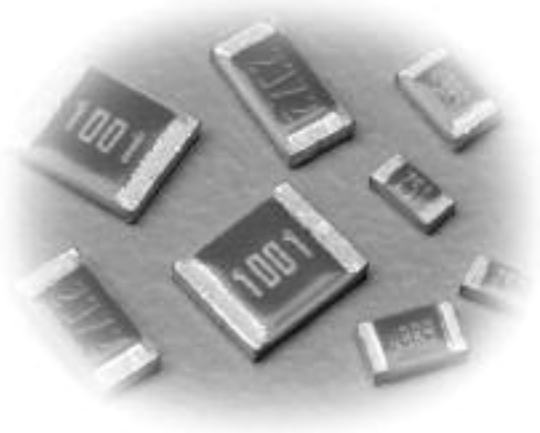
KOA SPEER ELECTRONICS, INC.

RN73

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

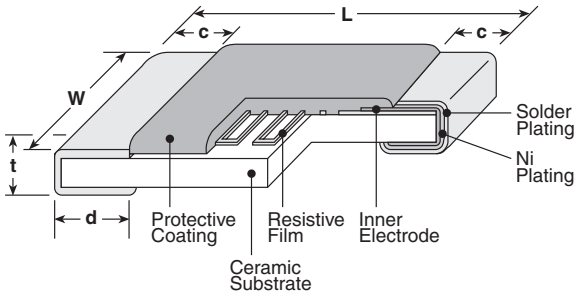
EU RoHS COMPLIANT



features

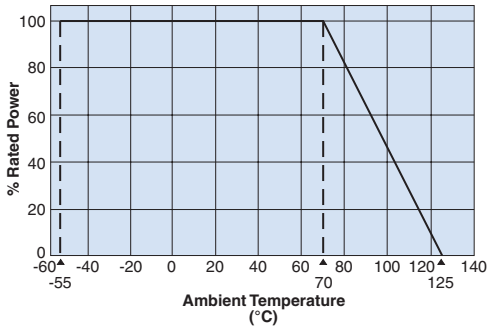
- Nickel chromium thin film resistor element
- Marking: 1E: Black body with distinctive color marking
  1J, 2A, 2B, 2E: green body with distinctive color marking
- Products with lead-free terminations meet EU RoHS requirements

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm) L	W	c	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 -0.1)	.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 -0.1)	.02±.004 (0.5±0.1)
RN73 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)
RN73 2E (1210)		.098±.008 (2.5±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.

ordering information

New Part #

RN73	2B	T	TE	1002	B	25
Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance	T.C.R. (ppm/°C)
	1E 1J 2A 2B 2E	T: Sn (standard offering) L: SnPb	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, please refer to Appendix A	3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	A: ±0.05% B: ±0.1% C: ±0.25% D: ±0.5% F: ±1.0%	05 10 25 50 100

12/17/12

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applications and ratings

Part Designation	Power Rating @ 70°C	T.C.R. (ppm/°C) Max.	Resistance Range E-24, E-96, E-192* (A±0.05%)	(B±0.1%)	(C±0.25%)	(D±0.5%)	(F±1.0%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temp. Range
RN731E	1/16W (.063W)	±25	—	100Ω - 100kΩ	100Ω - 100kΩ	10Ω - 120KΩ	10Ω - 120KΩ	25V	50V	-55°C to +125°C
		±50	—	100Ω - 100kΩ	100Ω - 100kΩ	10Ω - 120KΩ	10Ω - 120KΩ			
RN731J	1/16W (.063W)	±5	1KΩ - 47KΩ	100Ω - 47kΩ	—	—	—	50V	100V	
		±10	1KΩ - 47KΩ	100Ω - 47KΩ	100Ω - 47KΩ	100Ω - 47KΩ	100Ω - 47KΩ			
		±25	1KΩ - 47KΩ	15Ω - 360kΩ	15Ω - 360kΩ	10Ω - 360kΩ	10Ω - 360kΩ			
		±50	—	15Ω - 360kΩ	15Ω - 360kΩ	10Ω - 360kΩ	10Ω - 360kΩ			
		±100	—	—	—	10Ω - 360kΩ	10Ω - 360kΩ			
RN732A	1/10W (.10W)	±5	100Ω - 100KΩ	100Ω - 100kΩ	—	—	—	100V	200V	
		±10	100Ω - 100KΩ	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ			
		±25	51Ω - 100kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			
RN732B	1/8W (.125W)	±5	100Ω - 300kΩ	100Ω - 300kΩ	—	—	—	150V	300V	
		±10	100Ω - 300kΩ	100Ω - 300KΩ	100Ω - 300KΩ	100Ω - 300KΩ	100Ω - 300KΩ			
		±25	51Ω - 300kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			
RN732E	1/4W (.25W)	±10	100Ω - 510KΩ	100Ω - 510KΩ	100Ω - 510KΩ	100Ω - 510KΩ	100Ω - 510KΩ	200V	400V	
		±25	51Ω - 510kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			

* No marking on E-192 values

environmental applications

Performance Characteristics

Parameter	Requirement Δ R ±(%+0.05Ω) 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^{-6}/K) +25°C/-55°C and +25°C/+125°C: another
Overload (Short time)	±0.1%	±0.01%	Rated Voltage x 2.5 or Max. overload volume, whichever is less for 5 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), 5 cycles
Moisture Resistance	±0.5%	±0.06%	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±0.25%	±0.02%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±0.25%	±0.03%	+125°C, 1000 hours

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