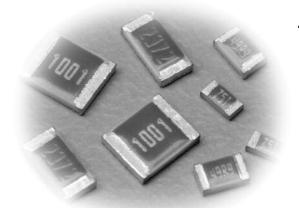




ultra precision 0.05%, 0.1%, 1% tolerance thin film chip resistor

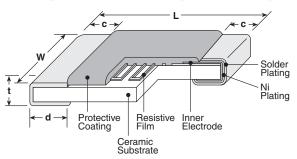


features

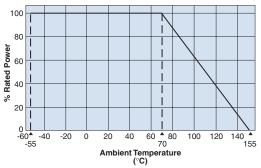


- Nickel chromium thin film resistor element
- Products with lead-free terminations meet EU RoHS requirements

dimensions and construction

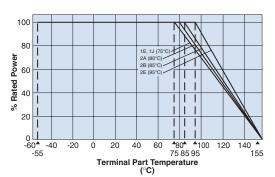


Derating Curve



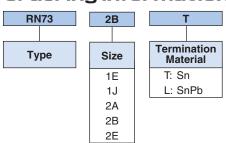
For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

Туре	Dimensions inches (mm)							
(Inch Size Code)	L	W	С	d	t			
RN73 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)	.014±.002 (0.35±0.05)			
RN73 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)			
RN73 2A (0805)	.079±.008 (2.0±0.2)	.049±.008 (1.25±0.2)	.016±.008 (0.4±0.2)	.012 +.008 004 (0.3 +0.2)	.02±.004 (0.5±0.1)			
RN73 2B (1206)	.126±.008	.063±.008 (1.6±0.2)	.02±.012	.016 +.008	.024±.004 (0.6±0.1)			
RN73 2E (1210)	(3.2±0.2)	.098±.008 (2.5±0.2)	(0.5±0.3)	(0.4 +0.2)				



For resistors operated terminal part temperature of described for each size or above, a power rating shall be derated in accordance with derating curve. Please refer to "Introduction of the derating curves based on the terminal part temperature" in the beginning of our catalog before use.

ordering information



I E					
Packaging					
TP: 0402: 7" 2mm pitch punch paper					
TD: 0603, 0805, 1206, 1210: 7" 4mm pitch punched paper					
TDD: 0603, 0805, 1206, 1210: 10" paper tape					
TE: 0805, 1206, 1210: 7" embossed plastic					
TED: 0805, 1206, 1210: 10" embossed plastic					
For further information on packaging,					

1002	В	25
Nominal Resistance	Tolerance	T.C.R. (ppm/°C)
3 significant	A: ±0.05%	05
figures + 1	B: ±0.1%	10
multiplier	C: ±0.25%	25
"R" indicates decimal on	D: ±0.5%	50
value <100Ω	F: ±1.0%	100

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





ultra precision 0.05%, 0.1%, 1% tolerance thin film chip resistor

applications and ratings

Part Designation	@ 7	Rating¹ '0°C High	Ambient Terminal		Terminal (ppm/°C) E-24, E-96, E-192*					Absolute Max. Working	Absolute Max. Overload	
Designation	General	Power	Temp.	Temp. Max.	(A±0.05%)	(B±0.1%)	(C±0.25%)	(D±0.5%)	(F±1.0%)	Voltage	Voltage	
RN731E	.063W	_	70°C	0°C 75°C	±25		100 - 100k	100 - 100k	10 - 120k	10 - 120k	50V	100V
THEFOIL	.003	_	70 0		±50	_	100 - 100k	100 - 100k	10 - 120k	10 - 120k	001	
				±5	1K - 47k	100 - 47k	_	_				
				75°C	±10	1K - 47k	100 - 47k	100 - 47k	100 - 47k	100 - 47k	75V	150V
RN731J	.063W	.1W	70°C		±25	1K - 47k	15 - 360k	15 - 360k	10 - 360k	10 - 360k		
					±50		15 - 360k	15 - 360k	10 - 360k	10Ω - 360k		
					±100	-	_	_	10 - 360k	10 - 360k		
	RN732A .1W .125W			80°C	±5	100 - 100k	100 - 100k	_	_		150V	300V
			V 70°C		±10	100 - 100k						
RN732A		.125W			±25	51 - 100k	15 - 1M	15 - 1M	10 - 1M	10 - 1M		
				±50	_	15 - 1M	15 - 1M	10 - 1M	10 - 1M	_		
					±100			_	10 - 1M	10 - 1M		
			/ 70°C	85°C	±5	100 - 300k	100 - 300k	_			200V	400V
					±10	100 - 300k						
RN732B	RN732B .125W .25W	.25W			±25	51 - 300k	15 - 1M	15 - 1M	10 - 1M	10 - 1M		
				±50	_	15 - 1M	15 - 1M	10 - 1M	10 - 1M			
				±100	_	_	_	10 - 1M	10 - 1M			
		.25W —	70°C	95°C	±10	100 - 510k	200V	400V				
RN732E 25V	25W				±25	51 - 510k	15 - 1M	15 - 1M	10 - 1M	10 - 1M		
	.25				±50	_	15 - 1M	15 - 1M	10 - 1M	10 - 1M		
				±100	_	_	_	10 - 1M	10 - 1M			

