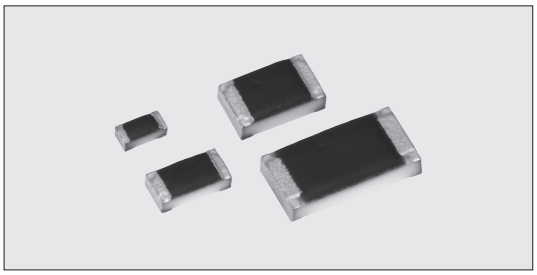
Not Recommended for New Design

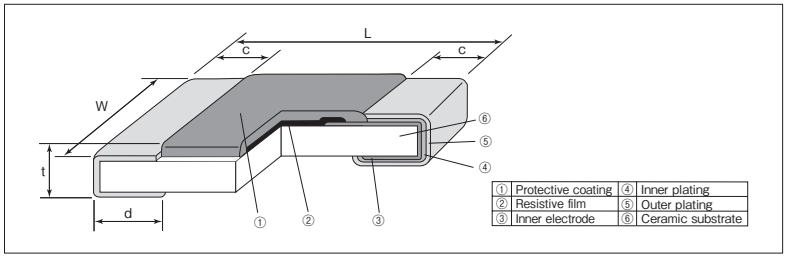
EU RoHS

HRK73 High Temperature Flat Chip Resistors



Coating color : Black

■Construction



■Features

- Maximum operating temperature is 200℃. Suitable for conductive glue mounting (Au plating products).
- Excellent heat resistance and weather resistance are ensured by the use of metal glaze thick film.
- High stability and high reliability with the triple-layer structure of electrode.
- Applicable to various kinds of automatic mounters for taping, etc.
- Products with lead free termination meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 qualified.

■Reference Standards

IEC 60115-8
JIS C 5201-8
EIAJ RC-2134C

■Dimensions

Type (Inch Size Code)	Dimensions (mm)					Weight (g) (1000pcs)
	L	W	c	d	t	
1E (0402)	$1.0^{+0.1}_{-0.05}$	0.5±0.05	0.2±0.15	$0.25^{+0.05}_{-0.1}$	0.35±0.05	0.68
1J (0603)	1.6±0.2	0.8±0.1	0.35±0.15	0.3±0.1	0.45±0.1	2.14
2A (0805)	2.0±0.2	1.25±0.1	0.45±0.25	$0.3^{+0.2}_{-0.1}$	0.5±0.1	4.54
2B (1206)	3.2±0.2	1.6±0.2	0.55±0.35	$0.4^{+0.2}_{-0.1}$	0.6±0.1	9.14

■Type Designation

Example

HRK73B	2B	G	TD	103	J
Product Code	Power Rating	Terminal Surface Material	Taping	Nominal Resistance	Resistance Tolerance
HRK73B HRK73H	1E : 0.1W 1J : 0.1W 2A : 0.125W 2B : 0.25W	G : Au	TP : 2mm pitch punch paper TD : 4mm pitch punch paper BK : Bulk	F : 4 digits J : 3 digits	F : ± 1% J : ± 5%

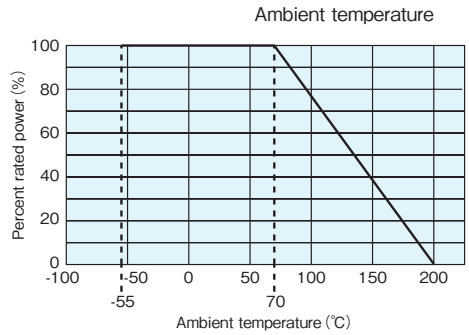
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For further information on taping, please refer to APPENDIX C on the back pages.

