KOA SPEER ELECTRONICS, INC.

WK73-RT

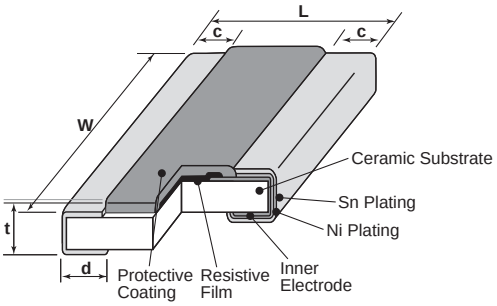
wide terminal type flat chip resistors (anti sulfuration)

EU RoHS COMPLIANT

features

- Anti-sulfuration type, wide-side termination (reverse-geometry)type flat chip resistor
- Excellent anti-sulfuration characteristic due to using high sulfuration-proof inner top electrode material
- Suitable for both flow and reflow solderings
- Products meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Tested

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
2A (0508)	.049±.006 (1.25±0.15)	.079±.006 (2.0±0.15)	.012±.008 (0.3±0.2)	.014±.008 (0.35±0.2)	.022±.004 (0.55±0.1)
2B (0612)	.063±.004/-.008 (1.6±0.1/-0.2)	.126±.004/-.012 (3.2±0.1/-0.3)	.012±.008 (0.3±0.2)	.018±.006 (0.45±0.15)	.024±.004 (0.6±0.1)
2H (1020)	.098±.004/-.008 (2.5±0.1/-0.2)	.197±.004/-.008 (5.0±0.1/-0.2)	.016±.008 (0.4±0.2)	.030±.006 (0.75±0.15)	
3A (1225)	.122±.008/-.004 (3.1±0.2/-0.1)	.248±.006 (6.3±0.15)	.018±.008 (0.45±0.2)	.030±.006 (0.75±0.15)	.024±.004 (0.6±0.1)

ordering information

WK73R	2B	R	T	TD	10R0	F
Type	**Size**	**Characteristic**	**Termination Material**	**Packaging**	**Nominal Resistance***	**Resistance Tolerance**
WK73S WK73R	2A: 0.75W, 1W 2B: 0.75W, 1W 2H: 1W 3A: 1.5W, 2W	R: Anti-Sulfur	T: Sn	TD: 4mm pitch punched paper TE: 4mm pitch embossed plastic For further information on packaging, please refer to Appendix A	±1%: 4 digits ±5%: 3 digits	F: ±1% J: ±5%

* Resistance value, 3 digits: 1~9.1Ω, 1R0~9R1
Resistance value, 4 digits: 1~9.76Ω, 1R00~9R76

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applications and ratings

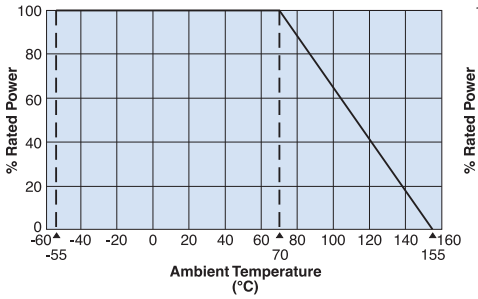
Part Designation	Power Rating	Rated Ambient Temperature	Rated Terminal Part Temperature	T.C.R. (X 10^{-6}/K)	Resistance Range (Ω) F±1% E-24 • E-96	Resistance Range (Ω) J±5% E-24	Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range
WK73S2A (0508)	1.0W[1]	70°C	125°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C
WK73R2A (0508)	0.75W[1]	70°C	125°C	±100	20.5k ~ 1M	22k ~ 1M			
	1.0W[1]	70°C	125°C	±100	10 ~ 20k	10 ~ 20k			
WK73S2B (0612)	0.75W	70°C	125°C	±100	1 ~ 9.76	1 ~ 9.1			
	1.0W[1]	70°C	115°C	±100	1 ~ 9.76	1 ~ 9.1			
				±150	0.3 ~ 0.976	0.3 ~ 0.91			
WK73R2B (0612)	0.75W	70°C		±100	10 ~ 9.76k	10 ~ 9.1k			
				±200	10k ~ 1M	10k ~ 1M			
	1.0W[1]	70°C	115°C	±100	10 ~ 9.76k	10 ~ 9.1k			
WK73S2H (1020)	1.0W	70°C	125°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	
				±150	0.2 ~ 0.976	0.2 ~ 0.91			
WK73R2H (1020)	1.0W	70°C	125°C	±100	10 ~ 430k	10 ~ 430k			
				±200	432k - 1M	470k - 1M			
WK73S3A (1225)	1.5W	70°C	125°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	
	2.0W[1]	70°C	115°C	±100	1 ~ 9.76	1 ~ 9.1			
WK73R3A (1225)	1.5W	70°C	125°C	±100	10 ~ 330k	10 ~ 330k			
				±200	332k - 1M	360k - 1M			
	2.0W[1]	70°C	115°C	±100	10 ~ 330k	10 ~ 330k			
				±200	332k - 1M	360k - 1M			

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

[1] When using Power Rating, please use the derating curves based on the terminal part temperature on the right side of the graph located on the previous page.

