

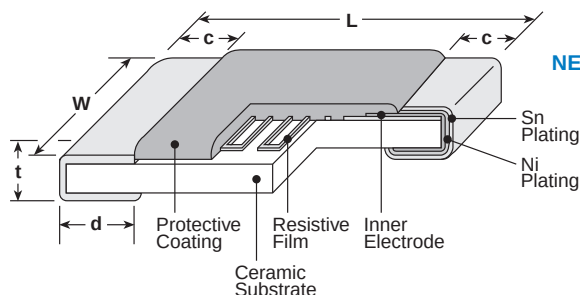
long term precision thin (metal) film flat chip resistors (high reliability, for automotive)



features

- High reliability with ΔR of $\pm 0.1\%$ in the long-term reliability test
- Endurance at 85°C (3,000h): ΔR of $\pm 0.1\%$ in Standard Mode
- Operating temperature range $\sim 155^\circ\text{C}$
- Rated ambient temperature: 85°C
- High precision type $\pm 0.05\%$ is available
- Low current noise
- High reliability and high stability at elevated temperatures
- Improved moisture resistance by glass passivation layer
- Sulfur resistance verified according to ASTM B 809-95
- Products meet EU RoHS requirements
- AEC-Q200 Qualified

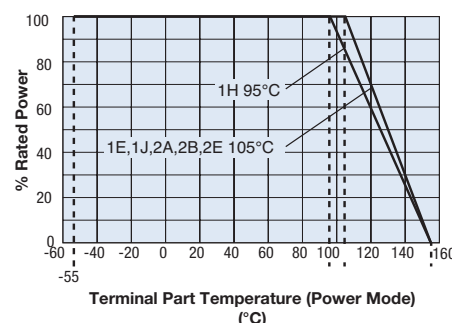
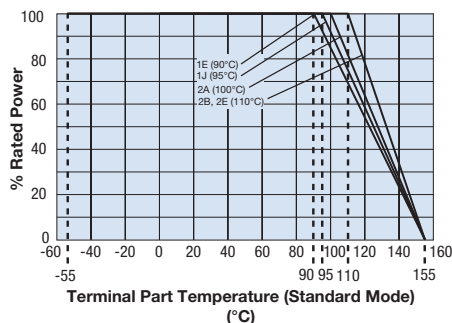
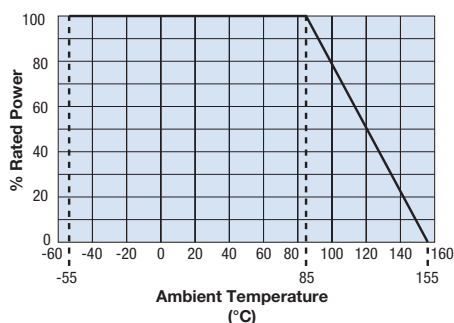
dimensions and construction



NEW

Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
1H (0201)	0.24 $\pm$.002 (0.6 $\pm$ 0.05)	0.12 $\pm$.002 (0.3 $\pm$ 0.05)	.006 $\pm$.002 (0.15 $\pm$ 0.05)	.006 $\pm$.002 (0.15 $\pm$ 0.05)	.010 $\pm$.002 (0.25 $\pm$ 0.05)
1E (0402)	.039 $\pm$.004 (1.0 $\pm$ 0.1) (0.05)	.020 $\pm$.002 (0.5 $\pm$ 0.05)	.010 $\pm$.004 (0.25 $\pm$ 0.1)	.010 $\pm$.002 (0.25 $\pm$ 0.05) (0.1)	.014 $\pm$.002 (0.35 $\pm$ 0.05)
1J (0603)	.063 $\pm$.008 (1.6 $\pm$ 0.2)	.031 $\pm$.004 (0.8 $\pm$ 0.1)	.012 $\pm$.004 (0.3 $\pm$ 0.1)	.012 $\pm$.004 (0.3 $\pm$ 0.1)	.018 $\pm$.004 (0.45 $\pm$ 0.1)
2A (0805)	.079 $\pm$.008 (2.0 $\pm$ 0.2)	.049 $\pm$.008 (1.25 $\pm$ 0.2)	.016 $\pm$.008 (0.4 $\pm$ 0.2)	.012 $\pm$.008 (0.3 $\pm$ 0.1) (0.1)	.02 $\pm$.004 (0.5 $\pm$ 0.1)
2B (1206)	.126 $\pm$.008 (3.2 $\pm$ 0.2)	.063 $\pm$.008 (1.6 $\pm$ 0.2)	.02 $\pm$.012 (0.5 $\pm$ 0.3)	.016 $\pm$.008 (0.4 $\pm$ 0.2) (0.1)	.024 $\pm$.004 (0.6 $\pm$ 0.1)
2E (1210)		.098 $\pm$.008 (2.5 $\pm$ 0.2)			

