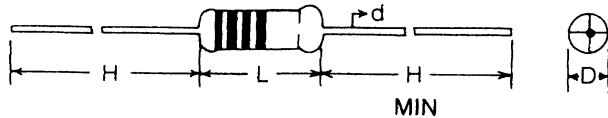


INTRODUCTION

High quality thermally conductive ceramic core with carbon film and conformally protected by multiple epoxy coatings.



DIMENSIONS (mm)

Size Code		L±.5	D±.5	H	d±.05	Standard Tape	Packing
CR12	CR25M	3.7	1.6	20	0.5	T52	5000
CR25	CR50M	6.5	2.5	20	0.6	T52	5000
CR50S		8.5	2.8	20	0.6	T52	5000
	CR100S	9	3.7	20	0.7	T52	2500
CR100		11	4.5	26	0.8	T73	2000
CR200		16	5	26	0.8	T73	1000

- Special tape to tape size by request

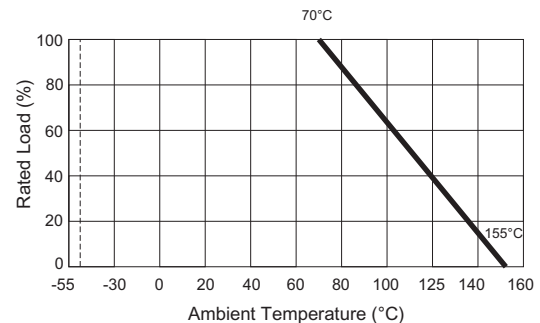
MAXIMUM RATING & ELECTRICAL CHARACTERISTICS

TYPE	CR12	CR25M/25	CR50M/50S	CR100S/100/200
Rated Wattage at 70°C	0.125W/0.16W	0.25W	0.50W	1W/2W
Max. Working Voltage	200V	250V	350V	500V/750V
Max. Overload Voltage	400V	500V	750V	1000V
Resistance Tolerance	J(±5%) G(±2%)	J(±5%) G(±2%)	J(±5%) G(±2%)	J(±5%) G(±2%)
Ambient Temperature Range.	-55°C ~ +155°C	-55°C ~ +155°C	-55°C ~ +155°C	-55°C ~ +155°C
Life	±3% MAX ±2% AVG	±3% MAX ±2% AVG	±3% MAX ±2% AVG	±3% MAX ±2% AVG
Resistance Temp. Characteristics (At 25°C ~ 105°C)	<100K ohm ±4% <1M ohm ±4% <1.5M ohm ±4% <3.3M ohm ±4%	<100K ohm ±4% <1M ohm ±10% <1.5M ohm ±14%	<100K ohm ±4% <1M ohm ±6% <1.5M ohm ±8% <3.3M ohm ±12%	<100K ohm ±4% <1M ohm ±6% <1.5M ohm ±12%
Temperature Cycle	±1%	±1%	±1%	±1%
Short-time Overload	±1%	±1%	±1%	±1%
Moisture Resistance	±3% MAX	±3% MAX	±3% MAX	±3% MAX
Terminal Strength	±0.5%	±0.5%	±0.5%	±0.5%
Soldering Heat	±0.5%	±0.5%	±0.5%	±0.5%
Shock and Vibration	±1%	±1%	±1%	±1%
Resistance Range ±5%	1 ohm ~ 10M ohm	0.5 ohm ~ 22M ohm	0.5 ohm ~ 22M ohm	0.5 ohm ~ 22M ohm

FEATURES

- Exceptional long term stability
- Flameproof coating available
- Special values maybe requested

DERATING CURVE



RESISTANCE

Ohms	0.5	1.5	1.5K	15K	1.5Meg	150Meg
Code	0R5	1R5	1K5	15K	1M5	150M

TOLERANCE

±%	0.1	0.25	0.5	1.0	2.0	5.0	10	20
Code	B	C	D	F	G	J	K	M

PACKAGING

Packaging Code	R	A	B	C
Description	Taped & Reeled	Taped & Box	Loose (Bulk)	Cut & Form)
Special Taping Suffix	T52, T73			

PART NUMBER EXAMPLE

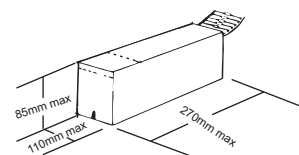
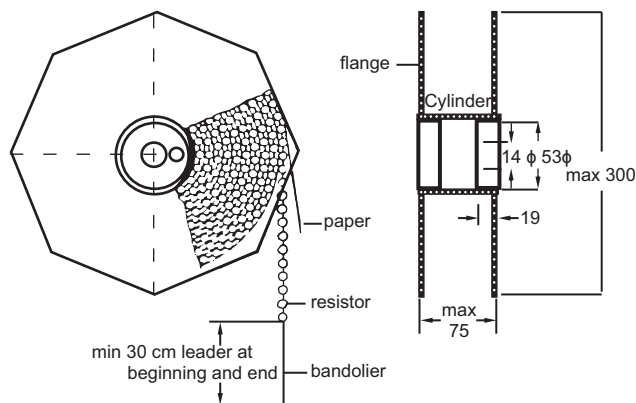
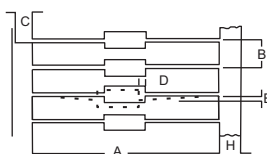
CR 50S R - 47K- J

