KOA SPEER ELECTRONICS, INC.

RoHS COMPLIANT

spec sheet

SS-208 R7
AHA 4/15/14

ISO 9001:2008 CERTIFIED
TS-16949 CERTIFIED

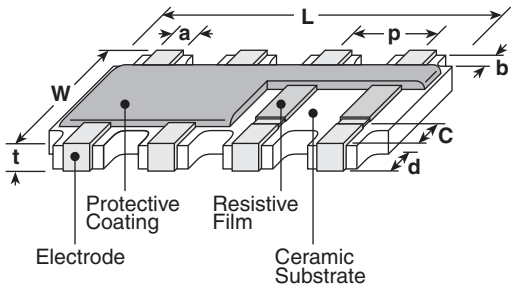
Chip Networks Resistors

Type CN_A

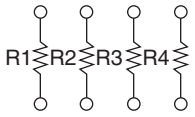
1. Features

- Manufactured to type RK73 standards
- Less board space than individual chips
- Isolated resistor elements
- Convex terminations with scalloped corners
- 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 Qualified: CN1J4A only

2. Dimensions



CN___A Convex/Scalloped Corner



CN___A

Size Code	Dimensions inches *(mm)*							
	L	W	C	d	t	a	b	p (ref.)
1J4A	.126±.006 *(3.2±0.15)*	.063±.006 *(1.6±0.15)*	.012±.008 *(0.3±0.2)*	.010±.004 *(0.25±0.1)*	.020±.004 *(0.5±0.1)*	.020±.006 *(0.5±0.15)*	.012±.004 *(0.3±0.1)*	.031 *(0.8)*
2B4A	0.2±.008 *(5.1±0.2)*	.122±.008 *(3.1±0.2)*	.020±.008 *(0.5±0.2)*	.014±.006 *(0.35±0.15)*	.022±.004 *(0.55±0.1)*	.031±.008 *(0.8±0.2)*	.018±.004 *(0.45±0.1)*	.050 *(1.27)*

3. Type Designation

The type designation shall be the following form:

CN	1J	4	A	T	TD	101	J
Type	Size	Elements	Terminal Convex	Termination Material	Packaging	Nominal Resistance	Tolerance
	1J 2B			T: Sn (Other termination styles maybe available, please contact factory for options)	TE: 7" embossed plastic TD: 7" paper tape TED: 10" embpssed plastic TDD: 10" paper tape	2 significant figures + 1 multiplier for ±2% & ±5% 3 significant figures + 1 multiplier for ±1%	F: ±1% J: ±5%

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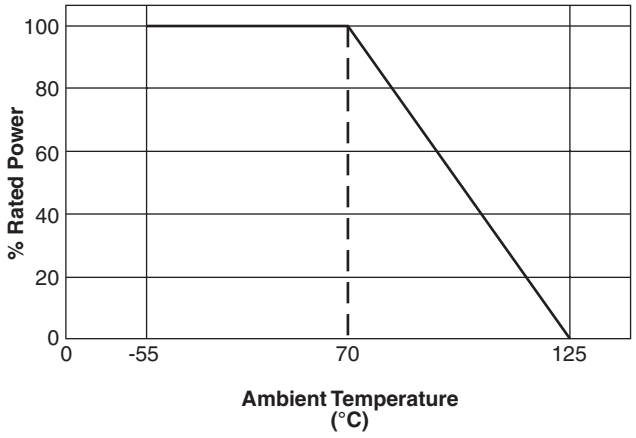
4. Standard Applications

Part Designation	Power Rating @ 70°C (Per Element)	T.C.R. (ppm/°C) Max.	Resistance Range E-96 (F±1%)	Resistance Range E-24 (J±5%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
CN1J4A	1/16W (.063W)	±200:R≥10Ω ±400:R<10Ω	10 - 100kΩ	1Ω - 1MΩ	50V	100V	-55°C to +125°C
CN2B4A	1/8W (.125W)		—	10Ω - 1MΩ	200V	400V	

5. Environmental Applications

For temperature in excess of 70°C, the load shall be derated in accordance with the following figure.

