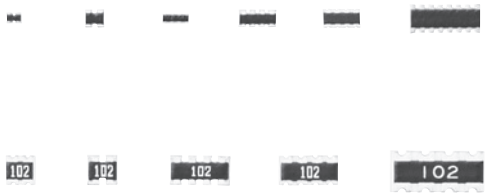
Chip Resistor Array

Type: **EXB 14V, 18V, 24V, 28V, N8V, 2HV, 34V, V4V, 38V, V8V, S8V**



Features

- High density
  2 resistors in 0.8 mm × 0.6 mm size / 0302 inch size : EXB14V
  4 resistors in 1.4 mm × 0.6 mm size / 0502 inch size : EXB18V
  2 resistors in 1.0 mm × 1.0 mm size / 0404 inch size : EXB24V
  4 resistors in 2.0 mm × 1.0 mm size / 0804 inch size : EXB28V, EXBN8V
  8 resistors in 3.8 mm × 1.6 mm size / 1506 inch size : EXB2HV
  2 resistors in 1.6 mm × 1.6 mm size / 0606 inch size : EXB34V, EXBV4V
  4 resistors in 3.2 mm × 1.6 mm size / 1206 inch size : EXB38V, EXBV8V
  4 resistors in 5.1 mm × 2.2 mm size / 2009 inch size : EXBS8V
- 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
- AEC-Q200 qualified (EXB2, EXB3)
- RoHS compliant

■ As for Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions,

Please see Data Files

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

Product Code
Thick Film Chip Resistor Networks

Code	Inch	Construction
14	0201×2	Convex Terminal
18	0201×4	Flat Terminal
24	0402×2	Convex Terminal
28	0402×4	Convex Terminal
2H	0602×8	Convex Terminal
34	0603×2	Convex Terminal
38	0603×4	Convex Terminal
N8	0402×4	Concave Terminal
V4	0603×2	Concave Terminal
V8	0603×4	Concave Terminal
S8	0805×4	Concave 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

Example : 222 → 2.2k Ω

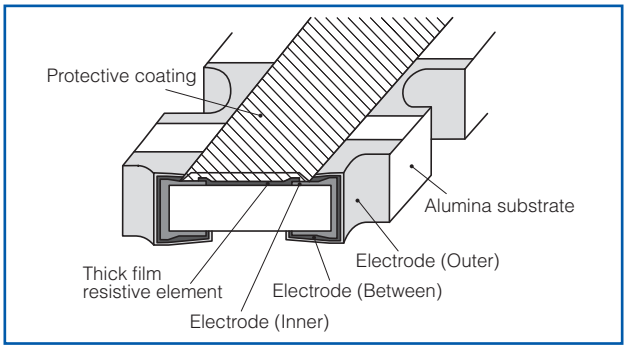
Resistance Tolerance

J	±5 %
0	Jumper

Packaging Methods

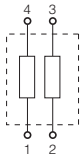
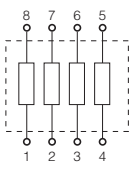
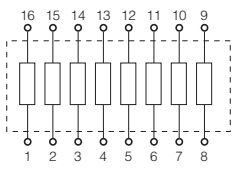
Code	Packaging	Part No.
Nil	Embossed Carrier Taping 4 mm pitch, 2,500 pcs.	EXBS8V
X	Punched Carrier Taping 2 mm pitch, 10,000 pcs.	EXB14V, 18V, 24V, 28V, N8V
V	Punched Carrier Taping 4 mm pitch, 5,000 pcs.	EXB2HV, 34V, 38V, V4V, V8V

Construction (Example : Concave Terminal)



Schematics

- Isolated type

14V, 24V, 34V, V4V	18V, 28V, N8V, 38V, V8V, S8V	2HV
2 resistors	4 resistors	8 resistors
		

Ratings

[For Resistor]

