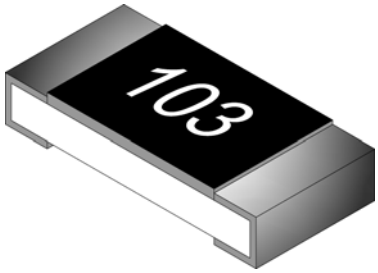
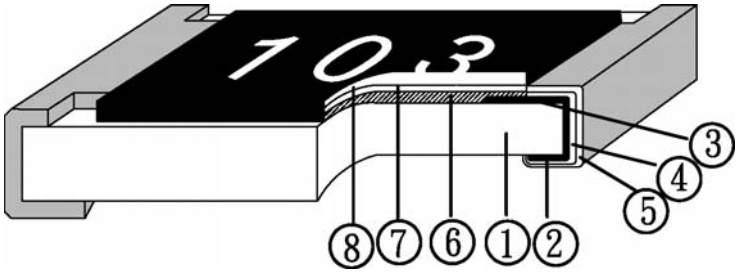
Thick Film Chip Resistor — CR Series



Construction



1	Alumina Substrate	5	External Electrode (Sn)
2	Bottom Electrode (Ag)	6	Resistor Layer (RuO_2)
3	Top Electrode (Ag/Pd)	7	Primary Overcoat (Glass)
4	Barrier Layer (Ni)	8	Secondary Overcoat (Epoxy)

Application

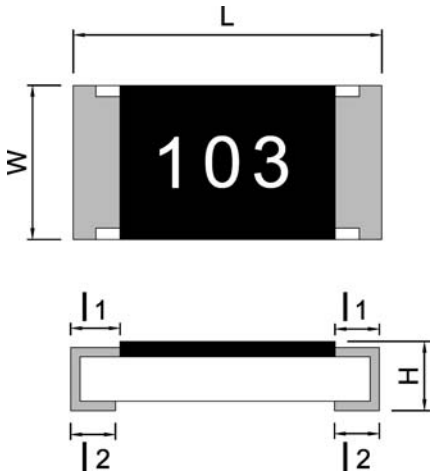
- Entertainment: Stereo, TV tuners, Tape recorder
- Appliance: Air conditioner, Refrigerator
- Computer & relative products: Main board, PDA
- Communication equipment: Cell phone, Fax machine
- Power equipment: Power supply, Illumination equipment
- Measuring instrument: Electric meter, Navigation equipment

Features

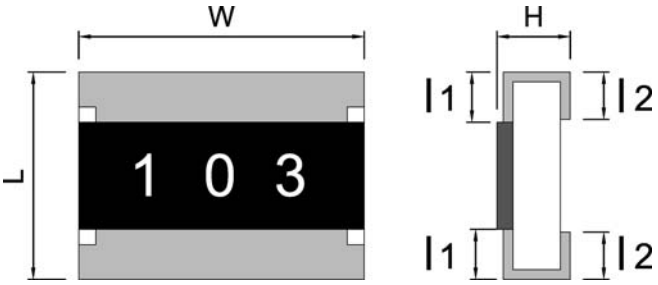
- Small size and light weight
- Reduction of assembly costs and matching with placement machines
- Reliability, high quality and fast delivery

