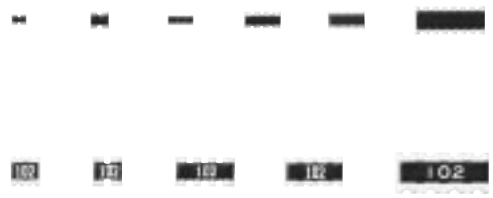
# Chip Resistor Array

Type: **EXB1 : 0201 Array**
**EXB2 : 0402 Array**
**EXB3 : 0603 Array**
**EXBN : 0402 Array**
**EXBV : 0603 Array**
**EXBS : 0805 Array**



## ■ Features

- High density
  2 resistors in 0.8 mm × 0.6 mm size (EXB14V)
  4 resistors in 1.4 mm × 0.6 mm size (EXB18V)
  2 resistors in 1.0 mm × 1.0 mm size (EXB24V)
  4 resistors in 2.0 mm × 1.0 mm size (EXB28V, N8V)
  8 resistors in 3.8 mm × 1.6 mm size (EXB2HV)
  2 resistors in 1.6 mm × 1.6 mm size (EXB34V, V4V)
  4 resistors in 3.2 mm × 1.6 mm size (EXB38V, V8V)
  4 resistors in 5.1 mm × 2.2 mm size (EXBS8V)
- RoHS compliant
- Improvement of placement efficiency
  Placement efficiency of Chip Resistor Array is two, four or eight times of the flat type chip resistor
- Reference Standard···IEC 60115-9, JIS C 5201-9, EIAJ RC-2129

■ Packaging Methods Please see Pages 40 to 43
■ Recommended Land Pattern Please see Pages 44 to 45
■ Recommended Soldering Conditions Please see Page 46
■ Safety Precautions Please see Page 47

## ■ Explanation of Part Numbers

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| E | X | B | V | 8 | V | 4 | 7 | 2 | J | V |

| Product Code |
|---|
| Thick Film Chip Resistor Networks |

| Chip Resistor Array Type: inch | | |
|---|---|---|
| 1 | 0201 Array | |
| 2 | 0402 Array | Convex Terminal |
| 3 | 0603 Array | |
| N | 0402 Array | Concave Terminal |
| V | 0603 Array | |
| S | 0805 Array | |

| No. of Terminal | |
|---|---|
| 4 | 4 Terminal |
| 8 | 8 Terminal |
| H | 16 Terminal |

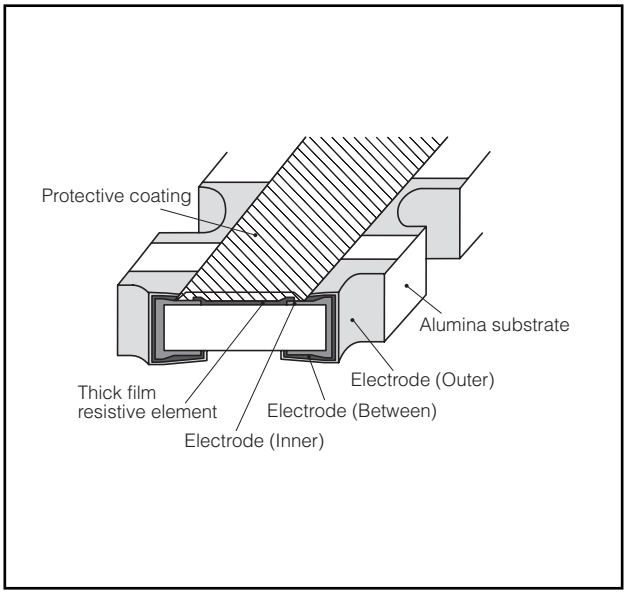
| Schematics | |
|---|---|
| V | Isolated type |

| Resistance Value |
|---|
| The first two digits are significant figures of resistance value and the third one denotes the number of zeros following. Jumper is expressed by R00<br>Example : 222 → 2.2 kΩ |

| Resistance Tolerance | |
|---|---|
| J | ±5 % |
| 0 | Jumper |

| Packaging Methods | | |
|---|---|---|
| Code | Packaging | Type |
| Nil | Embossed Carrier Taping 4 mm pitch, 2,500 pcs. | EXBS8V |
| X | Punched Carrier Taping 2 mm pitch, 10,000 pcs. | EXB14V, 18V, 24V, 28V, N8V |
| V | Punched Carrier Taping 4 mm pitch, 5,000 pcs. | EXB2HV, 34V, 38V, V4V, V8V |

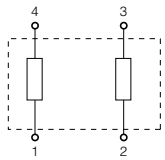
## ■ Construction (Example : Concave Terminal)



