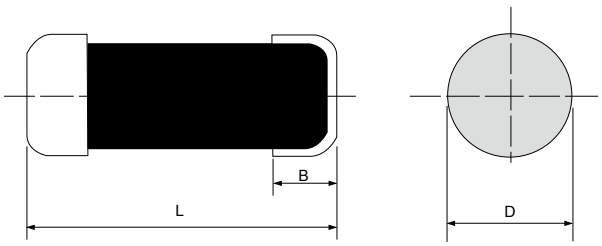
ISC
Ignition Noise Suppression Resistor (Ceramic Film CompositeType)



Specifications Per

• IEC 60115-1

Features

• Dedicatedly designed for high-voltage spark ignition systems.

• Proprietary ceramic composite withstands high-voltage surge impacts with long-term stability. One of few sources in the world capable of manufacturing such type of resistor.

• RoHS and REACH compliant

DIMENSIONS

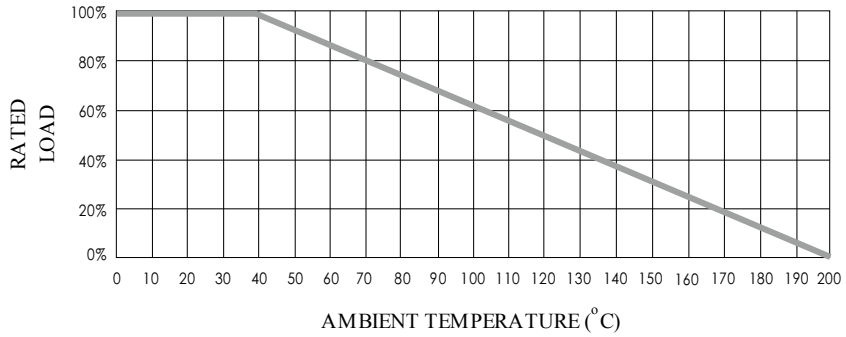
Type	Body Length (L, mm)	Body Diameter (D, mm)	Cap Length (B, mm)	Net Weight Per 1000 pcs
ISC20K	10.5± 1.0	4.0 ± 0.5	2.2 ± 0.3	390 grams
ISC25K	11.0 ± 1.0	3.5 ± 0.5	2.2 ± 0.3	400 grams
ISC50K	18.5 ± 1.0	4.5 ± 0.7	2.2 ± 0.3	700 grams
ISC50K1	22.5 ± 1.5	4.5 ± 0.7	2.2 ± 0.3	1300 grams

GENERAL SPECIFICATIONS

Type	Power Rating (at 40°C)	Maximum Working Voltage	Maximum Surge Load	Minimum Resistance	Maximum Resistance	Resistance Tolerance	Available Resistance Values
ISC20K	0.5W	350V	25KV / 10nS	1KΩ	10KΩ	±5% ~ ±20%	E-6/E-24
ISC25K	0.5W	350V	25KV / 10nS	1KΩ	10KΩ	±5% ~ ±20%	E-6/E-24
ISC50K	2W	400V	50KV / 20nS	1KΩ	10KΩ	±5% ~ ±20%	E-6/E-24
ISC50K1	3W	450V	50KV / 30nS	1KΩ	10KΩ	±5% ~ ±20%	E-6/E-24

Special sizes, values, and specifications not listed available on special order.

