



### features

- Superior to RK73B/RK73H series in surge/pulse withstanding voltage
- Untrimmed, superior surge/pulse and ESD withstanding
- Marking: White three-digit on wine red protective coat
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Qualified: 0603(1J), 0805(2A), 1206(2B), 1210(2E), 2010(2H/W2H), 2512(3A/W3A)

### dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
SG731J (0603)	.063±.008 (1.6±0.2)	.031±.004 (0.8±0.1)	.012±.004 (0.3±0.1)	.012±.004 (0.3±0.1)	.018±.004 (0.45±0.1)
SG732A (0805)	.079±.008 (2.0±0.2)	.049±.004 (1.25±0.1)	.016±.008 (0.4±0.2)	.012 <sup>+0.008</sup> <sub>-.004</sub> (0.3 <sup>+0.2</sup> <sub>-.01</sub> )	.02±.004 (0.5±0.1)
SG732B (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	.024±.004 (0.6±0.1)
SG732E (1210)		.102±.008 (2.6±0.2)	.02±.012 (0.5±0.3)		
SG732H (2010)	.197±.008 (5.0±0.2)	.098±.008 (2.5±0.2)	.02±.012 (0.5±0.3)	.026±.006 (0.65±0.15)	
SG73W2H (2010)	.248±.008 (6.3±0.2)	.122±.008 (3.1±0.2)		.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	
SG733A (2512)				.026±.006 (0.65±0.15)	
SG73W3A (2512)					

New Part #

SG73	2B	T	TD	102	K
Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance
SG73	1J 2A 2B 2E W2H W3A 2H 3A	T: Sn L: SnPb: (NOT available in SG732H/W2H, SG733A/W3A)	TP: 0603, 0805: 7" 2mm pitch punch paper TD: 0603, 0805, 1206, 1210: 7" 4mm pitch punched paper TDD: 0603, 0805, 1206, 1210: 10" paper tape TE: 0805, 1206, 1210, 2010 & 2512: 7" embossed plastic TED: 0805, 1206, 1210, 2010 & 2512: 10" embossed plastic For further information on packaging, please refer to Appendix A	±10%, ±20%: 2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω	K: ±10% M: ±20%

## applications and ratings

Part Designation	Power Rating @ 70°C	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (ppm/°C) Max.	Resistance Range (E-12) (K±10%, M±20%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temp. Range
SG731J (0603)	0.1W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ	50V	100V	-55°C to +155°C
SG732A (0805)	0.125W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ	150V	200V	
SG732B (1206)	.33W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ	200V	400V	
SG732E (1210)	0.5W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ			
SG732H/W2H (2010)	0.75W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ			
SG733A/W3A (2512)	1W	70°C	125°C	±400 ±200	1Ω - 8.2Ω 10Ω - 1MΩ			

Parentheses indicate EIA package size codes.

Rated voltage =  $\sqrt{\text{Power rating} \times \text{resistance value}}$  or max. working voltage, whichever is lower

If any questions should arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature," please give priority to the "Rated Terminal Part Temperature." Prior to use and for more details refer to "Introduction of the derating curves on the terminal part temperature" in the beginning of the catalog.

## environmental applications

### Derating Curve



For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the derating curve.



For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

### One-Pulse Limiting Electric Power



The maximum applicable voltage is equal to the max. overload voltage. Please contact factory for resistance characteristics of continuous applied pulse.

## Performance Characteristics

Parameter	Requirement $\Delta R \pm(\%+0.1\Omega)$		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/-55°C and +25°C/+125°C
Overload (Short time)	±2%	±0.5%	Rated Voltage x 2.5 for 5 seconds
Resistance to Solder Heat	±1%	±0.75%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±0.5%	±0.3%	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±3%	±0.75%	40°C ± 2°C, 90%~95%RH, 1000 hours; 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±3%	±0.75%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.3%	+155°C, 1000 hours

Additional environmental applications can also be found at [www.koaspeer.com](http://www.koaspeer.com)

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

11/16/16

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## KOA Speer:

[SG732ATTD101M](#) [SG732ATTD201M](#) [SG732HLTE271K](#) [SG732HTTED360K](#) [SG733ALTE100K](#) [SG733ALTE102K](#)  
[SG733ALTE200K](#) [SG733ALTE820K](#) [SG733ATTE100K](#) [SG733ATTE200K](#) [SG733ATTE820K](#) [SG733ATTE2R7K](#)  
[SG732ATTD100K](#) [SG732ATTD102K](#) [SG732ATTD270K](#) [SG732ATTD472K](#) [SG732BTDD100K](#) [SG732BTDD101K](#)  
[SG732BTDD102K](#) [SG732BTDD151K](#) [SG732BTDD180K](#) [SG732BTDD1R0K](#) [SG732BTDD270K](#) [SG732BTDD391K](#)  
[SG732BTDD470K](#) [SG732BTDD680K](#) [SG732BTDD820K](#) [SG732HTTE100K](#) [SG732HTTE101K](#) [SG732HTTE103K](#)  
[SG732HTTE150K](#) [SG732HTTE180K](#) [SG732HTTE181K](#) [SG732HTTE220K](#) [SG732HTTE221K](#) [SG732HTTE271K](#)  
[SG732HTTE331K](#) [SG732HTTE390K](#) [SG732HTTE391K](#) [SG732HTTE474K](#) [SG732HTTE680K](#) [SG732HTTE820K](#)  
[SG733ATTE102K](#) [SG733ATTE104K](#) [SG733ATTE121K](#) [SG733ATTE150K](#) [SG733ATTE152K](#) [SG733ATTE153K](#)  
[SG733ATTE180K](#) [SG733ATTE181K](#) [SG733ATTE221K](#) [SG733ATTE330K](#) [SG733ATTE470K](#) [SG733ATTE471K](#)  
[SG733ATTE4R7K](#) [SG733ATTE680K](#) [SG733ATTE101K](#) [SG733ATTE151K](#) [SG733ATTE331K](#) [SG732BTDD2R0M](#)  
[SG73P2BTDD2R4J](#) [SG73S2BTDD471J](#) [SG73P2BTDD1000F](#) [SG732ATTD151K](#) [SG73P2ATTD75R0F](#)  
[SG73P2ETTD106J](#) [SG73P2BTDD1202F](#) [SG73P2BTDD5101F](#) [SG73P2BTDD8201F](#) [SG73P2ETTD1001F](#)  
[SG733ATTE1R8K](#) [SG732ETTD101K](#) [SG73S2BTDD10R0F](#) [SG73S2BTDD36R5F](#) [SG732HTTE470K](#)  
[SG733ATTE8R2K](#) [SG733ATTE390K](#) [SG733ATTE220K](#) [SG733ATTE1R0K](#) [SG732ETTD220K](#) [SG73P2ATTD1000F](#)  
[SG73P2BTDD100J](#) [SG73P2BTDD1R5J](#) [SG73P2BTDD1R0J](#) [SG73P2ATTD560J](#) [SG73P2ATTD470J](#)  
[SG73P2ATTD4R7J](#) [SG73P2ATTD3900F](#) [SG73P2ATTD39R0F](#) [SG73P2ATTD220J](#) [SG73P2BTDD120J](#)  
[SG73P2ATTD101J](#) [SG73P2BTDD150J](#) [SG73P2ATTD100J](#) [SG73P2ATTD2R20F](#) [SG73P2BTDD560J](#)  
[SG732ETTD150K](#) [SG732ETTD102K](#) [SG732BTDD471K](#) [SG732BTDD2R7K](#)