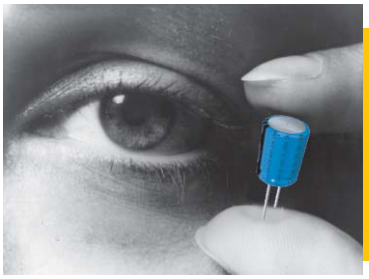


Thick Film Chip Resistor - Surge
Type SCR Series

Δ Features

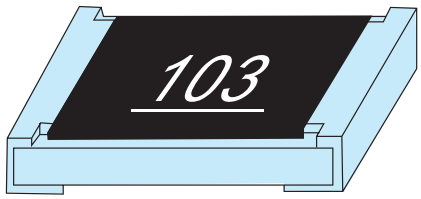
- Suitable for withstanding circuit for surge voltage
- Suitable for lead free soldering.
- Compatible with flow and reflow soldering.

Δ Applications

- Measurement Instrument
- Power Supply
- Automotive Industry
- Medical Equipment
- Telecom Equipment
- Consumer Electronics

Δ Rating

Type	Size	Power Rating at 70 ˚C	Max. RCWV	Max. Overload Voltage	Resistance Tolerance (%)	Temperature Coefficient (TCR; ppm/ ˚C)	Resistance Range Min.	Resistance Range Max.	Standard Resistance Values
	0603	1/10W	50V	100V	± 5%(J) ± 10%(K) ±1 5%(L) ± 20%(M)	± 100	10Ω	1M Ω	E-24
	0805	1/8W	150V	300V					
	1206	1/4W	200V	400V					
	2010	1/2W	200V	400V					
	2512	1W	200V	400V					



Δ How to Order

Part Number

example	SCR	0603	T	J	123	LF
	Type	Size	Packing	Tolerance	Resistance Value	
	SCR	0603	T: Tape	J: ±5%	123 = 12x10^3	LF = Lead Free
		0805		K: ±10%	= 12k Ω	
		1206		L: ±15%		
		2010		M: ±20%		
		2512				

Δ Resistance Marking

E-24 Series

3 digit marking for E24

ex. 473: 47x10^3 = 47KΩ
105: 10x10^5 = 1MΩ
1R5: 15x10^-1 = 1.5Ω
0: 0Ω

4 digit marking for E241: Ω~10mΩ

ex. 1R00: 1Ω
R470 470mΩ
R010 10mΩ

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Thick Film Chip Resistor - Surge
Type SCR Series

Δ Specifications and Test Methods

ITEM	SPECIFICATION	TEST METHOD
DC Resistance	J ± 5% K : ± 10% L :±1 5% M : ± 20%	IEC 60115-1 4.5 / JIS C 5202 5.1 Measure the resistance value.
Short time Overload	Δ R≤± (2% + 0.1 Ω)	IEC 60115-1 4.13 / JIS C 5202 5.5 2.5X Rated voltage or Max. Overload Voltage for 5 sec. measure resistance after 30 minutes
High Voltage Pulses	Δ R≤± (1% + 0.1 Ω)	IEC 801-5 1.2/50μ s 2kV 100 Pulses (Sequence 25 P /min)
Solderability	Over 95% of termination must be covered with solder	IEC 60115-1 4.17 / JIS C 5202 6.5 After immersing flux, dip in the 245 ± 2 ˚C molten solder bath for 3 ± 0.5 sec.
Resistance to Solder Heat	Δ R≤± (1% + 0.1 Ω) No mechanical damage	IEC 60115-1 4.18 / JIS C 5202 6.4 With 260 ± 5˚Cfor 10 ± 1 sec.
Temperature Coefficient of Resistance (TCR)	± 100 ppm/ ˚C	IEC 60115-1 4.8.4.2 / JIS C 5202 5.2 Test temperature : 25 ˚C(T1)→ -55˚C(T2) 25˚C(T1)→ 125˚C(T2) $TCR\ (ppm/^{\circ}C) = \frac{R2-R1}{R1} \times \frac{1}{T2-T1} \times 10^{6}$ T1: 25˚C T2: Test temperature R1: Resistance at reference temperature (T1) R2: Resistance at test temperature (T2)
Load Life Humidity	Δ R≤± (3% + 0.1 Ω)	IEC 60115-1 4.24.2 / JIS C 5202 7.9 Maintain the temperature of the resistor at 40 ± 2 ˚C and 90~95% R.H. with the rated voltage applied.Cycle ON for 1.5 hours and OFF for 0.5 hour for 1000+48/-0 hours. After 1~4 hour, measure the resistance value.
Load Life	Δ R≤± (3% + 0.1 Ω)	IEC 60115-1 4.25.1 / JIS C 5202 7.10 Permanent resistance change after 1000+48/-0 hours (1.5 hours ON , 0.5 hour OFF) at RCWV or Max.Keep the resistor at 70 ± 2˚Cambient
Intermittent Overload	Δ R≤± (5% + 0.1 Ω) No mechanical damage	JIS C 5202 5.8 4.0 x Rated voltage (Max. Overload Voltage) 1 sec ON, 25 sec OFF, test 10,000 cycles
Temperature Cycle	Δ R≤± (1% + 0.1 Ω) No mechanical damage	IEC 60115-1 4.19 / JIS C 5202 7.4 Repeat 5 cycles as follows -55˚C(30 min.) ~ + 25 ˚C(2~3 min.) +125˚C(30 min.) ~ + 25 ˚C(2~3 min.)
Insulation Resistance	Between termination and coating must be over 1000M Ω	IEC 60115-1 4.6.1.1 / JIS C 5202 5.6 Test voltage: 100 ± 15V
Bending Strength	Δ R≤± (1% + 0.1 Ω) No mechanical damage	IEC 60115-1 4.33 Resistance change after bended on the 90mm PCB. Bend: 3mm for 0603 , 0805 2mm for 1206 , 2010 , 2512

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