POWER DERATING CURVE



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PART NUMBER

Example: ISC20KM5K00TKZBK500

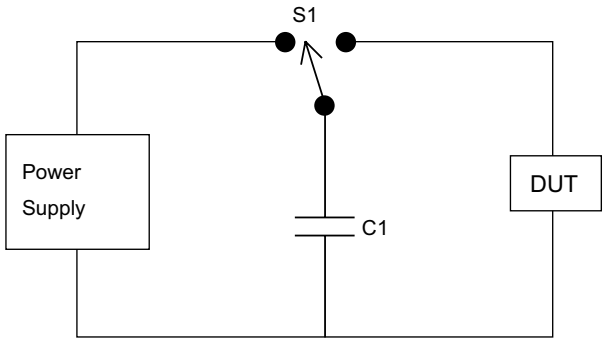
ISC20K	M	5K00	TKZ	BK500
Type	Tolerance	Resistance	TCR	Packaging
	J (5%) K (10%) M (20%)	5KΩ **4-character code** containing - 3 significant digits 1 letter multiplier OHM MULTIPLIER R = 1 K = 10^3 M = 10^6 G = 10^9	**3-character code** TKZ = Default Product Temperature Coefficient. Information of typical product temperature coefficient can be found in the Technical Summary Section of the datasheet.	Bulk 500 pieces **5-character code** BK = Bulk BK + Quantity

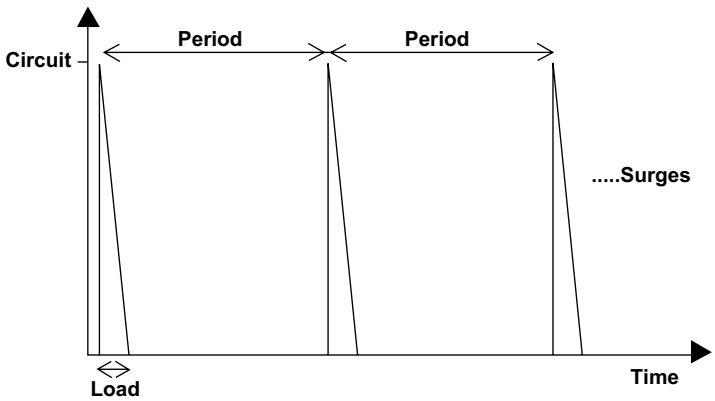
TECHNICAL SUMMARY

Characteristics	Limits	
Dielectric Withstanding Voltage, VAC or DC	ISC20K ISC25K ISC50K ISC50K1	500
Temperature Coefficient, PPM / °C*	±3300 (typical)	
Operating Temperature Range, °C	-55 ~ +200	
Insulation Resistance, MΩ	>10^4	

*** Not applicable to all resistance values. Please check with us regarding the PPM of specific resistance value(s).**

SURGE DIAGRAM





S1: High-voltage insulated switch
C1: High-voltage variable capacitor
Power supply: Variable 0 ~ 50KV DC
DUT: Device Under Test.

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SURGE TEST

Type	Circuit	Load	Period	Surges
ISC20K	25KV	20nS	20mS	200,000
ISC25K	25KV	20nS	20mS	200,000
ISC50K	50KV	30nS	20mS	200,000
ISC50K1	50KV	45nS	20mS	200,000

PERFORMANCE SPECIFICATIONS

Characteristics	Test Conditions	Limits
Short Time Overload	**IEC 60115-1 4.13** 5 seconds 2.5x rated voltage (not over 2X max. working voltage)	±2%
Load Life In Humidity	**IEC 60115-1 4.24** 56 days rated load (not over max. working voltage) at (40±2)°C and (93±3)% relative humidity	±5%
Load Life	**IEC 60115-1 4.25.1** Rated load (not over max. working voltage) 1,000 hours with 1.5 hours ON, 0.5 hours OFF, at (40±2)°C	±5%
Vibration	**IEC 60115-1 4.22** Six hours in each parallel and axial direction with a simple harmonic motion having an amplitude of 0.75mm and 10 to 500 Hz.	±5%
Thermal Endurance	**IEC 60115-1 4.25.3** 1000 hours at 200°C without load	±5%
Thermal Shock	**IEC 60115-1 4.19** -55°C 30minutes, +155°C 30minutes, 500 cycles	±5%
Surge Test	200,000 impacts at period 20ms (3000rpm/1hour) according to the following chart.	±5%