KOA SPEER ELECTRONICS, INC.

WK73R

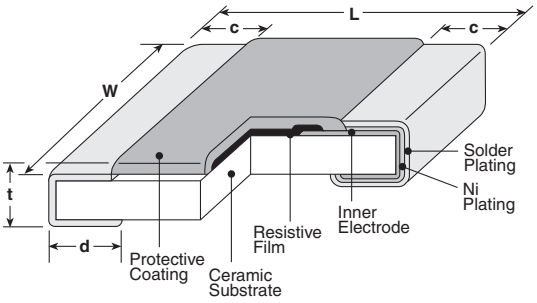
wide terminal type flat chip resistors

EU RoHS COMPLIANT

features

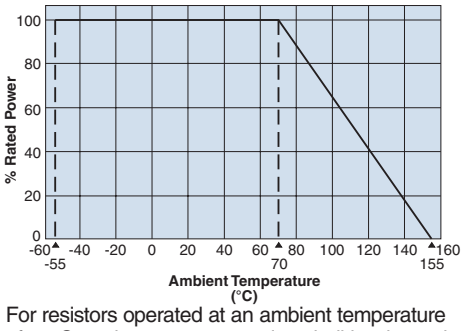
- Wide-side termination (reverse-geometry) type flat chip resistor
- High reliability and performance with T.C.R. ±100 x 10^{-6}/K, resistance tolerance ±0.5%
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Tested

dimensions and construction



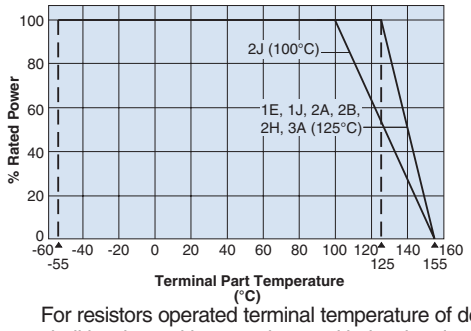
Type (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
1E (0204)	.020±.002 (0.5±0.05)	.039±.002 (1.0±0.05)	.006±.002 (0.15±0.05)	.006±.002 (0.15±0.05)	.014±.002 (0.35±0.05)
1J (0306)	.031±.004 (0.8±0.1)	.063±.004 (1.6±0.1)	.006±.004 (0.15±0.1)	.008±.004 (0.2±0.1)	.018±.004 (0.45±0.1)
2A (0508)	.049±.006 (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±.006 (1.6±0.15)	.126±.008 (3.2±0.2)	.012±.008 (0.3±0.2)	.018±.006 (0.45±0.15)	.024±.004 (0.6±0.1)
2H (1020)	.098±.006 (2.5±0.15)	.197±.006 (5.0±0.15)	.016±.008 (0.4±0.2)	.030±.006 (0.75±0.15)	
2J (1218)	.122±.006 (3.1±0.15)	.181±.006 (4.6±0.15)	.016±.008 (0.4±0.2)		
3A (1225)	.122±.006 (3.1±0.15)	.252±.006 (6.3±0.15)	.018±.008 (0.45±0.2)		

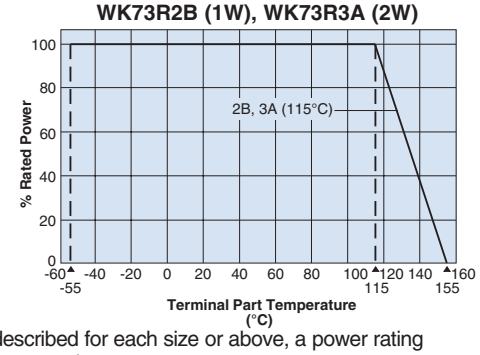
Derating Curve



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.

WK73R2B (1W), WK73R3A (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 above.
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 on the right side graph.

ordering information

WK73R	2J	T	TE	33L0	F
Type	**Size**	**Termination Material**	**Packaging**	**Nominal Resistance**	**Resistance Tolerance**
WK73R	1E: 0.33W 1J: 0.5W 2A: 0.75W, 1W 2B: 0.75W, 1W 2H: 1W 2J: 1W 3A: 1.5W, 2W	T: Sn	TP: 0204: 7" 2mm pitch punched paper TD: 0306, 0508, 0612: 7" 4mm pitch punched paper TE: 1020, 1218, 1225: 7" embossed plastic For further information on packaging, please refer to Appendix A	±1%: 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω ±5%: 2 significant figures + 1 multiplier "R" indicates decimal on values <10Ω All values less than 0.1Ω (100mΩ) are expressed in mΩ with "L" as decimal. Ex: 33mΩ, 1% = 33L0	D: ±0.5% F: ±1% J: ±5%

