260	52 ± 2	5.08 ± 0.38
KRC 1000 MFR 1000	1500	70	85	260	52 ± 2	5.08 ± 0.38
KRC 1000 MFR 1000	500	70	22	260	52 ± 2	5.08 ± 0.38