KOA SPEER ELECTRONICS, INC.

WK73-RT

wide terminal type flat chip resistors (anti sulfuration)

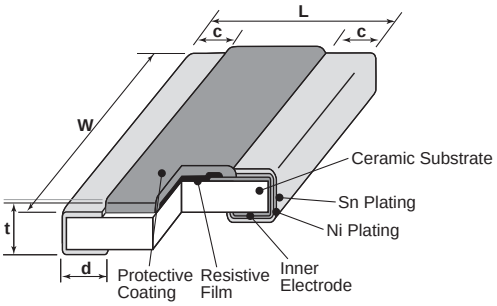
EU RoHS COMPLIANT



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 Qualified

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[1]**	**Characteristic**	**Termination Material**	**Packaging**	**Nominal Resistance***	**Resistance Tolerance**
WK73S WK73R	2A: 0.75W, 1W, 1.25W 2B: 0.75W, 1.5W 2H: 2W, 3W 3A: 3W, 4W	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% D: ±0.5%

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

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

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applications and ratings

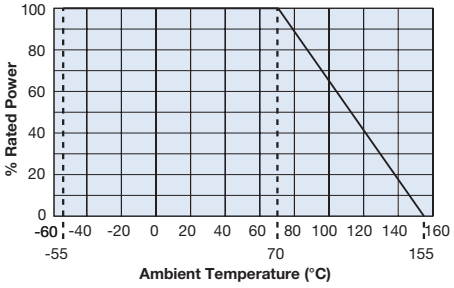
Part Designation	Power Rating[1]	Rated Ambient Temperature	Rated Terminal Part Temperature	T.C.R. (X 10^{-6}/K)	Resistance Range (Ω) D±0.5% E-24/E-96	Resistance Range (Ω) F±1% E-24/E-96	Resistance Range (Ω) J±5% E-24	Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range
WK73S2A (0508)	1.25W	70°C	125°C	±100	—	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C
WK73R2A (0508)	0.75W	70°C	125°C	±100	20.5k ~ 1M	20.5k ~ 1M	22k ~ 1M			
	1.0W			±100	10 ~ 20k	10 ~ 20k	10 ~ 20k			
WK73S2B (0612)	1.5W	70°C	125°C	±100	—	1 ~ 9.76	1 ~ 9.1			
				±150	—	0.3 ~ 0.976	0.3 ~ 0.91			
WK73R2B (0612)	0.75W	70°C	125°C	±100	—	10 ~ 9.76k	10 ~ 9.1k			
				±200	—	10k ~ 1M	10k ~ 1M			
	1.5W			±100	—	10 ~ 9.76k	10 ~ 9.1k			
WK73S2H (1020)	3W	70°C	125°C	±100	—	1 ~ 9.76k	1 ~ 9.1	200V	400V	
				±200	—	0.2 ~ 0.976	0.2 ~ 0.91			
WK73R2H (1020)	2W	70°C	125°C	±100	—	10 ~ 430k	10 ~ 430k			
				±200	—	432k - 1M	470k - 1M			
WK73S3A (1225)	4.0W	70°C	125°C	±100	—	1 ~ 9.76	1 ~ 9.1	200V	400V	
WK73R3A (1225)	3W	70°C	125°C	±100	—	10 ~ 330k	10 ~ 330k			
				±200	—	332k - 1M	360k - 1M			

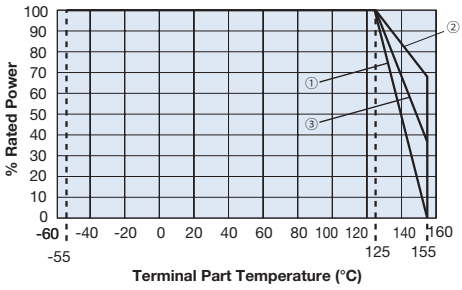
Rated voltage = $\sqrt{\text{Power rating x resistance value}}$ or max. working voltage, whichever is lower.

[1] When using Power Rating, please use the derating curves based on the terminal part temperature below.

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." For more details on derating click here "*Derating Curves – Caution & Terms*."

