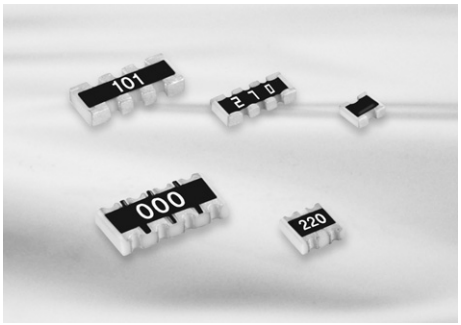
Arrays



Feature

- Reducing SMD surface area (40% reduced).
- Reducing SMD costs (75% reduced).
- Both flow and reflow soldering are applicable.
- Convex & concave type.

The product of lead-free terminal is RoHS compliant.
PhO(lead oxide) is included in the glass of our product which is prescribed on RoHS appendix as an exception.

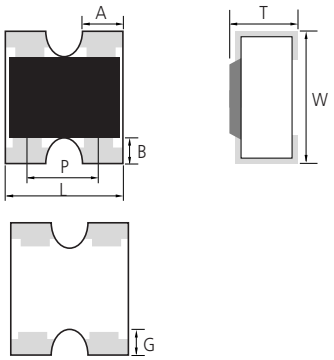
Application

- For semiconductor devices.
- For computers, digital circuits.

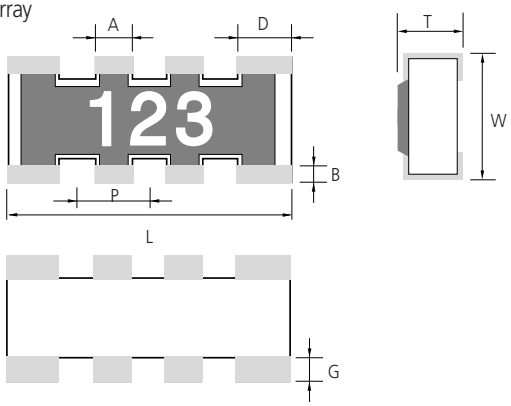
Structure and Dimensions

(1) CONVEX TERMINAL TYPE

• 2 Array



• 4 Array

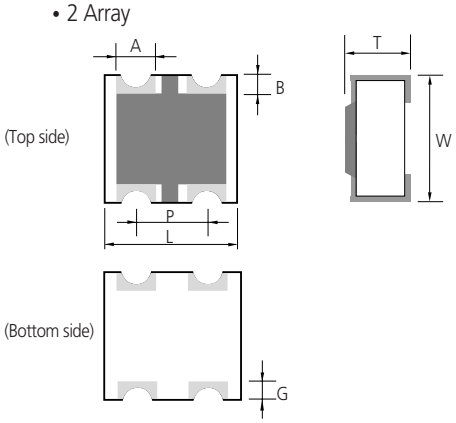


(UNIT: mm)

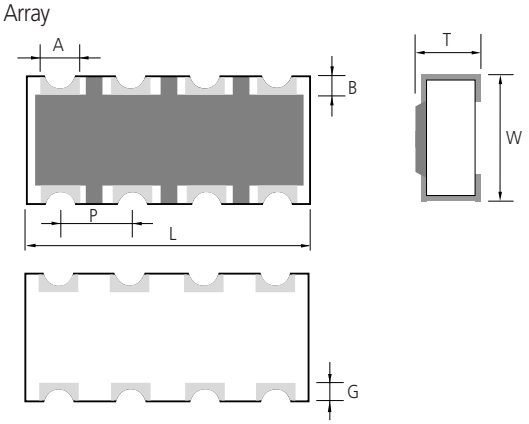
Type	L	W	T	A	D	B	G	P	Average Weight
RP102P	1.00±0.10	1.00±0.10	0.35±0.10	0.33±0.05	-	0.20±0.10	0.25±0.10	0.65±0.10	1.1㎎
RP104P	2.00±0.10	1.00±0.10	0.35±0.10	0.30±0.15	0.40±0.15	0.15±0.10	0.25±0.15	0.50±0.15	2.2㎎
RP164P	3.20±0.10	1.60±0.10	0.50±0.10	0.40±0.15	0.60±0.15	0.30±0.15	0.30±0.15	0.80±0.15	8.9㎎

(2) CONCAVE TERMINAL TYPE

• 2 Array



• 4 Array



(UNIT: mm)

Type	L	W	T	A	B	G	P	Average Weight
RN102P	1.00±0.10	1.00±0.10	0.35±0.10	0.30±0.10	0.15±0.10	0.25±0.15	0.5±0.10	1.2㎎
RN104P	2.00±0.10	1.00±0.10	0.40±0.10	0.30±0.10	0.15±0.10	0.25±0.15	0.5±0.10	2.8㎎

