



Carbon Composition Resistors

CC Series

FEATURES

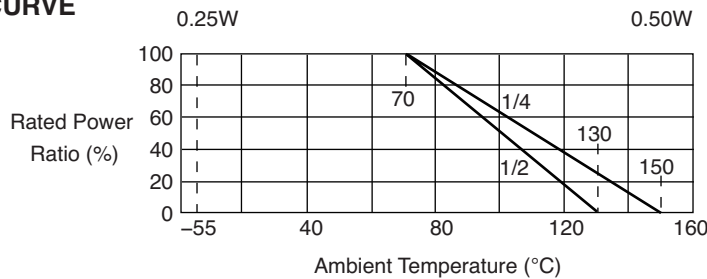
- Low inductance
- Low capacitance
- Compared with film-type resistors, carbon composition resistors have better pulse endurance characteristics



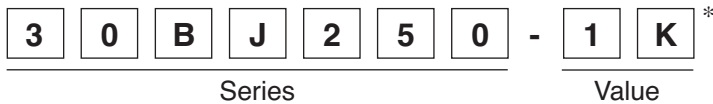
CHARACTERISTICS

Item	Characteristics
Operating Temperature Range	-55°C ~ +125°C
Short Time Overload	±(2.5% +0.05Ω)
Effect of Soldering	±(3% +0.05Ω)
Temperature Cycling	±4%
Insulation Resistance	10,000MΩ min.

DERATING CURVE

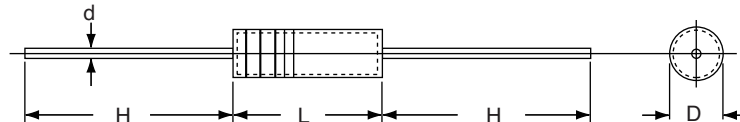


PART NUMBERING SYSTEM



* For Reel Part Number Add: /Reel to Part Number Above

SERIES, WATTAGE, RANGE OF VALUES, TOLERANCE, VOLTAGE, AND DIMENSIONS



Series	Watts	Standard Range of Values (Ω)	Resistance Tolerance	Voltage (V) (max.)			Dimensions (mm)			
				Working	Overload	Pulse	L	D	H	d
30BJ250	1/4	2.2~22M	±5%	250	400	500	6.4	2.3	27.0±3	0.6
30BJ500	1/2	2.2~22M	±5%	350	700	700	9.5	3.5	27.0±3	0.74

STANDARD STOCKED VALUES (Ω)

2.2	4.3	8.2	16	33	62	120	240	470	910	1.8K	3.6K	6.8K	13K	27K	51K	100K	200K	390K	750K	2.2M	6.8M
2.4	4.7	9.1	18	36	68	130	270	510	1.0K	2.0K	3.9K	7.5K	15K	30K	56K	110K	220K	430K	820K	2.4M	8.2M
2.7	5.1	10	20	39	75	150	300	560	1.1K	2.2K	4.3K	8.2K	16K	33K	62K	120K	240K	470K	910K	2.7M	
3.0	5.6	11	22	43	82	160	330	620	1.2K	2.4K	4.7K	9.1K	18K	36K	68K	130K	270K	510K	1.0M	3.3M	
3.3	6.2	12	24	47	91	180	360	680	1.3K	2.7K	5.1K	10K	20K	39K	75K	150K	300K	560K	1.2M	3.9M	
3.6	6.8	13	27	51	100	200	390	750	1.5K	3.0K	5.6K	11K	22K	43K	82K	160K	330K	620K	1.5M	4.7M	
3.9	7.5	15	30	56	110	220	430	820	1.6K	3.3K	6.2K	12K	24K	47K	91K	180K	360K	680K	1.8M	5.6M	