■Ratings

Type	Power Rating	Rated Ambient Temp.	T.C.R. (×10⁻⁶/K)	Resistance Range (Ω) HRK73H F : ±1% E24	Resistance Range (Ω) HRK73B J : ±5% E24	Max. Working Voltage	Max. Overload Voltage	Packaging & Q'ty/Reel (pcs) TP	Packaging & Q'ty/Reel (pcs) TD
1E	0.1W	70℃	±200	10~1M	1~10M	75V	100V	10,000	–
1J	0.1W	70℃	±200	10~1M	1~1M	50V	100V	–	5,000
			±400	–	1.1M~10M				
2A	0.125W	70℃	±200	10~1M	1~1M	150V	200V	–	5,000
			±400	–	1.1M~10M				
2B	0.25W	70℃	±200	10~1M	1~1M	200V	400V	–	5,000
			±400	–	1.1M~10M				

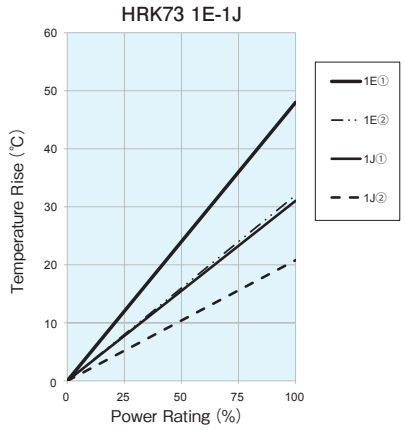
Operating Temperature Range : −55℃ ~ +200℃
Rated voltage = $\sqrt{\text{Power Rating} \times \text{Resistance value}}$ or Max. working voltage, whichever is lower.

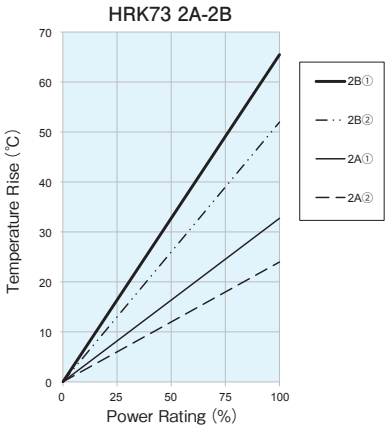
■Derating Curve



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

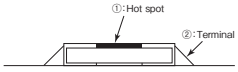
■Temperature Rise



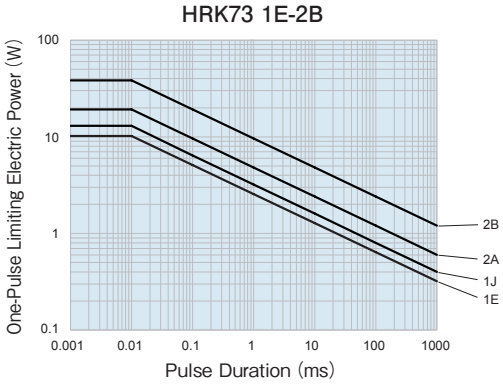


Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

Measurement condition
Room temperature: 25℃
PCB: FR-4 t = 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.

■Performance

Test Items	Performance Requirements ΔR±(%+0.1Ω)		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25℃
Overload (Short time)	2	0.5	Rated voltage×2.5 for 5s(2B : Rated voltage×2 for 5s)
Moisture resistance	2 : 1J, 2A, 2B 3 : 1E	0.75 : 1J, 2A, 2B 1 : 1E	40℃±2℃, 90%~95%RH, 1000h 1.5h ON/0.5h OFF cycle
Endurance at 70℃	2 : 1J, 2A, 2B 3 : 1E	0.75 : 1J, 2A, 2B 1 : 1E	70℃±2℃ 1000h 1.5h ON/0.5h OFF cycle
High temperature exposure	2	0.5	+200℃, 1000h

■Precautions for Use

- The substrate of chip resistors is alumina. Cracks may occur at the connection due to the difference of the coefficient of thermal expansion from a mounting board when heat stress like heat cycle, etc. are repeatedly given to them. Care should be taken to the occurrence of the cracks when the change in ambient temperature or ON/OFF of load is repeated. The occurrence of the crack by heat stress may be influenced by the size of a pad, heat radiation of mounting board etc., so please pay careful attention to designing when a big change in ambient temperature and conditions for use like ON/OFF of load can be assumed.