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■ Type Dimension



CR0201 / CR0402 / CR 0603 /CR0805
CR1206 / CR1210 / CR1812 / CR2010
CR2512



CR1218 / CR2030

■ Dimension

Unit: mm

TYPE	L	W	H	I_1	I_2
CR0201	0.60 ± 0.03	0.30 ± 0.03	0.23 ± 0.05	0.15 ± 0.05	0.15 ± 0.05
CR0402	1.00 ± 0.10	0.50 ± 0.05	0.30 ± 0.05	0.15 ± 0.10	0.20 ± 0.10
CR0603	1.60 ± 0.20	0.80 ± 0.15	0.40 ± 0.10	0.30 ± 0.20	0.30 ± 0.10
CR0805	2.00 ± 0.20	1.25 ± 0.15	0.50 ± 0.15	0.30 ± 0.15	0.40 ± 0.15
CR1206	3.05 ± 0.10	1.60 ± 0.20	0.55 ± 0.15	0.40 ± 0.20	0.50 ± 0.20
CR1210	3.05 ± 0.10	2.50 ± 0.20	0.55 ± 0.15	0.50 ± 0.20	0.50 ± 0.20
CR1812	4.50 ± 0.10	3.10 ± 0.20	0.55 ± 0.05	0.55 ± 0.20	0.70 ± 0.20
CR2010	5.00 ± 0.20	2.50 ± 0.20	0.55 ± 0.10	0.60 ± 0.20	0.60 ± 0.20
CR1218	3.10 ± 0.10	4.60 ± 0.10	0.55 ± 0.05	0.40 ± 0.20	0.50 ± 0.20
CR2512	6.30 ± 0.20	3.20 ± 0.20	0.55 ± 0.10	0.60 ± 0.20	0.60 ± 0.20
CR2030	5.10 ± 0.10	7.60 ± 0.10	1.20 ± 0.10	0.80 ± 0.20	0.80 ± 0.20

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■ Standard & High Power Electrical Specifications

Item / Type	Rated Power at 70℃		Max Working Voltage	Max Overload Voltage	T.C.R. (PPM/℃)	Resistance Range		
	Standard	High				B(±0.1%) D(±0.5%)	F(±1%) G(±2%)	J(±5%) K(±10%)
CR0201	0.05 W	-	25V	50V	±200	-	10Ω~1MΩ	10Ω~1MΩ
CR0402	0.063 W	-	50V	100V	0~+400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±300	-	10Ω~990Ω	10Ω~990Ω
					±200	10Ω~1MΩ	1KΩ~10MΩ	1KΩ~10MΩ
CR0603	0.1 W	0.125 W	50V	100V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR0805	0.125 W	0.25 W	150V	300V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR1206	0.25 W	0.5 W	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR1210	0.33 W	0.66 W	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR1812	0.5 W	1 W	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR2010	0.5 W	1 W	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR1218	1 W	-	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR2512	1 W	2 W	200V	400V	±400	-	1Ω~9.9Ω	1Ω~9.9Ω
					±200	-	-	10Ω~10MΩ
					±100	10Ω~1MΩ	10Ω~10MΩ	-
CR2030	3 W	-	200V	400V	±100	-	1Ω~1KΩ	1Ω~1KΩ

- For non-standard parts, please contact our sales dept.
- Operating Temperature Range ：−55℃～＋155℃.

Type	0201	0402	0603	0805	1206	1210	1812	2010	1218	2512	2030
Jumper Resistance Value	50mΩMax										
Jumper Rated Current	0.5A	1A			2A						

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● Low Ohm Chip Resistor

■ Standard Electrical Specifications

Item / Type	Rated Power at 70℃	Rated Voltage	Max Working Voltage	Max Overload Voltage	T.C.R. (PPM/℃)	Resistance Range (mΩ) F(±1%) J±(5%)
CR0402	0.063 W	0.17~0.25V	0.25 V	0.624 V	±800	470~990
CR0603	0.1 W	0.1~0.31V	0.31 V	0.775 V	±800	100~330
					±600	331~510
					±400	511~990
CR0805	0.125 W	0.04~0.35V	0.35 V	0.875 V	±1000	10~50
					±800	51~100
					±600	101~330
					±400	331~990
CR1206	0.25 W	0.05~0.5V	0.5 V	1.25 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR1210	0.33 W	0.06~0.57V	0.57 V	1.425 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR1812	0.5 W	0.07~0.7V	0.7 V	1.75 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR2010	0.5 W	0.07~0.7V	0.7 V	1.75 V	±800	10~50
					±800	51~100
					±600	101~330
					±400	331~990
CR1218	1 W	0.1~0.99V	0.99 V	2.475V	±800	10~50
					±400	51~990
CR2512	1 W	0.1~0.99V	0.99 V	2.475V	±800	10~50
					±700	51~100
					±500	101~330
					±400	331~990

- For non-standard parts, please contact our sales dept.
- Operating Temperature Range ：−55℃～＋155℃.