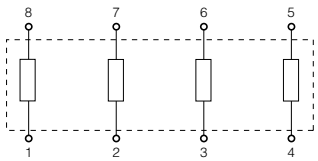

## ■ Schematics

- Isolated type

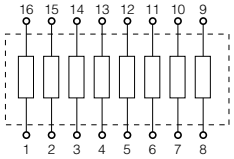
14V, 24V, 34V, V4V — 2 resistors




18V, 28V, N8V, 38V, V8V, S8V — 4 resistors




2HV — 8 resistors

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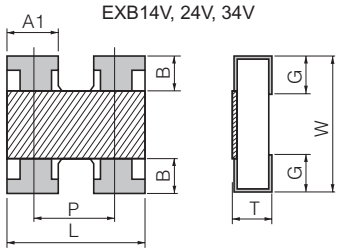
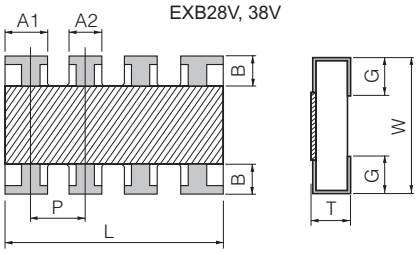
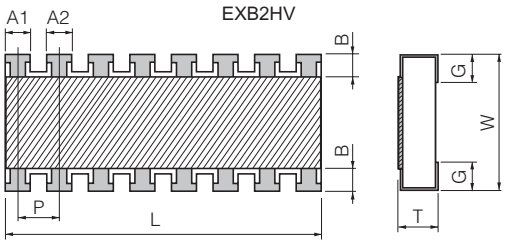
■ Dimensions in mm (not to scale)

(1) Convex Terminal type



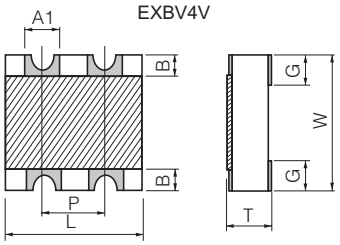



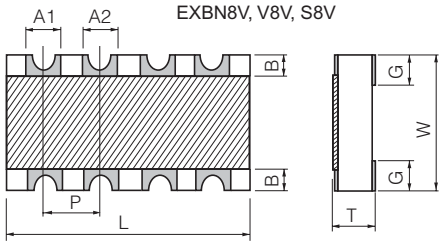




| Type (inch size) | Dimensions (mm) | | | | | | | | Mass (Weight) [g/1000 pcs.] |
|---|---|---|---|---|---|---|---|---|---|
| | L | W | T | A1 | A2 | B | P | G | |
| EXB14V (0201×2) | $0.80^{\pm0.10}$ | $0.60^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.35^{\pm0.10}$ | — | $0.15^{\pm0.10}$ | (0.50) | $0.15^{\pm0.10}$ | 0.5 |
| EXB24V (0402×2) | $1.00^{\pm0.10}$ | $1.00^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.40^{\pm0.10}$ | — | $0.18^{\pm0.10}$ | (0.65) | $0.25^{\pm0.10}$ | 1.2 |
| EXB28V (0402×4) | $2.00^{\pm0.10}$ | $1.00^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.45^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.20^{\pm0.10}$ | (0.50) | $0.25^{\pm0.10}$ | 2.0 |
| EXB2HV (0402×8) | $3.80^{\pm0.10}$ | $1.60^{\pm0.10}$ | $0.45^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.30^{\pm0.10}$ | (0.50) | $0.30^{\pm0.10}$ | 9.0 |
| EXB34V (0603×2) | $1.60^{\pm0.20}$ | $1.60^{\pm0.15}$ | $0.50^{\pm0.10}$ | $0.65^{\pm0.15}$ | — | $0.30^{\pm0.20}$ | (0.80) | $0.30^{\pm0.20}$ | 3.5 |
| EXB38V (0603×4) | $3.20^{\pm0.20}$ | $1.60^{\pm0.15}$ | $0.50^{\pm0.10}$ | $0.65^{\pm0.15}$ | $0.45^{\pm0.15}$ | $0.30^{\pm0.20}$ | (0.80) | $0.35^{\pm0.20}$ | 7.0 |

