KOA SPEER ELECTRONICS, INC.

RoHS COMPLIANT

spec sheet

SS-208 R5
AHA 5/23/07

ISO 9001:2000 CERTIFIED
TS-16949 CERTIFIED

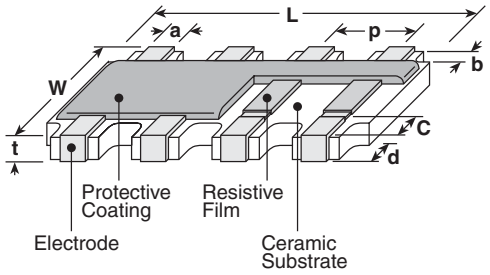
Chip Networks Resistors

Type CN_A

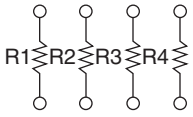
1. Features

- Manufactured to Type RK73 standards
- Zero ohm jumper available
- Convex terminations with scalloped corners
- Isolated resistor elements
- RoHS complaint/lead-free available

2. Dimensions



CN___A Convex/Scalloped Corner



CN___A

Size Code	Dimensions inches (mm)							
	L	W	C	d	t	a (ref.)	b (ref.)	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 Style	Termination Material	Packaging	Nominal Resistance	Tolerance
CN CNZ	1J 2B	4	A: Convex/ scalloped	T: Sn (Other termination styles available, contact factory for options)	TD: 7" paper tape TE: 7" embossed plastic TDD: 10" paper tape TED: 10" embpssed plastic	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

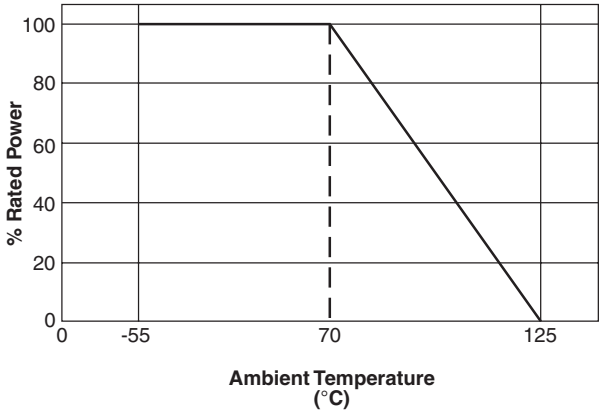
Part Designation	Power Rating @ 70°C (Per Element)	T.C.R. (ppm/°C) Max.	Resistance Range E-96 (F±1%)	Resistance Range E-24 (J±5%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
CN1J4A	1/16W (.063W)	±200:≥10Ω ±400:R<10Ω	10 - 100kΩ	1Ω - 1MΩ	50V	100V	-55°C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

Part Designation	Current Rating @ 70°C (Per Element)	Surge Current Rating (For < 1 Sec.)	Maximum Resistance	Operating Temperature Range
CNZ1J4A	0.5 Amps	2.0 Amps	50mΩ	-55°C to +125°C
CNZ2B4A	1.0 Amps	4.0 Amps		

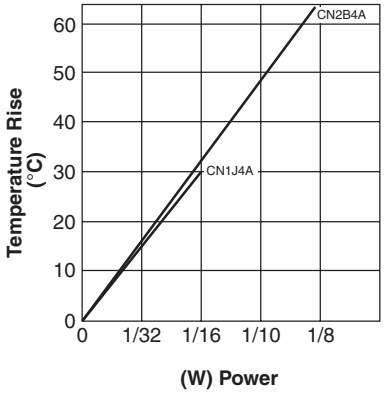
5. Environmental Applications

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

Derating Curve



Surface Temperature Rise



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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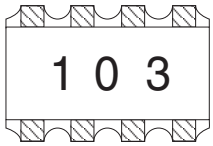
6. Body Color and Marking

CN_A: Body Color: Black
Marking Color: White

CNZ: Convex type has black body with white "000" marking



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

Item	Requirement	Test Method
Temperature coefficient	Within specified limits	JIS C 5202 5.2B -55°C/+125°C
Short-time overload	± (2.0% ±0.1Ω) No visual damage	JIS C 5202 5.5A Rated voltage X 2.5
Resistance to soldering heat	± (1.0% ±0.1Ω)	JIS C 5202 6.4 260 ± 5°C 10 ± 1 sec.
Solderability	More than 75% of the surface of electrode shall be covered with new solder	JIS C 5202 6.5 230 ± 5°C 2 ± 0.5 sec.
Temperature cycling	± (1.0% ±0.1Ω) No mechanical damage	JIS C 5202 7.4 5 cycles of the change in temperature given in the following steps Step 1: -55 ± 3°C/30 min. 2: Normal temp. 10 to 15 min. 3: 125 ± 3°C/30 min. 4: Normal temp. 10 to 15 min.
Heat resistance	± (1.0% ±0.1Ω)	JIS C 5202 7.2 125 ± 2°C 1,000h
Endurance (moisture load)	± (5.0% ±0.1Ω)	JIS C 5202 7.9 40 ± 2°C/90~95%RH rated voltage 1,000 + $^{48}_{0}$ hour
Endurance (rated load)	± (5.0% ±0.1Ω)	JIS C 5202 7.10 70 ± 2°C rated voltage 1,000 + $^{48}_{0}$ hour

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8. Taping

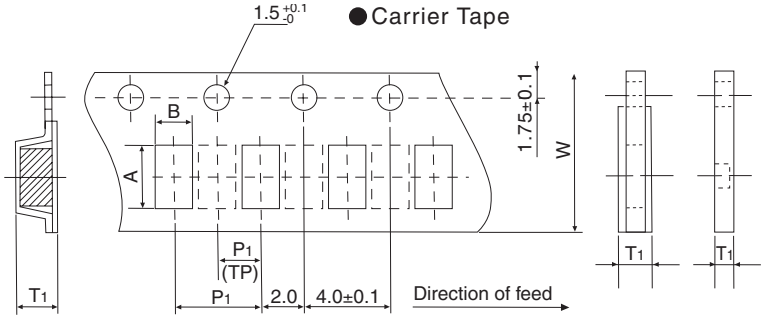
Tape material and quantity/reel

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

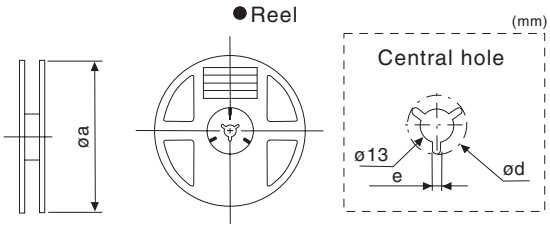
9. Packaging Specifications

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 CNZ	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/	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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