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■ High Power Electrical Specifications

Item / Type	Rated Power at 70℃	Rated Voltage	Max Working Voltage	Max Overload Voltage	T.C.R. (PPM/℃)	Resistance Range (mΩ) F(±1%) J±(5%)
CR0603	0.125 W	0.11~0.35V	0.352 V	0.879 V	±800	100~330
					±600	331~510
					±400	511~990
CR0805	0.25 W	0.05~0.5V	0.497 V	1.244 V	±1000	10~50
					±800	51~100
					±600	101~330
					±400	331~990
CR1206	0.5 W	0.07~0.7V	0.704 V	1.759 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR1210	0.66 W	0.08~0.81V	0.808 V	2.021 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR1812	1 W	0.1~0.99V	0.995 V	2.487 V	±800	10~50
					±600	51~100
					±500	101~330
					±400	331~990
CR2010	1 W	0.1~0.99V	0.995 V	2.487 V	±800	10~50
					±800	51~100
					±600	101~330
					±400	331~990
CR2512	2 W	0.14~1.41V	1.407 V	3.518 V	±800	10~50
					±700	51~100
					±500	101~330
					±400	331~990

- For non-standard parts, please contact our sales dept.
- Operating Temperature Range ：−55℃～＋155℃.

■ Rated Resistance

Resistance	Code	0603 Code	Resistance	Code	0603 Code	Resistance	Code	0603 Code	Resistance	Code	0603 Code	Resistance	Code	0603 Code
10mΩ	R010	010	65mΩ	R065	065	0.12Ω	R120	R12	0.27Ω	R270	R27	0.56Ω	R560	R56
15mΩ	R015	015	68mΩ	R068	068	0.13Ω	R130	R13	0.30Ω	R300	R30	0.60Ω	R600	R60
20mΩ	R020	020	70mΩ	R070	070	0.15Ω	R150	R15	0.33Ω	R330	R33	0.65Ω	R650	R65
30mΩ	R030	030	75mΩ	R075	075	0.16Ω	R160	R16	0.36Ω	R360	R36	0.68Ω	R680	R68
40mΩ	R040	040	80mΩ	R080	080	0.18Ω	R180	R18	0.40Ω	R400	R40	0.70Ω	R700	R70
50mΩ	R050	050	90mΩ	R090	090	0.20Ω	R200	R20	0.43Ω	R430	R43	0.75Ω	R750	R75
56mΩ	R056	056	0.10Ω	R100	R10	0.22Ω	R220	R22	0.47Ω	R470	R47	0.80Ω	R800	R80
60mΩ	R060	060	0.11Ω	R110	R11	0.25Ω	R250	R25	0.50Ω	R500	R50	0.90Ω	R900	R90

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● High Ohm Chip Resistor

■ Standard & High Power Electrical Specifications

Item / Type	Rated Power at 70℃		Max Working Voltage	Max Overload Voltage	T.C.R. (PPM/℃)	Resistance Range	
	Standard	High Power				F(±1%)	J(±5%)
CR0402	0.063 W	-	50V	100V	±200	10.1 MΩ ~ 54 MΩ	10.1 MΩ ~ 100 MΩ
CR0603	0.1 W	0.125 W	50V	100V			
CR0805	0.125 W	0.25 W	150V	300V			
CR1206	0.25 W	0.5 W	200V	400V			
CR1210	0.33 W	0.66 W	200V	400V			
CR2010	0.5 W	1 W	200V	400V			
CR1218	1 W	-	200V	400V			
CR2512	1 W	2 W	200V	400V			

- For non-standard parts, please contact our sales dept.
- Operating Temperature Range ：−55℃～＋155℃.