( ) Reference

(2) Concave Terminal type

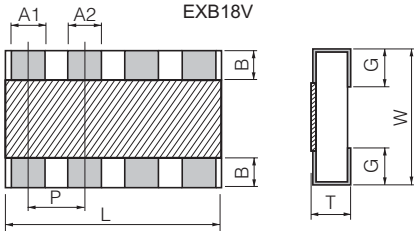



| Type (inch size) | Dimensions (mm) | | | | | | | | Mass (Weight) [g/1000 pcs.] |
|---|---|---|---|---|---|---|---|---|---|
| | L | W | T | A1 | A2 | B | P | G | |
| EXBN8V (0402×4) | $2.00^{\pm0.10}$ | $1.00^{\pm0.10}$ | $0.45^{\pm0.10}$ | $0.30^{\pm0.10}$ | $0.30^{\pm0.10}$ | $0.20^{\pm0.15}$ | (0.50) | $0.30^{\pm0.15}$ | 3.0 |
| EXBV4V (0603×2) | $1.60^{+0.20}_{-0.10}$ | $1.60^{+0.20}_{-0.10}$ | $0.60^{\pm0.10}$ | $0.60^{\pm0.10}$ | — | $0.30^{\pm0.15}$ | (0.80) | $0.45^{\pm0.15}$ | 5.0 |
| EXBV8V (0603×4) | $3.20^{+0.20}_{-0.10}$ | $1.60^{+0.20}_{-0.10}$ | $0.60^{\pm0.10}$ | $0.60^{\pm0.10}$ | $0.60^{\pm0.10}$ | $0.30^{\pm0.15}$ | (0.80) | $0.45^{\pm0.15}$ | 10 |
| EXBS8V (0805×4) | $5.08^{+0.20}_{-0.10}$ | $2.20^{+0.20}_{-0.10}$ | $0.70^{\pm0.20}$ | $0.80^{\pm0.15}$ | $0.80^{\pm0.15}$ | $0.50^{\pm0.15}$ | (1.27) | $0.55^{\pm0.15}$ | 30 |

( ) Reference

(3) Flat Terminal type




| Type (inch size) | Dimensions (mm) | | | | | | | | Mass (Weight) [g/1000 pcs.] |
|---|---|---|---|---|---|---|---|---|---|
| | L | W | T | A1 | A2 | B | P | G | |
| EXB18V (0201×4) | $1.40^{\pm0.10}$ | $0.60^{\pm0.10}$ | $0.35^{\pm0.10}$ | $0.20^{\pm0.10}$ | $0.20^{\pm0.10}$ | $0.10^{\pm0.10}$ | (0.40) | $0.20^{\pm0.10}$ | 1.0 |

( ) Reference

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## ■ Ratings

| Item | | Specifications |
|---|---|---|
| Resistance Range | | 10 Ω to 1 MΩ:E24 series |
| Resistance Tolerance | | J: ±5 % |
| Number of Terminals | 14V,24V,V4V,34V | 4 terminal |
| | 18V,28V,N8V,38V,V8V,S8V | 8 terminal |
| | 2HV | 16 terminal |
| Number of Resistors | 14V,24V,V4V,34V | 2 terminal |
| | 18V,28V,N8V,38V,V8V,S8V | 4 terminal |
| | 2HV | 8 terminal |
| Power Rating at 70 °C | 14V,N8V | 0.031 W/element |
| | 18V | 0.031 W/element (0.1 W/package) |
| | 24V,28V,V4V,34V,V8V,38V | 0.063 W/element |
| | S8V | 0.1 W/element |
| | 2HV | 0.063 W/element (0.25 W/package) |

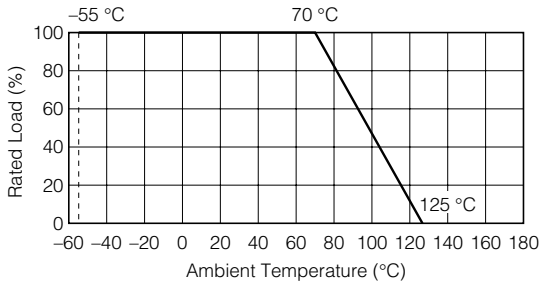
| Item | | | Specifications |
|---|---|---|---|
| Limiting Element Voltage (1) | | 14V,18V | 12.5 V |
| | | 2HV | 25 V |
| | | 24V,28V,N8V,38V,34V,V4V,V8V | 50 V |
| | | S8V | 100 V |
| Max. Over-load Voltage (2) | | 14V,18V | 25 V |
| | | 2HV | 50 V |
| | | 24V,28V,N8V,38V,34V,V4V,V8V | 100 V |
| | | S8V | 200 V |
| T.C.R. | | | ±200×10$^{-6}$/°C |
| Category Temperature Range | | | –55 °C to 125 °C |
| Jumper Array | Rated Current | 14V,18V | 0.5 A |
| | | 2HV,24V,28V,N8V,38V,34V,V4V,V8V | 1 A |
| | | S8V | 2 A |
| | Max, Overload Current | 14V,18V | 1 A |
| | | 2HV,24V,28V,N8V,38V,34V,V4V,V8V | 2 A |
| | | S8V | 4 A |

(1) Rated Continuous Working Voltage (RCWV) shall be determined from RCWV=$\sqrt{\text{Power Rating} \times \text{Resistance Value}}$, or Limiting Element Voltage listed above, whichever less.

(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 × Power Rating or max. Overload (Voltage) listed above whichever less.

### Power Derating Curve

For resistors operated in ambient temperature above 70 °C, power rating shall be derated in accordance with the figure on the right.

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