Part No. (inch size)	Power Rating at 70 °C (W / element)	Limiting Element Voltage (1) (V)	Maximum Overload Voltage (2) (V)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. ($\times 10^{-6}$/°C)	Category Temperature Range (°C)	AEC-Q200 Grade
EXB14V (0201×2)	0.031	12.5	25	±5	10 to 1M (E24)	<10 Ω : −200 to +600 10 Ω to1M Ω : ±200	−55 to +125	–
EXB18V (0201×2)	0.031 (0.1 W / package)	12.5	25	±5	10 to 1M (E24)		−55 to +125	–
EXB24V (0402×2)	0.063	50	100	±5	1 to 1M (E24)		−55 to +125	Grade 1
EXB28V (0402×4)	0.063	50	100	±5	1 to 1M (E24)		−55 to +125	Grade 1
EXB2HV (0602×8)	0.063 (0.25 W / package)	25	50	±5	10 to 1M (E24)		−55 to +125	Grade 1
EXB34V (0603×2)	0.063	50	100	±5	1 to 1M (E24)		−55 to +125	Grade 1
EXB38V (0603×4)	0.063	50	100	±5	1 to 1M (E24)		−55 to +125	Grade 1
EXBN8V (0402×4)	0.031	50	100	±5	10 to 1M (E24)		−55 to +125	–
EXBV4V (0603×2)	0.063	50	100	±5	10 to 1M (E24)		−55 to +125	–
EXBV8V (0603×4)	0.063	50	100	±5	10 to 1M (E24)		−55 to +125	–
EXBS8V (0805×4)	0.1	100	200	±5	10 to 1M (E24)		−55 to +125	–

(1) Rated Continuous Working Voltage (RCWV) shall be determined from RCWV=$\sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.
(2) Overload Test Voltage (OTV) shall be determined from OTV=Specified Magnification (refer to performance) × RCWV or Maximum Overload Voltage listed above, whichever less.

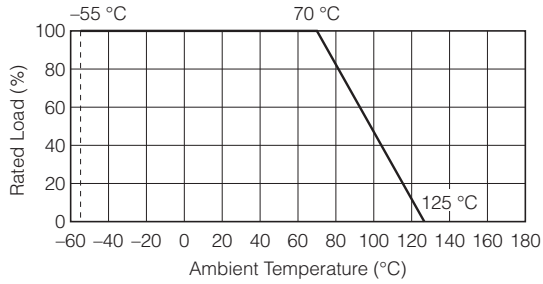
[For Jumper]

Part No. (inch size)	Rated Current (A / element)	Maximum Overload Current (1) (A)
EXB14V (0201×2)	0.5	1
EXB18V (0201×4)	0.5	1
EXB24V (0402×2)	1	2
EXB28V (0402×4)	1	2
EXB2HV (0602×8)	1	2
EXB34V (0603×2)	1	2
EXB38V (0603×4)	1	2
EXBN8V (0402×4)	1	2
EXBV4V (0603×2)	1	2
EXBV8V (0603×4)	1	2
EXBS8V (0805×4)	2	4