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● Trimmable Chip Resistor – TCR series

■ Standard Electrical Specifications

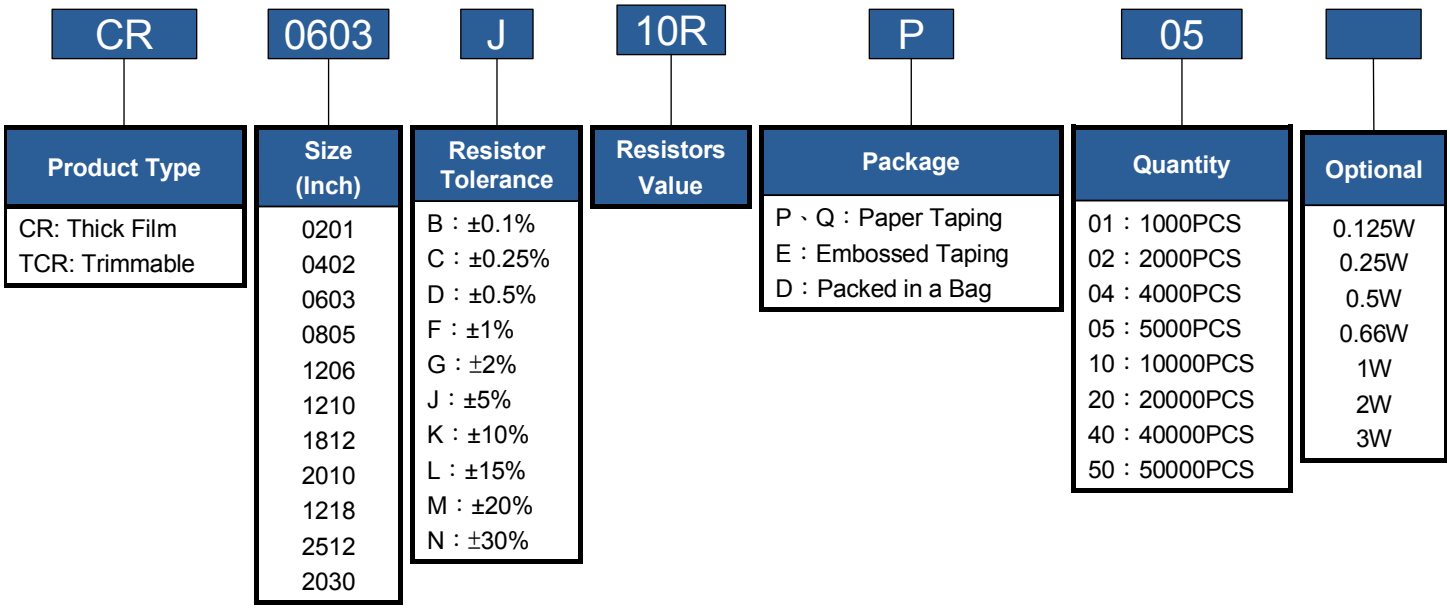
Item / Type	Rated Power at 70℃	Max Working Voltage	Max Overload Voltage	T.C.R. (PPM/℃)	Resistance Tolerance	Resistance Range
TCR0402	0.063 W	50V	100V	±200	±15% ±20% ±30%	10Ω~1MΩ
TCR0603	0.1 W	50V	100V			
TCR0805	0.125 W	150V	300V			
TCR1206	0.25 W	200V	400V			
TCR1210	0.33 W	200V	400V			
TCR1812	0.5 W	200V	400V			
TCR2010	0.5 W	200V	400V			
TCR1218	1 W	200V	400V			
TCR2512	1 W	200V	400V			

- For non-standard parts, please contact our sales dept.
- Operating Temperature Range ：−55℃～＋155℃.

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■ Parts Number Explanation

■ Example:



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