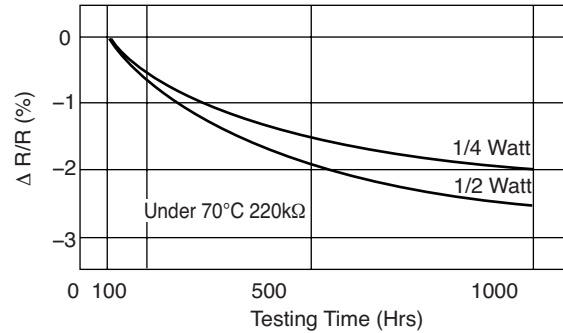
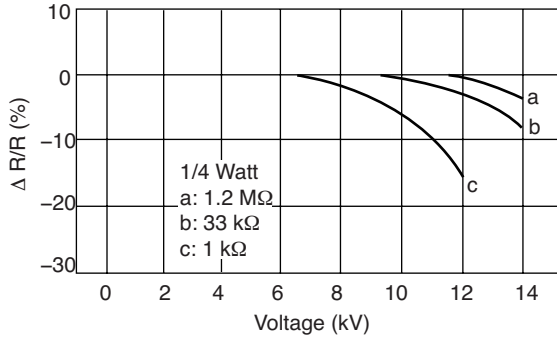
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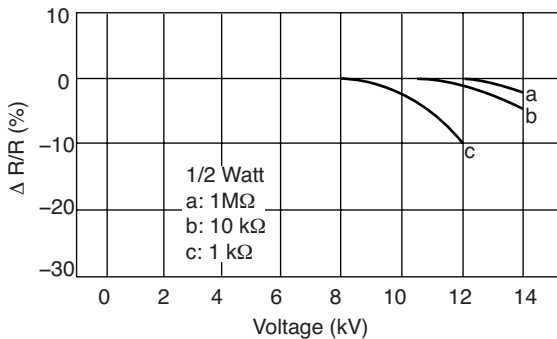


■ SURGE RESISTANCE CHARACTERISTICS

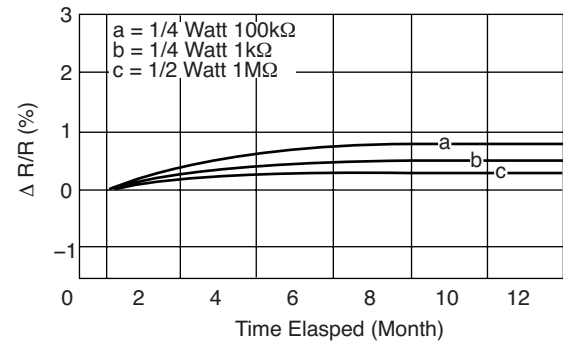
Charging and Discharging a 2,000 pF Condenser for 100 Cycles.



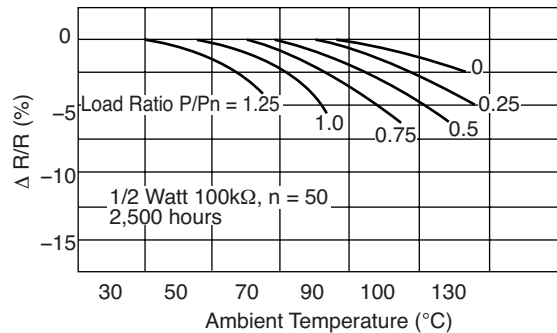
■ RELATIONSHIP BETWEEN LOAD RATIO AND AMBIENT TEMPERATURE



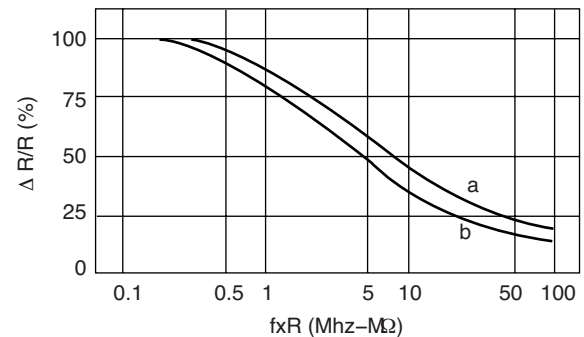
■ LOAD LIFE (RATED LOAD)



■ VARIATION WITH TIME



■ FREQUENCY CHARACTERISTICS



■ RELIABILITY TEST

Load Life in Moisture

Samples: 1/4 Watt, 100Ω, 1kΩ, 10kΩ, 100kΩ, 150 pieces of each, 600 pieces in total.