(1) Overload test current

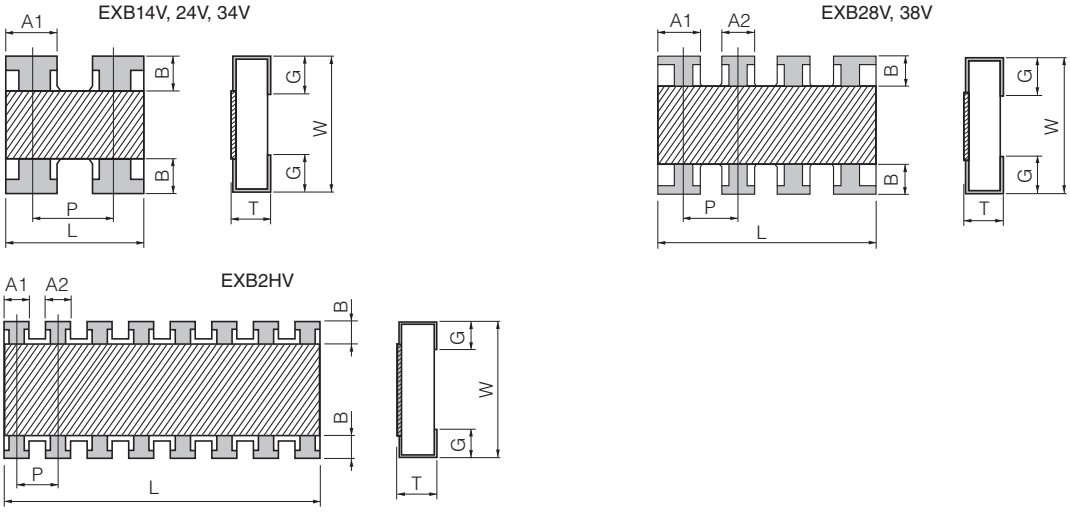
Power Derating Curve

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



Dimensions in mm (not to scale)

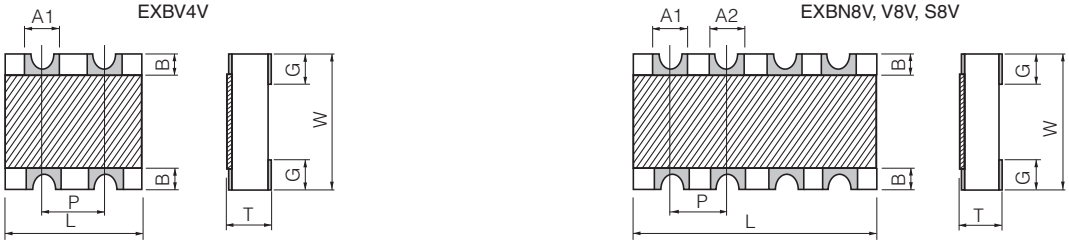
(1) Convex Terminal type



Part No. (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 (0602×8)	$3.80^{\pm0.10}$	$1.60^{\pm0.10}$	$0.45^{\pm0.10}$	$0.35^{\pm0.10}$	$0.35^{\pm0.10}$	$0.30^{\pm0.10}$	(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

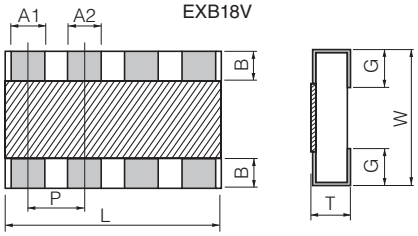
(2) Concave Terminal type



Part No. (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



Part No. (inch size)	Dimensions (mm)								Mass (Weight) [g/1000 pcs.]
	L	W	T	A1	A2	B	P	G	
EXB18V (0201×4)	1.40±0.10	0.60±0.10	0.35±0.10	0.20±0.10	0.20±0.10	0.10±0.10	(0.40)	0.20±0.10	1.0

( ) Reference

Perfomance

Test Item	Performance Requirements	Test Conditions
Resistance	Within Specified Tolerance	20 °C
T. C. R.	Within Specified T. C. R.	+25 °C/+125 °C
Overload	±2%	Rated Voltage × 2.5, 5 s Jumper type : Max. Overload Current, 5 s
Resistance to Soldering Heat	±1%	270 °C, 10 s
Rapid Change of Temperature	±1%	–55 °C (30min.) / +125 °C (30min.), 100 cycles
High Temperature Exposure	±1%	+125 °C , 1000 h
Damp Heat, Steady State	±1%	60 °C, 90% to 95 %RH, 1000 h
Load Life in Humidity	±3%	60 °C, 90% to 95 %RH, Rated Voltage (Jumper type: Rated Current), 1.5 h ON/0.5 h OFF cycle, 1000 h
Endurance at 70 °C	±3%	70 °C, Rated Voltage(Jumper type: Rated Current), 1.5 h ON/0.5 h OFF cycle, 1000 h

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