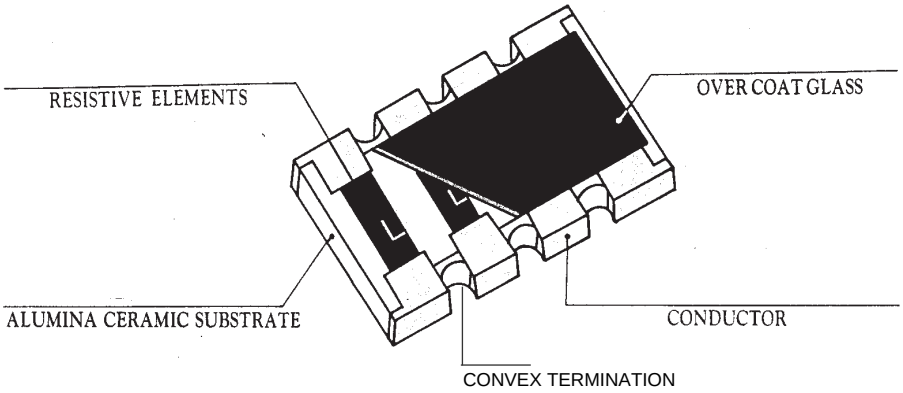
Thick Film Chip Resistor Arrays

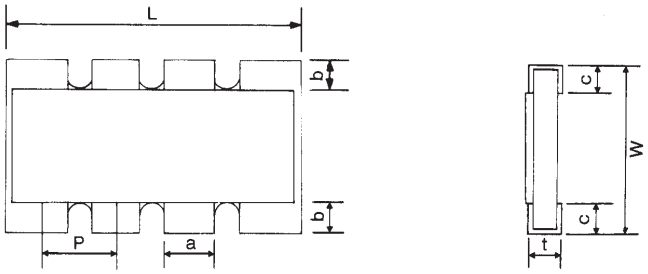
CONSTRUCTION

FEATURES

- High Density
- Automatic Placement
- Convex



DIMENSIONS IN MM



Unit: mm

TYPE	L	W	t	P	a	b	c
CN34	3.2±0.1	1.6±0.15	0.55±0.1	0.8±0.5	0.45±0.1	0.3±0.2	0.3±0.2
CN24	2.0±0.1	1.0±0.1	0.4±0.1	0.5±0.05	0.3±0.1	0.15±0.1	0.25±0.2
CN22	1.0±0.1	1.0±0.1	0.35±0.1	0.65±0.05	0.3±0.1	0.15±0.1	0.25±0.2

RATING

TYPE	Power Rating at 70°C	Max Working Voltage	Max Overload Voltage	Operating Temp. (°C)	Resistance Tolerance	Resistance Range (Ω)	Temp Coefficient ppm/°C
CN34	**1/16W**	50V	100V	-55~+125°C	F±1% J±5%	0Ω~1MΩ	±200ppm/°C
CN24 **CN22**	**1/16W**	50V	100V	-55~+125°C	F±1% J±5%	0Ω~1MΩ	±250ppm/°C

Ordering Information

CN — Chip Resistor Networks/Arrays

34 — Series
22-0402x2 4P2R
24-0402x4 8P4R
34-0603x4 8P4R

J — Resistance Tolerance
J = ±5%
F = 1%

103 — Nominal Resistance
5% = 3 Digit designation is first two digits are significant, 3rd is multiplier (10x)
1% = 4 Digit designation is first three digits are significant, 4th is multiplier (10x)

CT — Packaging

Note: Calchip has completed the Lead-Free transition. All parts shipped will be Lead-Free. The customer designator of "LF" is no longer avaiable. Lead-Free material will continue to have an LF at the end of the Lot Code and a green RoHS symbol on the label.

Thick Film Chip Resistor Arrays

1.0 Number of Element

Depend on its element's number. (2-2 element. 4-4 element)

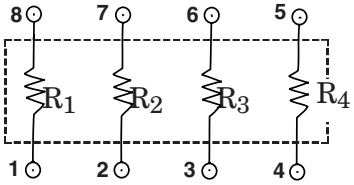
2.0 Resistance Tolerance

F: ±1% J: ±5%

3.0 Nominal Resistance

Example: 103, 10 is effective digit, 3 is a multiple which represents the cube of 10, zero number is three.

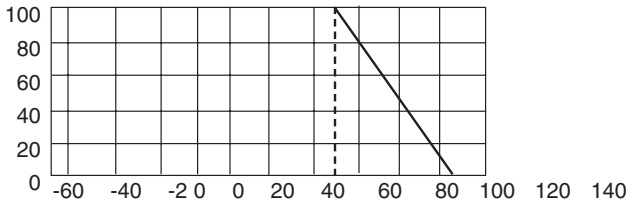
4.0 Schematics



$R_1 = R_2 = R_3 = R_4$

5.0 Power Derating Curve

The resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve in Figure 1.



5.1 Rated Voltage

The value of rated voltage shall be determined from formula (1).

