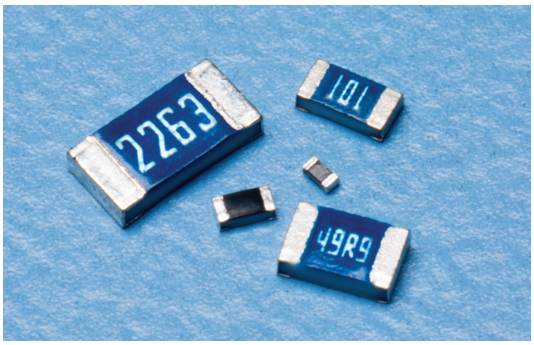
KOA SPEER ELECTRONICS, INC.

RK73G

thick film 0.25%, 0.5%, 1% tolerance, 50ppm/°C chip resistor

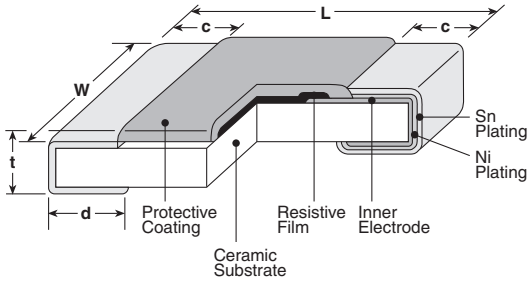
EU RoHS COMPLIANT



features

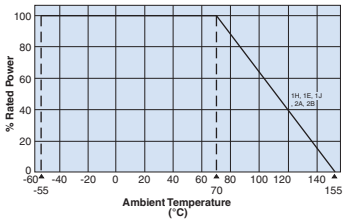
- Metal-glaze thick film resistor for surface mounting
- High precision resistor with T.C.R. of ±50 ppm/°C and tolerance of ±0.25%, ±0.5% or ±1%
- Suitable for both flow and reflow solderings
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Tested

dimensions and construction

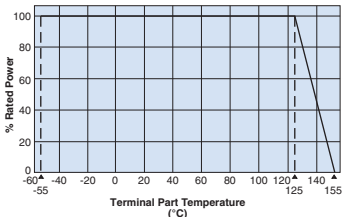


Type (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
1H (0201)	.024±.001 (0.6±0.03)	.012±.001 (0.3±0.03)	.004±.002 (0.1±0.05)	.006±.002 (0.15±0.05)	.009±.001 (0.23±0.03)
1E (0402)	.039 +.004 -.002 (1.0 +0.1 -0.05)	.02±.002 (0.5±0.05)	.008±.004 (0.2±0.1)	.01 +.002 -.004 (0.25 +0.05 -0.1)	.014±.002 (0.35±0.05)
1E AT (0402)			.01±.004 (0.25±0.1)	.012±.006 (0.3±0.15)	
1J (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)
1J AT (0603)			.014±.006 (0.35±0.15)	.02±.008 (0.5±0.2)	
2A (0805)	.079±.008 (2.0±0.2)	.049±.004 (1.25±0.1)	.016±.008 (0.4±0.2)	.012 +.008 -.004 (0.3 +0.2 -0.1)	.02±.004 (0.5±0.1)
2A AT (0805)			.018±.010 (0.45±0.25)	.024±.008 (0.6±0.2)	.022±.004 (0.55±0.1)
2B (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 +.008 -.004 (0.4 +0.2 -0.1)	.024±.004 (0.6±0.1)
2B AT (1206)			.022±.014 (0.55±0.35)	.031±.008 (0.8±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.