^{*} No marking on E-192 values Operating Temperature Range: -55°C to +155°C

¹ Reliability performance is different. Please confirm the performance table. 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 "Introduction of the derating curves on the terminal part temperature" in the beginning of the catalog.

environmental applications

Performance Characteristics

	Requirement Δ R ±(%+0.05Ω)					
Parameter	Limit	Typical	Test Method			
Resistance	Within specified tolerance	_	25°C			
T.C.R.	Within specified T.C.R.	_	+25°C/+125°C: T.C.R. = ±5 (X10°/K) +25°C/-55°C and +25°C/+125°C: all others			
Overload (Short time)	General: ±0.1%	±0.01%	Rated Voltage x 2.5 or Max. overload voltage, whichever is less for 5 sec			
Overload (Ghert line)	High Power: ±0.5%	±0.03%	Trated Voltage X 2.0 of Max. Overload Voltage, Whierlover to loss for a seconds			
Resistance to Solder Heat	±0.1%	±0.04%	260°C ± 5°C, 10 seconds ± 1 second			
Rapid Change of Temperature	±0.25%	±0.03%	-55°C (30 minutes), +125°C (30 minutes), 300 cycles			
Moisture Resistance	General: ±0.5%	±0.06%	4000 - 000 000/ 000/ DIL 1000 haves 1 5 hr ON 0 5 hr OFF avala			
	High Power: ±0.5%	±0.07%	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle			
Endurance at 70°C	General: ±0.25%	±0.02%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle			
	High Power: ±0.5%	±0.1%	70 G ± 2 G, 1000 flours, 1.5 fli ON, 0.5 fli OFF cycle			
High Tomporature Expecure	±0.25%	±0.1%	+125°C, 1000 hours			
High Temperature Exposure	±0.5%	±0.25%	+155°C, 1000 hours			

Precautions for Use

- The properly and electrostatically measured taping materials are used for the components, but attention should be paid to the fact that there is some danger the parts absorb on the top tapes to cause a failure
 in the mounting and the parts are destructed by static electricity (1kV and more: 1J, 2A, 2B, 2E 0.5kV and more: 1E, Human Body Model 100pF 1.5kΩ) to change the resistance in the conditions of an excessive
 dryness or after the parts are given vibration for a long time as they are packaged on the tapes. Similarly, care should be given not to apply the excessive static electricity when mounting on the boards.
- Ionic impurities such as flux etc. that are attached to these products or those mounted onto a PCB, negatively affect their moisture resistance, corrosion resistance, etc. The flux may contain ionic substances like chlorine, acid, etc. while perspiration and saliva include ionic impurities like sodium (Na+), chlorine (CI-) etc. Therefore these kinds of ionic substances may induce electrical corrosion when they invade into the products. Either thorough washing or using RMA solder and flux are necessary since lead free solder contains ionic substances. Washing process is needed, before putting on moisture proof material in order to prevent electrical corrosion.
- Please pay attention that the top of an iron does not direct touch to the components. There is a risk that may cause a change in resistance. Take care that another risk may happen that the protecting coat is carbonized in an instant when touched directly by the top of the iron, also climatic-proof for electric corrosion or insulation of protecting coat may be dropped down. Be sure not to give high temperature on the top of the iron as it will degrade the protecting coat.
- Avoid storing components under direct sun rays, high temperature/humidity. Direct sun rays will cause quality change of taping and difficulty of keeping appropriate peeling strength. 5~35°C/35~75%RH, there is
 no deterioration of solderability for 12 months, but take special care for storing, because condensation, dust, and toxic gas like hydrogen sulfide, sulfurous acid gas, hydrogen chloride, etc. may drop solderability.
- The upper electrodes could be peeled off when a heat-resistant masking tape is attached to the mounted chip resistors and then detached from them. It is confirmed that the adhesiveness gets stronger due to the exposure to heat under mounting. Accordingly, we recommend the use of masking tape be refrained. If the use of heat-resistant masking tape is unavoidable, please make sure that the adhesives on the tape do not directly come in contact with the product.

For Surface Temperature Rise Graph see Environmental Applications. 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.

Mouser Electronics

Authorized Distributor

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KOA Speer:

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RN731JTTD3200B50 RN731JTTD3200C10 RN731JTTD3200C25 RN731JTTD3200C50 RN731JTTD3200D10
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RN731JTTD3200F50 RN731JTTD3201A05 RN731JTTD3201A10 RN731JTTD3201A25 RN731JTTD3201B05
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