$E = \sqrt{P \times R}$.....(1)

E = Rated Voltage (V)

P = Power Rating (W)

R = Nominal Resistance (Ω)

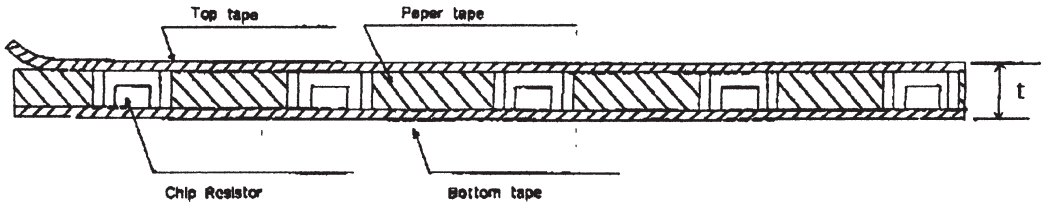
6.0 Electrical / Machine Characteristics and Test Methods

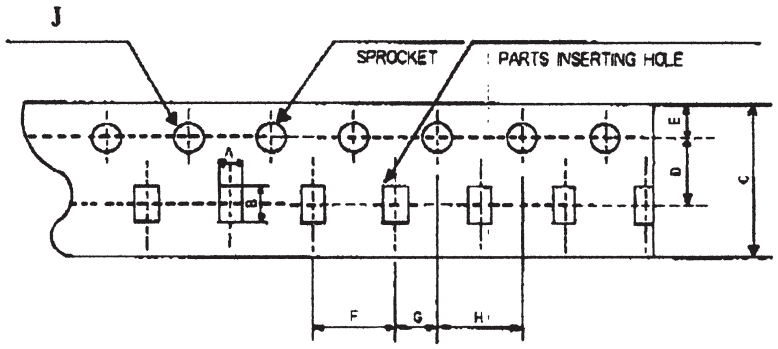
Item	Specifications	Test Methods
Temperature Coefficient	TCR: ±200 ppm	Inspection Temp. Cold: +25°C~-55°C Hot: +25°C~+125°C
Short Time Overload	±(2%+0.05Ω)	1. Apply 2.5 x rated voltage for 5 sec. 2. Wait 30 minutes 3. Measure resistance value
Load Life	±(3%+0.05Ω)	1. Dwell in chamber at 70±2°C for ON: 90 min. at rated voltage; then OFF: 30 min. 2. Perform 1,000 hours cyclically
Load Life in Humidity	±(3%+0.05Ω)	1. Dwell in humidity chamber at 40 ±2°C and 95% RH for ON: 90 min. at rated voltage; then OFF: 30 min. 2. Perform 1.,000 hours cyclically
Temperature Cycling	±(1%+0.05Ω)	1. -55±3°C~125±3°C, make 5 cycles. 2. Released 1 hour in room temp., then measure value.
Effect of Soldering	±(2.5%+0.05Ω) Non-damage by machinery	1. Immersed in molten solder at 270±5°C for 10±.01 sec. 2.Released 1 hour in room temp., then measure value.
Solderability	95% coverage min.	1. Immersed in rosin solution for 5~10 seconds. 2. Re-immersed in solder pot at 230±5°C for 3±0.5 sec
Intermittent Overload	±(5%+0.1Ω)	1. Perform 10,000 voltage cycles as follows: ON (2.5 x rated voltage or current) 1 sec. and OFF 25 sec. 2. Released 30 min. without loading. 3. Measure resistance.
Dielectric Withstanding Voltage	No evidence of mechanical damage	Apply 300VAC for 1 second
Insulation Resistance	10^8 Ω min	Apply 100VDC.

Taping Specification

Carrier Tape

Unit in mm

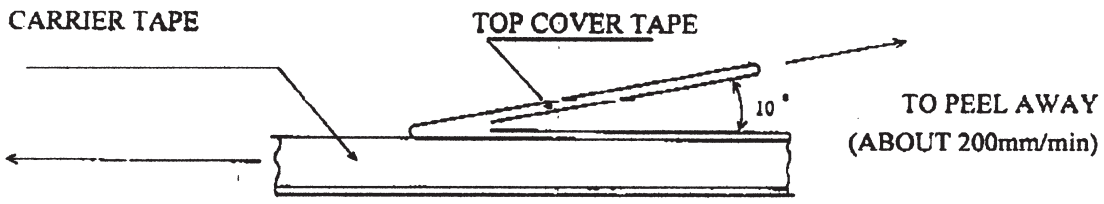




Paper Tape

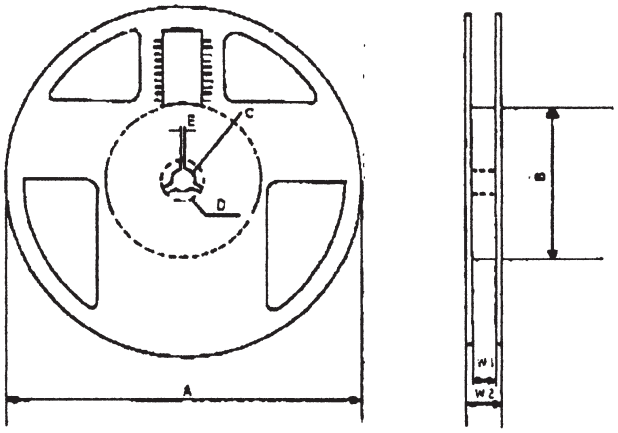
Type		A	B	C	D	E	F	G	H	J	t
CN34	5,000	2.0±0.2	3.6±0.2	8.0±0.1	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5±0.1	1.0
CN24	10,000	2.0±0.15	2.4±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5±0.1/-0	.84±.01

The top fixed tape for each carrier shall have an adhesion peel strength of 10 to 50g, measure methods is shown below to peel away.



TO PEEL AWAY

TAPE REEL



Type	A	B	C	D	E	W1	W2
CN34	ϕ178±2.0	ϕ80±2.0	ϕ13±0.5	ϕ21.0	2.0±0.5	10.0±1.0	12.5±1.0
CN24	ϕ178±2.0	ϕ80±2.0	ϕ13±0.5	ϕ21.0	2.0±0.5	10.0±1.0	12.5±1.0
CN22	ϕ178±2.0	ϕ80±2.0	ϕ13±0.5	ϕ21.0	2.0±0.5	9.0±1.0	11.4±2.0