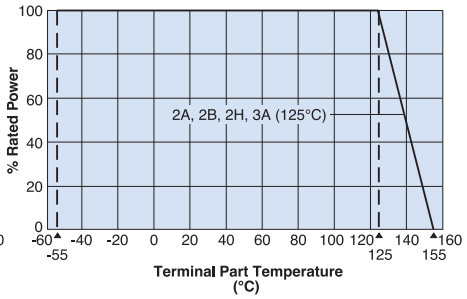
If any questions should arise whether to use the “Rated Ambient Temperature” or the “Rated Terminal Part Temperature”, please give priority to the “Rated Terminal Part Temperature.” Prior to use and for more details refer to the “Introduction of the derating curves based on the terminal part temperature”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

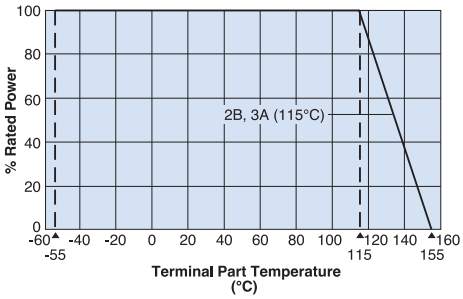
Derating Curve



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

WK73S/R2B (1W), WK73S/R3A (2W)





For resistors operated terminal 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.

If you want to use at rated power[1], use derating curves based on the terminal part temperature above.

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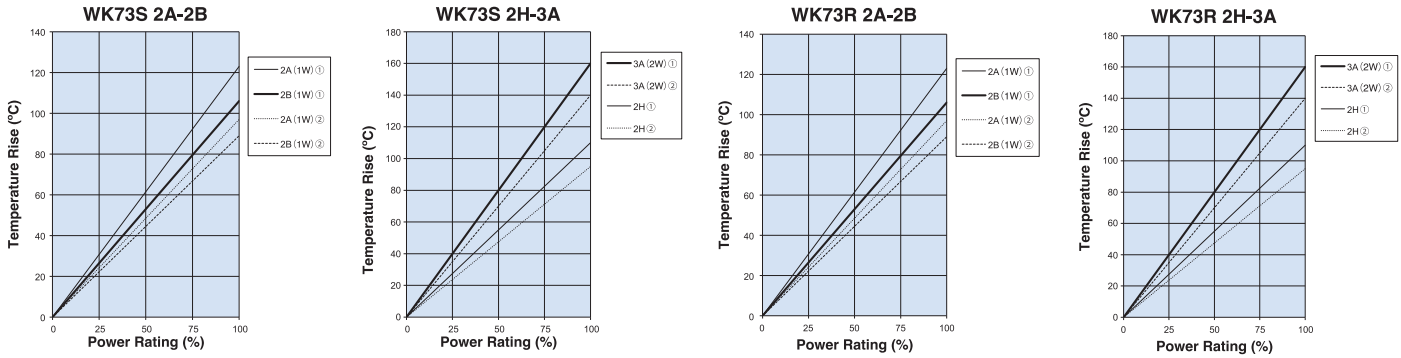
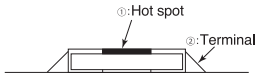
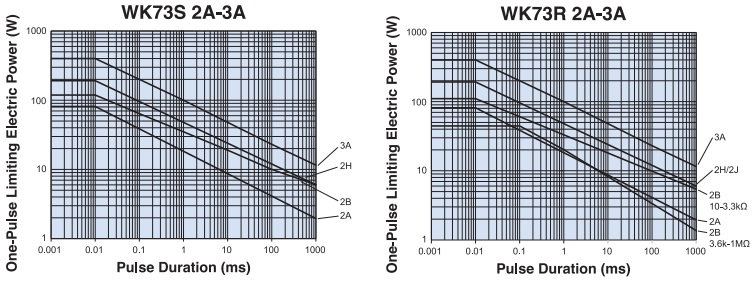
Temperature Rise



Measurement condition
Room temperature: 25°C
PCB: FR-4t = 1.6mm
Cu foil thickness: 35µm



One-Pulse Limiting Electric Power



The maximum applicable voltage is equal to the max. overload voltage.

Please ask us about the resistance characteristic of continuous applied pulse.

The pulse endurance values are not assured values,so be sure to check the products on actual equipment when you use them.

environmental applications

Performance Characteristics

Parameter	Requirement Δ R ±(%+0.005Ω) Limit	Typical	Test Method
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%	±0.2%	WK732B, S2H, R2H: Rated voltage x 2.5 for 5 seconds WK73S/R2A (0.75W, 1W), WK73S/R2B (1W), WK73S/R3A (2W): Rated voltage x 2.0 for 5 seconds
Resistance to Solder Heat	±1%	±0.2%	260°C ± 5°C, 10 seconds ± 1 second
Bending Test	±1%	±0.1%	Holding point 90mm, Bending 1 time, Bending 5mm
Rapid Change of Temperature	±2%	±1%	-55°C (30 minutes) / +125°C (30 minutes), 100 cycles
Moisture Resistance	±2%	±0.2%	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±2%	±0.2%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.2%	+155°C, 1000 hours
Sulfuration Test	±5%	±0.2%	Soaked in industrial oil with 3.5% sulfur concentration 105°C ± 3°C, 500 hours

Please refer to conventional products for characteristic data such as temperature rise.

Additional environmental applications can also be found at www.koaspeer.com

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