Conditions: 40°C in 95% RH 1% hours "ON" and 0.5 hours "OFF" cycling for 5,000 hours with DC voltage given by the following ratios:

Criterion (%)	Load Ratio P/Pn (%)	Total Testing Time T(Hrs)	Number of Failures r (pcs)	Failure Ratio		Average Lifetime (60% reliability level) (Hrs)
				λ	λ_{CL} (60%)	
$\Delta R/R$	± 5	0	6	0.201	0.244	4.098×10^5
		20	4	0.134	0.176	5.682×10^5
		60	2	0.067	0.104	9.615×10^5
		100	3	0.100	0.139	7.194×10^5
		Total	15	0.125	0.138	7.209×10^5
	± 10	Total	0	0.0055	0.0077	1.299×10^7

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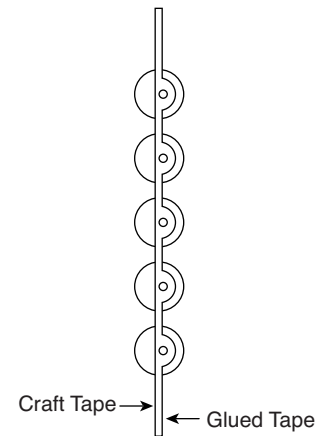
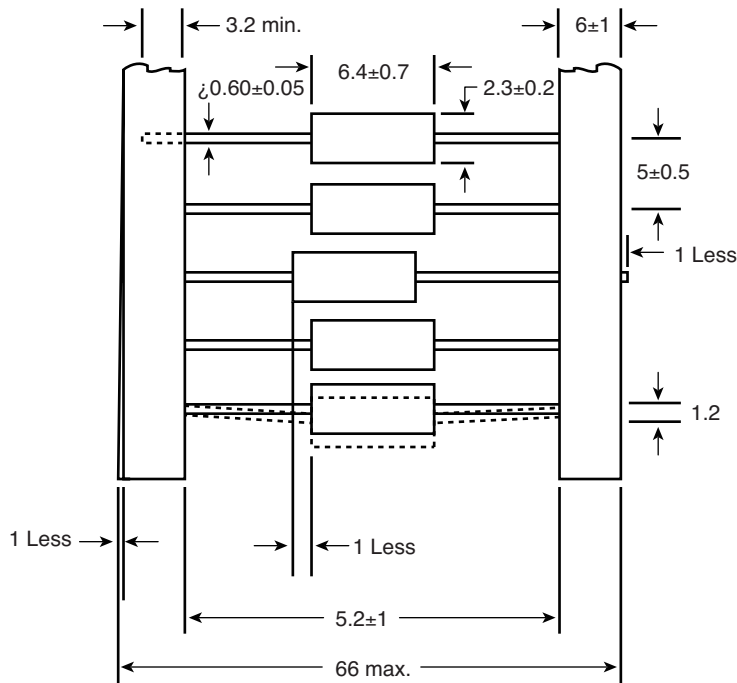




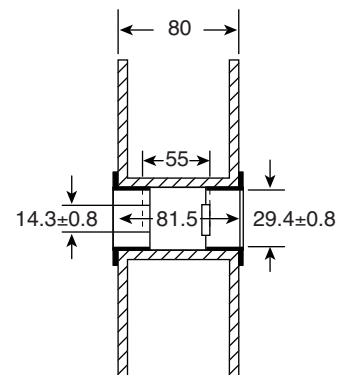
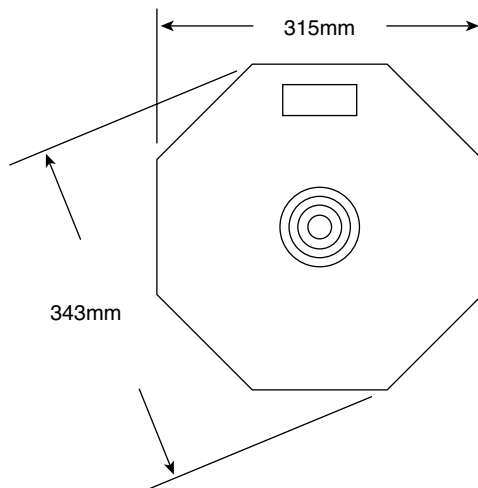
Carbon Composition Resistors

CC Series

LEAD TAPING



Dimensions: in.
(except where noted)



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