Derating Curve



5.1 Voltage Rating

Resistors shall have a rated direct current (DC) continuous working voltage or approximate sine wave root mean square (R.M.S.) continuous working voltage at commercial line frequency and wave form corresponding the power rating as determined from the following formula:

$$E = \sqrt{P \times R}$$

Where,
E = Rated voltage (V)
P = Power rating (W)
R = Nominal resistance (Ω)

However, if the rated voltage thus obtained surpasses the specified maximum working voltage, it shall be considered the rated voltage.

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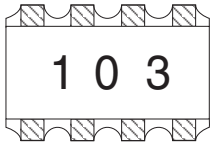
6. Body Color and Marking

CN_A: Body Color: Black
Marking Color: White



103

Nominal resistance at 3-digit numbers

3-digit numbers
The first and the second numbers shall be shown 2 effective numbers, and the third number shall be shown a multiple of 10.

Example: 103 → 10,000 → 10k
472 → 4,700 → 4.7k

7. Performance

Parameter	Requirement Δ R ±% Limit	Typical	Test Method
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/-55°C, +25°C/+125°C
Overload (Short time)	±2.0%	±0.5%	Rated voltage x 2.5 for 5 seconds
Resistance to Solder Heat	±1.0%	±0.2%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±1.0%	±0.1%	-55°C (30 minutes), +125°C (30 minutes), 5 cycles
Moisture Resistance	±5.0%	±1.0%	40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±5.0%	±0.5%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1.0%	±0.2%	+125°C, 100 hours

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8. Taping

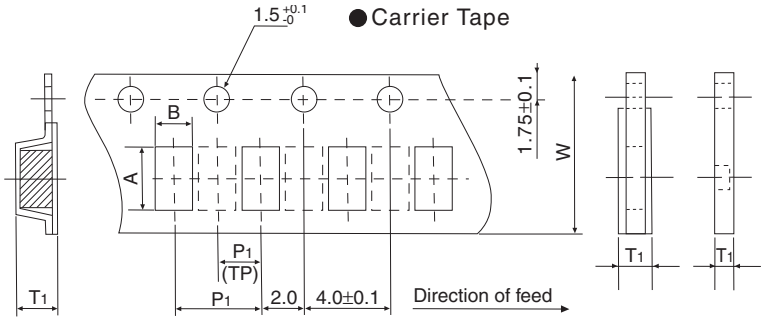
Tape material and quantity/reel

Tape material	Tape width	Quantity/Reel (pcs.)
Paper	.315 in. (8 mm)	5,000

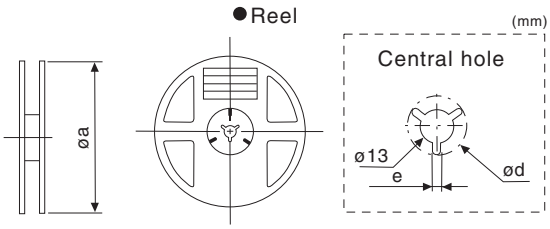
9. Packaging Specifications

9.1 Paper Tape Dimensions

Type		Component Size (mm)			Carrier Tape	Quantity/ Reel (Pieces)	Taping (mm)					Reel Size
		L	W	T			A	B	W	P1	T1	
CN_A	1J4A	3.20	1.6	0.6/0.5	TD	5000	3.5±0.1	2.0±0.1	8.0±0.2	4.0±0.1	0.75+0.2/-0/ 0.6+0.2/-0	178
					TDD	10000	1.9±0.1	1.1±0.1	8.0±0.2	4.0±0.1	0.75+0.2/-0/ 0.6+0.2/-0	255
	2B4	5.08	3.2	0.6	TE	4000	5.4±0.2	3.4±0.2	12.0±0.1	4.0±0.1	1±0.15	178
					TED	10000	5.4±0.2	3.4±0.2	12.0±0.1	4.0±0.1	1±0.15	255



(Notes) Dotted lines are applicable to only "TP" and "TB."



Type	ød (mm)	e (mm)
All	21	2

(Notes) Reel holes, shapes and design are examples

10. Reel Marking

The reel must be marked as follows:
(1) Type designation
(2) Nominal inductance
(3) Quantity
(4) Production lot number
(5) Manufacturer's name
(6) Customer's code number
(7) Order number

Lot Number

53	11	8	001
Production year/month	Date	Factory	Continuous number

41~52	January 2006 ~ December 2006
53~64	January 2007 ~ December 2007

8	KOA

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