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 above derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

ordering information

RK73G	1J		T	TD	1003	F
Type	Size	Characteristic	Termination Material	Packaging	Nominal Resistance	Tolerance
	1H 1E 1J 2A 2B	Nil: Standard A: Heat shock resistance *1	T: Sn (L:Sn/Pb*2)	TCM: 2mm pitch press paper *3 TPL - TP: 2mm pitch punch paper TD: 4mm pitch punch paper TE: 4mm pitch plastic embossed	3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	C: ±0.25% D: ±0.5% F: ±1%

*1 With type A, only T is available as the terminal surface material.
*2 With type 1H, only T is available as the terminal surface material. The terminal surface material lead free is standard.
For further information on packaging, please refer to Appendix A
*3 Standard taping specification of 1H is TCM. Previously available "TC (10,000pcs/Reel)" is not recommended for new designs

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applications and ratings

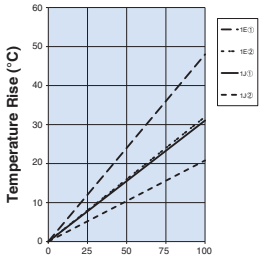
Part Designation*	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (ppm/°C) Max.	Resistance Range			Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage
					New E-24, E-96 (C±0.25%)	E-24, E-96 (D±0.5%)	E-24, E-96 (F±1%)		
RK73G1H (0201)	.05W	70°C	125°C	±50	—	100Ω - 1MΩ**	100Ω - 1MΩ**	25V	50V
RK73G1E (0402)	.10W				100Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ	50V	100V
RK73G1J (0603)	.10W							75V	150V
RK73G2A (0805)	.125W							150V	200V
RK73G2B (1206)	.25W							200V	400V

Operating Temperature Range: -55°C ~ +155°C
* Parentheses indicate EIA package size codes. ** RK73G1H available in E-24 decade values only

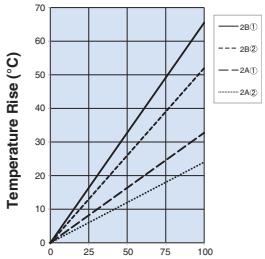
environmental applications

Temperature Rise

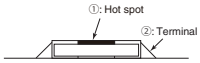
RK73G 1E-1J



RK73G 2A-2B



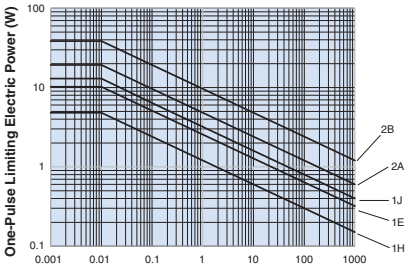
Measurement condition
Room temperature: 25°C
PCB: FR-4t = 1.6mm
Cu foil thickness: 35µm



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.

One-Pulse Limiting Electric Power

RK73G 1H-2B



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 ±(%+0.1Ω) Limit	Typical	Test Method
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	1H: +25°C/+125°C, 1E, 1J, 2A, 2B: +25°C/-55°C and +25°C/+125°C
Overload (Short time)	±2%	±0.6%	Rated Voltage x 2.5 for 5 seconds (1E, 2B: Rated Voltage x 2 for 5 seconds)
Resistance to Solder Heat	±1%	±1%: 1H, ±0.4%: 1E, 1J, 2A, 2B	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±0.5%: Characteristic (Nil) Standard 1%: Characteristic (A) Heat Shock Resistance	±0.3%: Characteristic (Nil) Standard 0.5%: Characteristic (A) Heat Shock Resistance	Characteristic (Nil) Standard -55°C (30 minutes), +125°C (30 minutes), 100 cycles Characteristic (A) Heat Shock Resistance -55°C (30 minutes), +125°C (30 minutes), 1000 cycles
Moisture Resistance	±2%: 1J, 2A, 2B ±3%: 1H, 1E	±0.6%: 1J, 2A, 2B; ±1%: 1H, 1E	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±2%: 1J, 2A, 2B ±3%: 1H, 1E	±0.6%: 1J, 2A, 2B; ±1%: 1H, 1E	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.6%	+155°C, 1000 hours

For Surface Temperature Rise Graph see Environmental Applications. Additional environmental applications can also be found at www.koaspeer.com

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