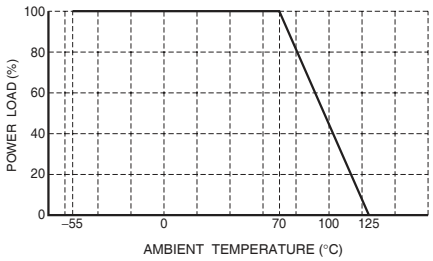
Compact 8-element Chip Resistor Networks

MNR18 (0602×8 size)

●Features

1) Suitable for damping resistors.
2) Convex electrodes
   Easy to check the fillet after soldering is finished.
3) High-density mounting
   Can be mounted even densely than eight 0402 chips (MCR01), and mounting costs are lower.
4) Compatible with a wide range of mounting machines.
   Squared corners make it excellent for mounting using image recognition machines.
5) ROHM resistors have approved ISO9001- / ISO/TS16949- certification.
   Design and specifications are subject to change without notice. Carefully check the specification sheet supplied with the product before using or ordering it.

●Ratings

Item	Conditions	Specifications
Rated power	Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.  Fig.1	0.063W (1 / 16W) at 70°C Power for a Packaging Max 0.25W (1 / 4W)
Rated voltage	The voltage rating is calculated by the following equation. If the value obtained exceeds the limiting element voltage, the voltage rating is equal to the maximum operating voltage. $E = \sqrt{P \times R}$ E : Rated voltage (V) P : Rated power (W) R : Nominal resistance (Ω)	Limiting element voltage: 25V
Nominal resistance	See Table 1.	
Operating temperature		−55°C to +125°C

Jumper type

Resistance	Max. 50mΩ
Rated current	1A Power for a Packaging Max 0.25W (1 / 4W)
Operating temperature	−55°C to +125°C

Table 1

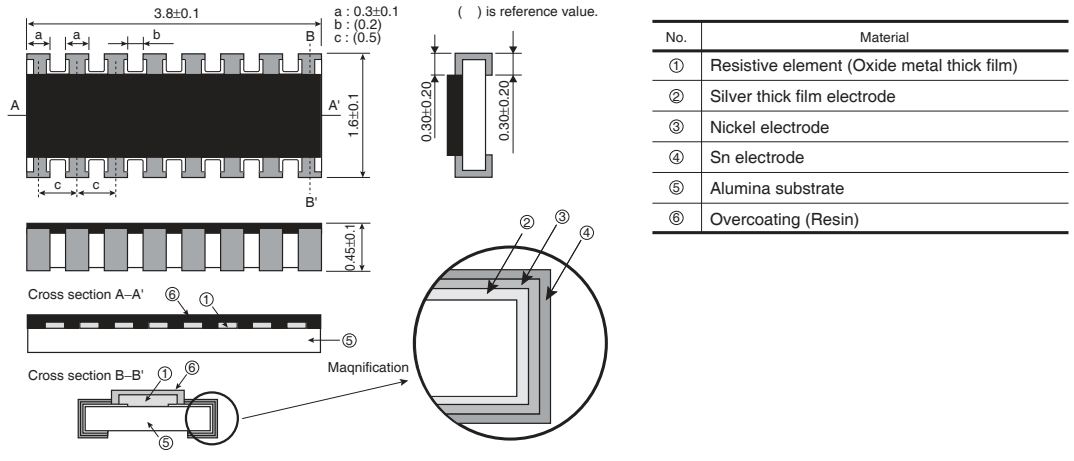
Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm / °C)
J (±5%)	10≤R≤1M (E24)	±200

*Before using components in circuits where they will be exposed to transients such as pulse loads(short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady state voltage that is greater than its rated voltage.

