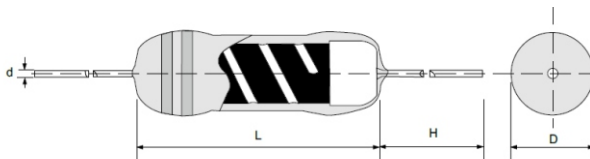


**INTRODUCTION**

CRS series is applied in high-surge applications such as fuel ignition systems, power charging/discharging circuit, etc. to absorb harmful surge energy, that might cause circuit damage.

**FEATURES**

- Operating Temperature : -55°C to +200°C
- High Voltage / High Current / Surge
- Tolerance : ±5%, ±10%, ±20%



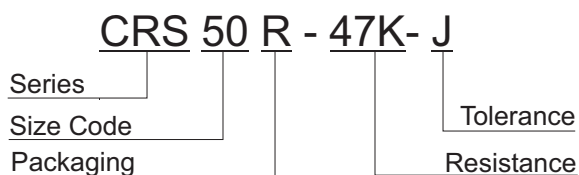
**POWER RATING & DIMENSIONS (mm)**

Code	Rated Wattage	Max. Working Voltage	Max. Overload Voltage	Dimensions				Resistance Range (Ω)	TCP (ppm/°C)	
				L ± 1.0	D ± .5	H	d ± .05			
CRS25	0.25W	500V	700V	6.50	2.30	26	0.55	1~33M	350	
CRS50	0.50W	1000V	1500V	9.50	3.40	26	0.55	1~68M		
CRS100	1W	1500V	2500V	12.00	4.00	26	0.75	1~100M		
CRS200	2W	2000V	3000V	16.00	6.10	26	0.75	1~100M		
CRS300	3W	2500V	4000V	17.50	6.10	26	0.75	1~100M		
CRS500	5W	3000V	5000V	24.00	8.00	26	0.75	1~100M		
CRS700 *	7W	custom design and on request								
CRS1000 *	10W									

\* Remark: CRS700 and CRS1000 are custom design and on request.

1. Resistance Range for standard resistance, below or over this resistance range on request.
2. Above resistance range is based on ±5% tolerance. Other tolerance is available on request.

**PART NUMBER EXAMPLE**



**TOLERANCE**

±%	5	10	20
Code	J	K	M

**RESISTANCE**

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

**PACKAGING**

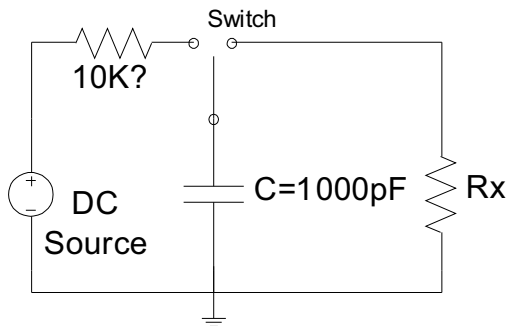
Packaging Code	R	A	B	C
Description	Tape & Reel	Taped Box	Loose (Bulk)	Cut & Form
Special Taping Suffix	T52, T73			

**ELECTRICAL CHARACTERISTICS**

ITEMS	Test Method	Specification
Short Time Overload	Rated Voltage x 2.5 or maximum overload volume, whichever is lower, for 5 seconds.	$\Delta R \leq \pm(1.0\% + 0.05\Omega)$
Load Life	Apply rated voltage, 40°C, 90 minutes ON, 30 minutes OFF, for 1000 hours	$\Delta R \leq \pm(5\% + 0.05\Omega)$
Insulation Resistance	JIS-C5202 5.6 In V-Block >10,000MΩ	
Load Life in Humidity	40 ± 2°C, 90% ~ 95% RH, 1000hrs, 90 minutes ON, 30 minutes OFF	$\Delta R \leq \pm(5\% + 0.05\Omega)$
Soldering Heat Resistance	260°C ± 5°C, 10s ± 1s or 350°C ± 10°C, 5s ± 0.5s	$\Delta R \leq \pm(1\% + 0.05\Omega)$
Terminal Strength	Direct load for 10 second in the direction off the terminal leads	Tensile : ≥ 2.5Kg

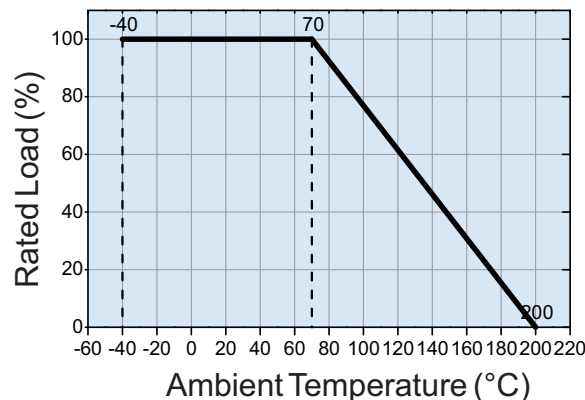
**ELECTRICAL CHARACTERISTICS**

Power	Resistance Range (Ω)	Surge Voltage	Anti-Surge Characteristics	Surge Test Condition
0.25W	50K < R	3KV	(2.5 Sec. ON + 2.5 Sec. OFF) x 10 cycles; $\Delta R \leq \pm(50\% R + 0.1\Omega)$	In accordance with IEC 65 Safety specification
0.5W	10K ≤ R < 100K	3KV		
	100K ≤ R < 360K	5KV		
	360K ≤ R < 1M	7KV		
	1M ≤ R	10KV		

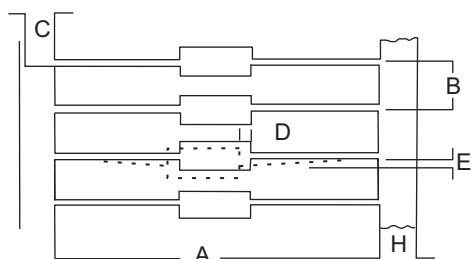


Anti-Surge (CRS) Test Circuit

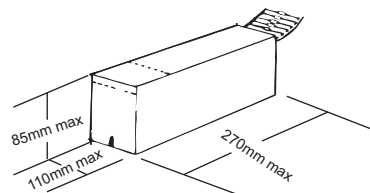
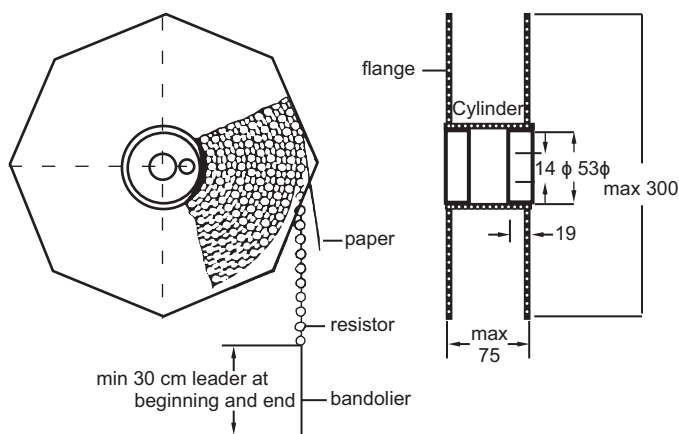
**DERATING CURVE**



## 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					



## 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%)	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
C (0.25%)	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
B (0.1%)	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
A (0.05%)	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