Series: CR
Size Code: 50S
Packaging: R
Tolerance: J
Resistance: 47K

TAPE, REEL & AMMO SPECIFICATIONS

Body Diameter	Size Code	A	B	C	D	E	H
< 5mm	T-52	52±1	5±0.5	4.0 min.	0.8 max.	1.2 max.	6±1
>5mm	T-52	52±1	10±0.5	4.0 min.	0.8 max.	1.2 max.	6±1
	T-73	73±1					

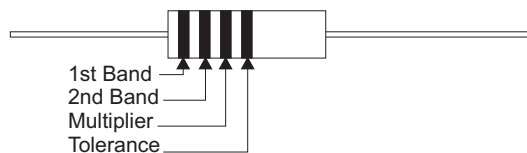
Body Diam. (mm)	Reel Packaging	Ammo Packaging	Bulk Packaging
Jumper Wire	10,000	10,000	1,000
1.5 ~ 1.6	5,000	5,000	1,000
2.5 ~ 2.6	5,000	5,000	1,000
3.0	5,000	2,000	1,000
3.5 ~ 4.0	2,500	2,000	1,000
4.5	2,000	1,000	1,000
5.0 ~ 5.5	1,000	1,000	500
6.0 ~ 6.5		1,000	500
8.0 ~ 8.5		1,000	500



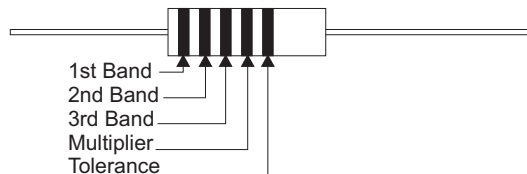
COLOR CODE CHART

Color	1st Band	2nd Band	3rd Band (B ~ F Tol)	Multiplier	Tolerance	Tolerance Code
Black	0	0	0	10 ⁰		
Brown	1	1	1	10 ¹	±1%	F
Red	2	2	2	10 ²	±2%	G
Orange	3	3	3	10 ³		
Yellow	4	4	4	10 ⁴		
Green	5	5	5	10 ⁵	±0.5%	D
Blue	6	6	6	10 ⁶	±0.25%	C
Violet	7	7	7	10 ⁷	±0.10%	B
Gray	8	8	8	10 ⁸	±0.05%	A
White	9	9	9	10 ⁹		
Gold				10 ⁻¹	±5%	J
Silver				10 ⁻²	±10%	K

For ±5% Tolerance



For ±1% Tolerance



RESISTANCE DECADE TABLE

Resistance Tolerance	Resistance Values																								
M (20%)	1.0				1.5				2.2				3.3				4.7				6.8				
K (10%)	1.0		1.2		1.5		1.8		2.2		2.7		3.3		3.9		4.7		5.6		6.8		8.2		
G (2%), J (5%)	1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.3	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1	
F (1%)	1.00	1.10	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.37	2.61	2.87	3.16	3.48	3.83	4.22	4.64	5.11	5.62	6.19	6.81	7.50	8.25	9.09	
	1.02	1.13	1.24	1.37	1.50	1.65	1.82	2.00	2.21	2.43	2.67	2.94	3.24	3.57	3.92	4.32	4.75	5.23	5.76	6.34	6.98	7.68	8.45	9.31	
	1.05	1.15	1.27	1.40	1.54	1.69	1.87	2.05	2.26	2.49	2.74	3.01	3.32	3.65	4.02	4.42	4.87	5.36	5.90	6.49	7.15	7.87	8.66	9.53	
	1.07	1.18	1.30	1.43	1.58	1.74	1.91	2.10	2.32	2.55	2.80	3.09	3.40	3.74	4.12	4.53	4.99	5.49	6.04	6.65	7.32	8.06	8.87	9.76	
D (0.5%) C (0.25%) B (0.1%) A (0.05%)	1.00	1.10	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.37	2.61	2.87	3.16	3.48	3.83	4.22	4.64	5.11	5.62	6.19	6.81	7.50	8.25	9.09	
	1.01	1.11	1.23	1.35	1.49	1.64	1.80	1.98	2.18	2.40	2.64	2.91	3.20	3.52	3.88	4.27	4.70	5.17	5.69	6.26	6.90	7.59	8.35	9.20	
	1.02	1.13	1.24	1.37	1.50	1.65	1.82	2.00	2.21	2.43	2.67	2.94	3.24	3.57	3.92	4.32	4.75	5.23	5.76	6.34	6.98	7.68	8.45	9.31	
	1.04	1.14	1.26	1.38	1.52	1.67	1.84	2.03	2.23	2.46	2.71	2.98	3.28	3.61	3.97	4.37	4.81	5.30	5.83	6.42	7.06	7.77	8.56	9.42	
	1.05	1.15	1.27	1.40	1.54	1.69	1.87	2.05	2.26	2.49	2.74	3.01	3.32	3.65	4.02	4.42	4.87	5.36	5.90	6.49	7.15	7.87	8.66	9.53	
	1.06	1.17	1.29	1.42	1.56	1.72	1.89	2.08	2.29	2.52	2.77	3.05	3.36	3.70	4.07	4.48	4.93	5.42	5.97	6.57	7.23	7.96	8.76	9.65	
	1.07	1.18	1.30	1.43	1.58	1.74	1.91	2.10	2.32	2.55	2.80	3.09	3.40	3.74	4.12	4.53	4.99	5.49	6.04	6.65	7.32	8.06	8.87	9.76	
	1.09	1.20	1.32	1.45	1.60	1.76	1.93	2.13	2.34	2.58	2.84	3.12	3.44	3.79	4.17	4.59	5.05	5.56	6.12	6.73	7.41	8.16	8.98	9.88	