●Characteristics

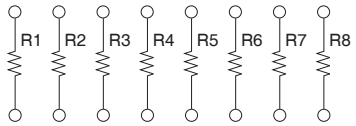
Item	Guaranteed value		Test conditions (JIS C 5201-1)
	Resistor type	Jumper type	
Resistance	J : ±5%	Max. 50mΩ	JIS C 5201-1 4.5
Variation of resistance with temperature	See Table.1	Max. 50mΩ	JIS C 5201-1 4.8 Measurement : +25 / +125°C
Overload	± (2.0%+0.1Ω)	Max. 50mΩ	JIS C 5201-1 4.13 Rated voltage (current) ×2.5, 2s. Maximum Overload Voltage : 100V
Solderability	A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage.		JIS C 5201-1 4.17 Rosin·Ethanol (25%WT) Soldering condition : 235±5°C Duration of immersion : 2.0±0.5s.
Resistance to soldering heat	± (1.0%+0.05Ω) No remarkable abnormality on the appearance.	Max. 50mΩ	JIS C 5201-1 4.18 Soldering condition : 260±5°C Duration of immersion : 10±1s.
Rapid change of temperature	± (1.0%+0.05Ω)	Max. 50mΩ	JIS C 5201-1 4.19 Test temp. : –55°C to +125°C 5cyc
Damp heat, steady state	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h to 1,048h
Endurance at 70°C	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.25.1 Rated voltage (current), 70°C 1.5h : ON – 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.25.3 125°C Test time : 1,000h to 1,048h
Resistance to solvent	± (1.0%+0.05Ω)	Max. 50mΩ	JIS C 5201-1 4.29 23±5°C, Immersion cleaning, 5±0.5min. Solvent : 2-propanol
Bend strength of the end face plating	± (1.0%+0.05Ω) Without mechanical damage such as breaks.	Max. 50mΩ	JIS C 5201-1 4.33

●Dimensions (Unit : mm)



No.	Material
①	Resistive element (Oxide metal thick film)
②	Silver thick film electrode
③	Nickel electrode
④	Sn electrode
⑤	Alumina substrate
⑥	Overcoating (Resin)

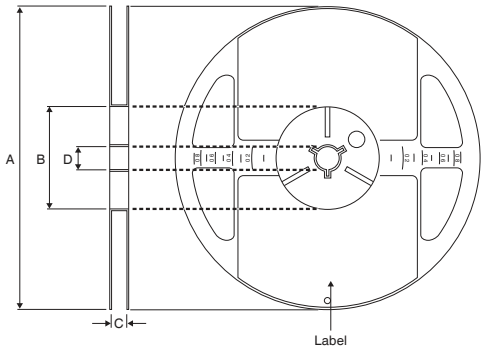
●Inner circuit



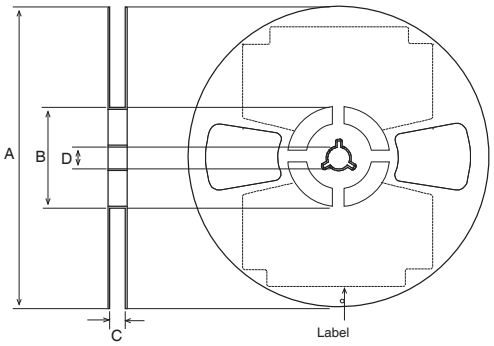
R1 = R2 = R3 = R4 = R5 = R6 = R7 = R8

●Packaging

Reel



EIAJ ET-7200B compliant

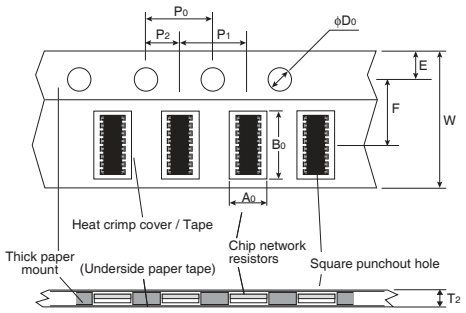


EIAJ ET-7200B (RRV) compliant

(Unit : mm)

A	B	C	D
$\phi 180\ ^{0}_{-1.5}$	$\phi 60\ ^{+1}_{0}$	$9\ ^{+1.0}_{0}$	$\phi 13 \pm 0.2$

Taping



(Unit : mm)

W	F	E	A0	B0
8.0±0.3	3.5±0.05	1.75±0.1	1.95±0.15	4.1±0.15
D0	P0	P1	P2	T2
$\phi 1.5\ ^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

●Part No.Explanation

M	N	R	1	8	E	0	A	P	□	J	□	□	□

Part No.

Resistance tolerance

J	±5%

J is also used for jumper

Nominal resistance

Resistance code,3 digits, 000 denotes Jumper type.

Packaging Specifications Code

Part No.	Code	Resistance tolerance J (±5%)	Packaging specifications	Reel	Basic ordering unit (pcs)
MNR18	E0AP	◎	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000

Reel (φ180mm) : Compatible with JEITA standard "EIAJ ET-7200B"
◎ : Standard product

Notes

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