Derating Curve



For resistors operated at an ambient temperature of 85°C or above, a power rating shall be derated in accordance with the above derating curve.

When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.

For more details on derating click here ["Derating Curves – Caution & Terms."](#)

ordering information

RN73H	2B	T	TD	1002	B	25
Type	Size	Termination Material	Packaging	Nominal Resistance	Resistance Tolerance	T.C.R. (ppm/°C)
	NEW: 1H 1E 1J 2A 2B 2E	T: Sn G: Au (1E, 1J only)	TCM: 0201: 2mm pitch press paper TP: 0402 only: 7" 2mm pitch punched paper TD: 0603, 0805, 1206, 1210: 7" 4mm pitch punched paper TE: 0805, 1206, 1210: 7" embossed plastic For further information on packaging, please refer to Appendix A	3 significant figures + 1 multiplier "R" indicates decimal on value <100 Ω	A: $\pm 0.05\%$ B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1.0\%$	05 10 25 50 100

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applications and ratings

Part Designation	Power Rating @ 85°C	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (ppm/°C) Max.	Resistance Range (Ω) E-24, E-96, E-192*					Maximum Working Voltage	Maximum Overload Voltage
					(A±0.05%)	(B±0.1%)	(C±0.25%)	(D±0.5%)	(F±1.0%)		
NEW> RN73H1H (0201)	0.075W [†]	85°C	95°C	±10 ±25 ±50	— — —	270~10k 270~10k 270~10k	270~10k 270~10k 270~10k	270~10k 270~10k 270~10k	— — —	30V	100V
RN73H1E (0402)	0.063W	85°C	90°C	±5 ±10 ±25 ±50	— — — —	220~10k 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 10~300k	— 47~100k 47~300k 10~300k	50V	100V
				±5 ±10 ±25 ±50	— — — —	220~10k 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	50V	100V
		85°C	105°C	±5 ±10 ±25 ±50	— — — —	220~10k 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	50V	100V
				±5 ±10 ±25 ±50	— — — —	220~10k 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	— 47~100k 47~300k 47~300k	50V	100V
RN73H1J (0603)	0.1W	85°C	95°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~59k 47~59k 15~1M 15~1M —	100~59k 47~360k 15~1M 15~1M —	— 47~360k 10~1M 10~1M —	— 47~360k 10~1M 10~1M —	75V	150V
		85°C	105°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~59k 47~59k 47~1M 47~1M —	100~59k 47~360k 47~1M 47~1M —	— 47~360k 47~1M 47~1M —	— 47~360k 47~1M 47~1M —	75V	150V
		85°C	100°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~100k 47~100k 15~1.5M 15~1.5M —	100~100k 47~1M 15~1.5M 15~1.5M —	— 47~1M 10~1.5M 10~1.5M —	— 47~1M 10~1.5M 10~1.5M —	150V	300V
		85°C	105°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~100k 47~100k 47~1.5M 47~1.5M —	100~100k 47~1M 47~1.5M 47~1.5M —	— 47~1M 47~1.5M 47~1.5M —	— 47~1M 47~1.5M 47~1.5M —	150V	300V
RN73H2A (0805)	0.125W	85°C	110°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~300k 47~300k 15~1M 15~1M —	100~300k 47~1M 15~1M 15~1M —	— 47~1M 10~1M 10~1M —	— 47~1M 10~1M 10~1M —	200V	400V
	0.4W [†]	85°C	105°C	±5 ±10 ±25 ±50 ±100	— — — — —	100~300k 47~300k 47~1M 47~1M —	100~300k 47~1M 47~1M 47~1M —	— 47~1M 47~1M 47~1M —	— 47~1M 47~1M 47~1M —	200V	400V
	0.25W	85°C	110°C	±10 ±25 ±50 ±100	— — — —	100~510k 51~510k 15~1M 15~1M	100~510k 15~1M 15~1M 15~1M	100~510k 10~1M 10~1M 10~1M	100~510k 10~1M 10~1M 10~1M	200V	400V
	0.5W [†]	85°C	105°C	±10 ±25 ±50 ±100	— — — —	100~510k 51~510k 47~1M 47~1M	100~510k 47~1M 47~1M 47~1M	100~510k 47~1M 47~1M 47~1M	100~510k 47~1M 47~1M 47~1M	200V	400V