12/17/19

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applications and ratings

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10^{-6}/K)	Resistance Range (Ω) D±0.5% E-24/E-96	F±1% E-24/E-96	J±5% E-24	Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
WK73R1E	0.33W[1]	70°C	125°C	±100	—	10 -1M	10 - 1M	75V	100V	-55°C to +155°C
WK73R1J	0.5W[1]	70°C	125°C	±100	—	10 - 1M	10 - 1M	150V	200V	
WK73R2A	0.75W[1]	70°C	125°C	±100	—	20.5k - 1M	22k - 1M	200V	400V	
	1.0W[1]	70°C	125°C	±100	—	10 - 20k	10 - 20k			
WK73R2B	0.75W	70°C	125°C	±100	10 - 1M	10 - 1M	10 - 1M	200V	400V	
	1.0W[1]	70°C	115°C	±100	10 - 9.76k	10 - 9.76k	10 - 9.1k			
WK73R2H	1.0W	70°C	125°C	±100	—	10 - 430k	10 - 430k	200V	400V	
				±200	—	432k - 1M	470k - 1M			
WK73R2J	1.0W	70°C	100°C	±100	—	10 - 510k	10 - 510k	200V	400V	
				±200	—	511k - 1M	560k - 1M			
WK73R3A	1.5W	70°C	125°C	±100	—	10 - 330k	10 - 330k	200V	400V	
				±200	—	332k - 1M	360k - 1M			
	2.0W[1]	70°C	115°C	±100	—	10 - 330k	10 - 330k			
				±200	—	332k - 1M	360k - 1M			

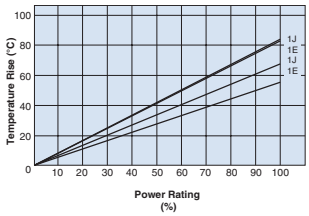
Rated voltage = $\sqrt{\text{Power rating x resistance value}}$ or max. working voltage, whichever is lower

[1] If you want to use at rated power use derating curves based on the terminal part temperature on the right side graph located on previous page. If any questions 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 refer to the "Introduction of the derating curves based on the terminal part temperature" in the beginning of the catalog

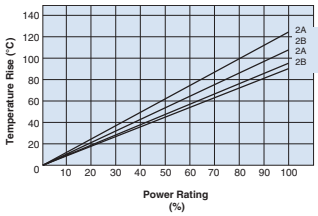
environmental applications

Temperature Rise

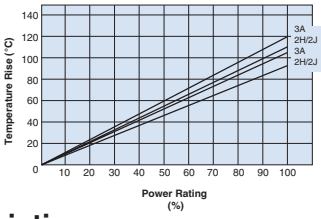
WK73R 1E-1J



WK73R 2A-2B

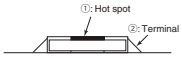


WK73R 2H-3A



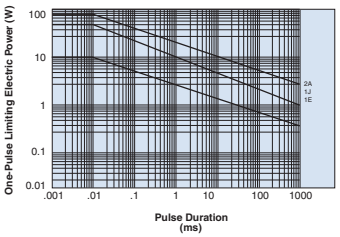
Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

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

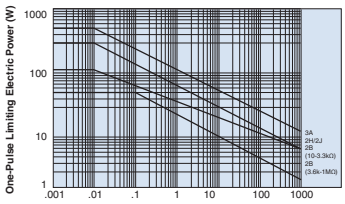


One-Pulse Limiting Electric Power

WK73R 1E-2A



WK73R 2B-3A



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.

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%	WK73R1E (0.33W), WK73R1J (0.5W), WK73R2A (0.75W, 1W)WK73R3A (2W): Rated voltage x2.0 for 5 seconds. WK73R2B, R2H, R2J, R3A: Rated voltage x2.5 for 3 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	±0.5%	±0.3%	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±3%: 1E ±2%: All others	±1%: 1E ±0.2%: All others	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±3%: 1E ±2%: All others	±1%: 1E ±0.2%: All others	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

Additional environmental applications can also be found at 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. 12/10/20

Mouser Electronics

Authorized Distributor

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KOA Speer:

WK73R2JTTE132J WK73R2HTTE1000F WK73R2HTTE20R0F WK73R2HTTE182J WK73R3ATTE220J
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