Derating Curve





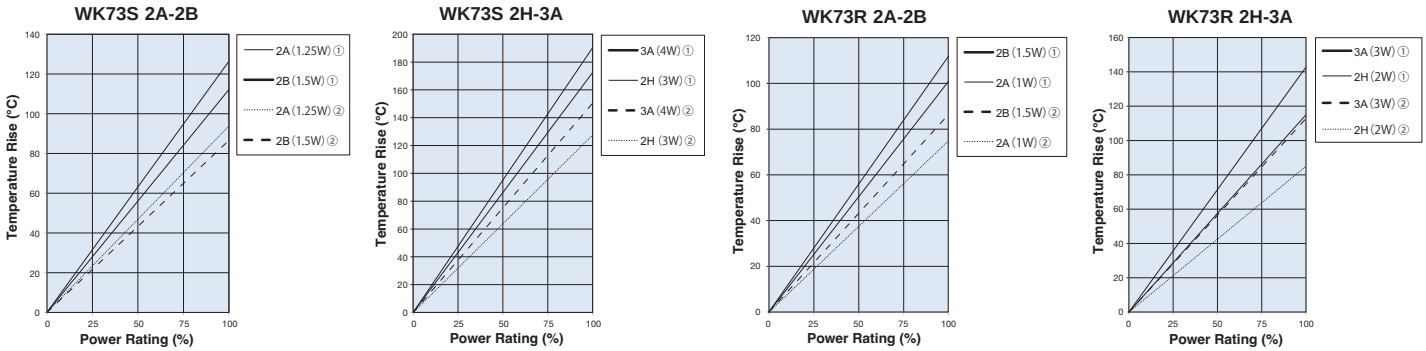
No.	Type	Resistance Range(Ω)	Power rating
①	WK73R2A	20.5k~1M	0.75W
	WK73R2B	10k~1M	0.75W
②	WK73S2A	1~9.76	1.25W
	WK73R2A	10~20k	1W
	WK73S2H	0.2~9.76	3W
	WK73R2H	10~1M	2W
	WK73S3A	1~9.76	4W
	WK73R3A	10~1M	3W
③	WK73S2B	0.3~9.76	1.5W
	WK73R2B	10~9.76k	1.5W

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

When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.
For more details on derating click here "*Derating Curves – Caution & Terms*."

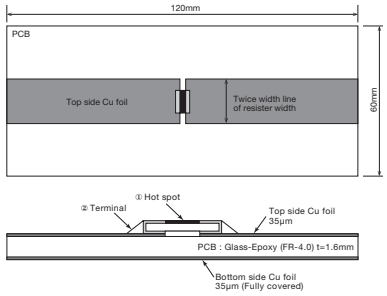
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Temperature Rise



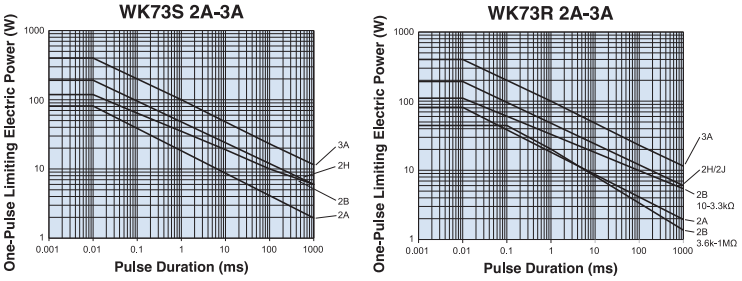
This data is a reference value to show the temperature rise under specific PCB conditions, and does not guarantee or recommend use under the described PCB conditions and load power conditions. If the terminal part temperature when power is loaded to the resistor exceeds the rated terminal part temperature, please reduce the load according to the derating curve based on the terminal part temperature.

Simulated and Measurement Conditions



Temperature rise is simulated and measured under our conditions. So, the values will vary depending on the operating conditions and PCB used.

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 the actual equipment used.

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%	Overload wattage for 5s
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 or Rated Terminal Part Temperature	±2%	±0.2%	70°C ± 2°C or rated terminal part temperature ±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

Type (Resistance Range/Ω)	2A		2B		2H	3A
	1~20k	20.5k~1M	1~10k	10.2k~1M		
Overload Wattage	4W	3W	6W	4.688W	8W	12W

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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