* No marking on E-192 values. Operating Temperature: -55°C to +155°C. At the maximum power in power mode, terminal temperature must be at or below the rated terminal part temperature.

† See the Performance Characteristics table below for use of the resistor in Power Mode.

For more details on derating click here ["Derating Curves – Caution & Terms."](#)

environmental applications - Performance Characteristics

Parameter	Requirement Δ R ± (%+0.05%) Limit		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/+155°C: others
Overload (Short time)	Standard Mode: ±0.05%	±0.01%	Rated Voltage x 2.5 or Max. overload voltage, whichever is less, for 5 seconds
	Power Mode: ±0.05%	±0.01%	1H, 1E, 1J: Rated voltage x 2.0 or Max overload voltage, whichever is less, for 5 seconds 2A, 2B, 2E: Rated voltage x 1.5 or Max overload voltage, whichever is less, for 5 seconds
Resistance to Solder Heat	±0.05%**	±0.01%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±0.1%**	±0.02%	1H, 1E, 1J, 2A: -55°C (30 minutes) / +155°C (30 minutes), 1000 cycles 2B, 2E: -55°C (30 minutes) / +155°C (30 minutes), 500 cycles
Moisture Resistance	Standard Mode: ±0.1%**	±0.05%	85°C ± 2°C, 85% ± 5%RH, 1000 hours. Rated voltage or Max working voltage, whichever is less: 1.5 hr ON, 0.5 hr OFF cycle
	Power Mode: ±0.1%**	±0.04%	85°C ± 2°C, 85% ± 5%RH, 1000 hours. Rated power x 0.1 or Max working voltage, whichever is less
Endurance at 85°C	Standard Mode: 0.1%	±0.03%	Rated terminal part temp. ± 2°C or Rated ambient temp. 85°C ± 2°C, 3000 hours 1.5 hr ON, 0.5 hr OFF cycle
	Power Mode: 0.1% 1H	±0.03%	Rated terminal part temp. ± 2°C or Rated ambient temp. 85°C ± 2°C, 1000 hours 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 85°C	Power Mode: ±0.2% 1E, 1J, 2A, 2B, 2E	±0.04%	Rated terminal part temp. ± 2°C or Rated ambient temp. 85°C ± 2°C, 3000 hours 1.5 hr ON, 0.5 hr OFF cycle
	Power Mode: ±0.2% 1E, 1J, 2A, 2B, 2E	±0.04%	Rated terminal part temp. ± 2°C or Rated ambient temp. 85°C ± 2°C, 3000 hours 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±0.1%**	±0.05%	+155°C, 1000 hours

** Depends on resistance value, please contact KOA Speer for details.

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.

07/29/26