Parts Numbering System

• The part number system shall be in the following format

RN	16	4P	J	100	FS
Code Designation	Dimension	Resistors	Tolerance	Resistance Value	Packaging Code
RP: Convex type array RN: Concave type array	10: 1005 16: 1608	2P: 2 Pieces 4P: 4 Pieces	J: ±5% ※Jumper:' J'	3 digit coding system (IEC coding system) E-24 series	CS : Tape Packaging 7" ES : Tape Packaging 10" AS : Tape Packaging 13"

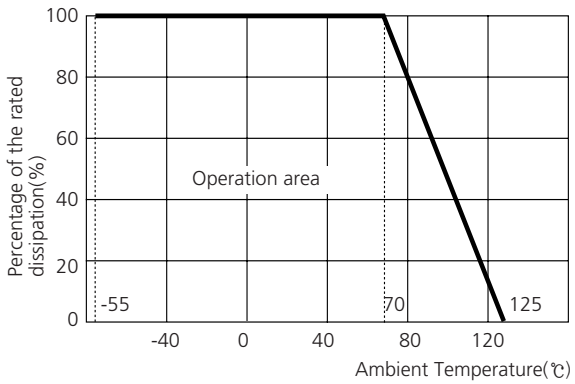
Specification

Type	Power Rating (W)	Working Voltage (MAX)	Overload Voltage (MAX)	TCR (ppm/℃)	Resistance Range (Ω)	Rated Ambient Temperature	Rated Working Temperature
102P, 104P	1/16	25(V)	50(V)	±200ppm	1Ω~1MΩ	70℃	-55℃~+125℃
162P, 164P		50(V)	100(V)	±200ppm			

• Rated voltage (V) = $\sqrt{\text{Rated power(W)} \times \text{Normal resistance value (R)}}$
Rated voltage should be lower than (MAX) working voltage.

Power Derating Curve

The rated power is the maximum continuous loading power at 70℃ ambient temperature.
For ambient temperature above 70℃, the loading power follows the below power derating curve.
(The load current shall be derated according to Derating curve in case of the 'Jumper')



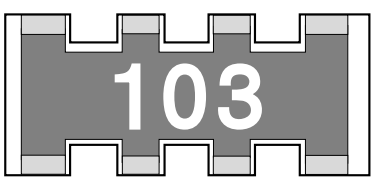
Jumper Resistors

Type	Resistance	Current Rating	Rated Ambient Temperature	Rated Working Temperature
102P, 104P 162P, 164P	50mΩ Max.	1.0(A)	70℃	-55℃~+125℃

Marking

• 3 digits indication(E-24 series)

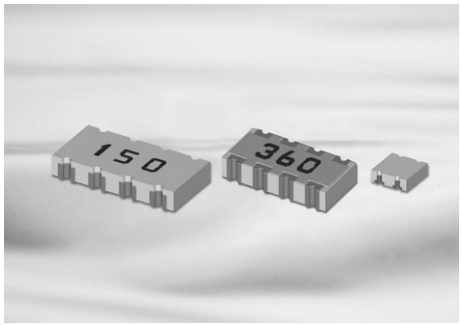
- Left 2 digits represent significant figures.
- Last 1 digit represents exponential number of 10.
- Example: 103
  Left 2 digit: 10
  Last 1 digits: 3
  $103 = 10 \times 10^3 = 10000\ \Omega = 10k\Omega$



※Jumper chip is printed as "000".

• RP102P, RN102P, RN104P type : No marking.

Arrays for Memory Modules



Feature

- Reducing SMD surface area (40% reduced).
- Reducing SMD costs (75% reduced).
- Applicable both flow and reflow soldering.
- Reverse & Short free Reverse Concave Type.

The product of lead-free terminal is RoHS compliant.
PhO(lead oxide) is included in the glass of our product which is prescribed on RoHS appendix as an exception.

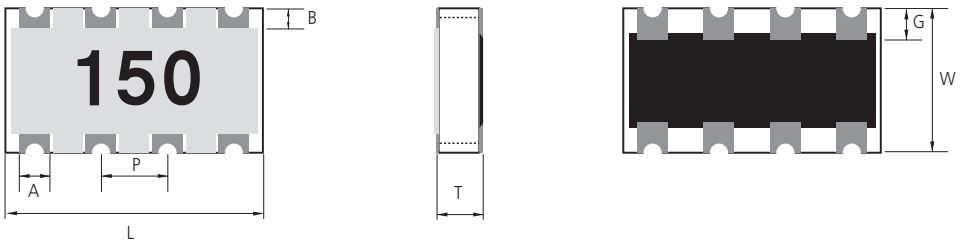
Application

- For semiconductor devices.
- For computers, digital circuits.

Structure and Dimensions

(1) REVERSE CONCAVE TYPE

〈Top View〉 〈Side View〉 〈Bottom View〉

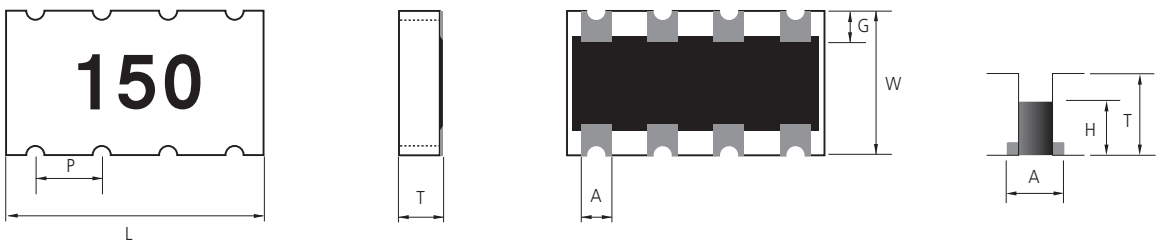


(UNIT: mm)

Type	L	W	T	A	B	G	P	Average Weight
RM102P	1.00±0.10	1.00±0.10	0.35±0.10	0.30±0.10	0.15±0.10	0.25±0.15	0.50±0.10	1.2㎎
RM104P	2.00±0.10	1.00±0.10	0.45±0.10	0.30±0.10	0.15±0.10	0.25±0.15	0.50±0.10	2.8㎎

(2) SHORT-FREE REVERSE CONCAVE TYPE

〈Top View〉 〈Side View〉 〈Bottom View〉 〈Terminal Side View〉



(UNIT: mm)

Type	L	W	T	A	G	P	H	Average Weight
RK102P	1.00±0.10	1.00±0.10	0.35±0.10	0.30±0.10	0.25±0.15	0.50±0.10	0.17min	1.2㎎
RK104P	2.00±0.10	1.00±0.10	0.45±0.10	0.30±0.10	0.25±0.15	0.50±0.10	0.3min	2.8㎎

Parts Numbering System

• The part number system shall be in the following format

RM	10	4P	J	100	CS
Code Designation	Dimension	Resistors	Tolerance	Resistance Value	Packaging Code
RM : Reverse Concave Array RK : Short-free Reverse Concave Array	10: 1005 16: 1608	2P: 2 Pieces 4P: 4 Pieces	J: ±5% ※Jumper:' J'	3 digit coding system (IEC coding system) E-24 series	CS : Tape Packaging 7" ES : Tape Packaging 10" AS : Tape Packaging 13"

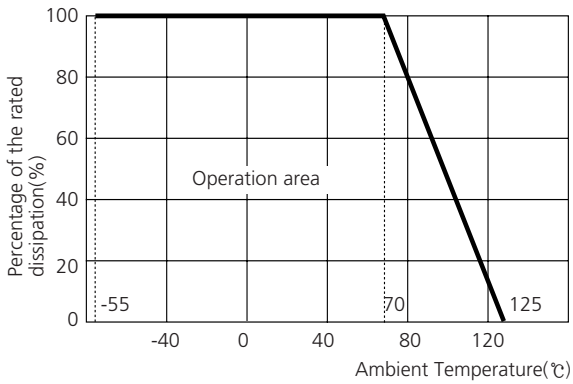
Specification

Type	Power Rating (W)	Working Voltage (MAX)	Overload Voltage (MAX)	TCR (ppm/℃)	Resistance Range (Ω)	Rated Ambient Temperature	Rated Working Temperature
102P, 104P	1/16	25(V)	50(V)	±200ppm	1Ω~1MΩ	70℃	-55℃~+125℃

• Rated voltage (V) = $\sqrt{\text{Rated power(W)} \times \text{Normal resistance value (R)}}$
Rated voltage should be lower than (MAX) working voltage.

Power Derating Curve

The rated power is the maximum continuous loading power at 70℃ ambient temperature.
For ambient temperature above 70℃, the loading power follows the below power derating curve.
(The load current shall be derated according to Derating curve in case of the 'Jumper')



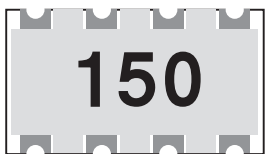
Jumper Resistors

Type	Resistance	Current Rating	Rated Ambient Temperature	Rated Working Temperature
102P, 104P	50mΩ Max.	1.0(A)	70℃	-55℃~+125℃

Marking

• 3 digits indication(E-24 series)

- Left 2 digits represent significant figures.
- Last 1 digit represents exponential number of 10.
- Example: 150
  Left 2 digit: 15
  Last 1 digits: 0
  $150 = 15 \times 10^{0} = 15\ \Omega$



※Jumper chip is printed as "000".

• RM102P, RK102P Type : No marking.

Operation Notes
Example of Land Pattern Design
Recommended Soldering Conditions
General Structure
General
Precision
Low Ohms
Ultra Low Ohms
Arrays
Arrays for Memory Modules
Attenuator
Characteristics Performance
Packaging
Standard Resistance Value