# Chip resistor networks

## MNR14 (0603×4 size)

#### Features

1) Convex electrodes

Easy to check the fillet after soldering is finished.

2) Small, light, rectangular 4-chip network

Area ratio is 65% smaller than that of MNR34, while weight ratio has been cut 75%.

- 3) High-density mounting
- Can be mounted even more densely than four 0603 chips (MCR03), and mounting costs are lower.
- 4) Compatible with a wide range of mounting equipment.
- Squared corners make it excellent for mounting using image recognition machines.
  5) ROHM resistors have approved ISO-9001 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. $100 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	0.063W (1 / 16W) at 70°C	
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. $E: Rated voltage (V)$ $E=\sqrt{P \times R} \qquad P: Rated power (W)$ $R: Nominal resistance (\Omega)$	Limiting element voltage 50V	
Nominal resistance	See Table 1.		
Operating temperature		-55°C to +125°C	

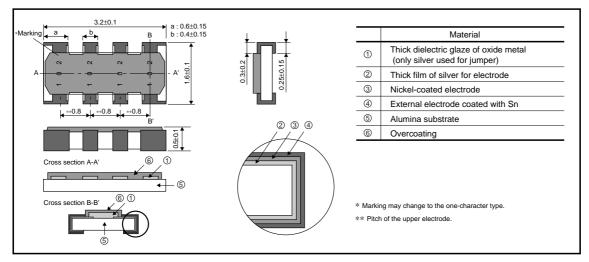
Jumper type		Table 1				
Resistance	Max. 50mΩ	Resistance tolerance	Resistance range (Ω)		Resistance temperature coefficient (ppm / °C)	
Rated current	1A					
Operating temperature	-55°C to +125°C	J (±5%)	2.2≤R≤10	(E6)	±500	
			10≤R≤1M	(E24)	±200	

•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.

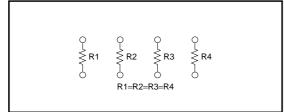
#### Characteristics

ltom	Guaranteed value		Tost conditions ( US C 5201.1)	
Item	Resistor type	Jumper type	Test conditions (JIS C 5201-1)	
Resistance	J : ±5%	Max. 50mΩ	JIS C 5201-1 4.5	
Variation of resistance with temperature	See Table.1		JIS C 5201-1 4.8 Measurement : -55 / +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	$\pm$ (1.0%+0.05Ω) Max. 50mΩ No remarkable abnormality on the appearance.		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 mechanica	Max. 50mΩ I damage such as breaks.	JIS C 5201-1 4.33	

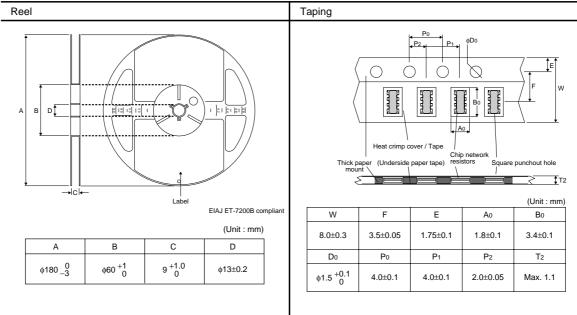
#### •External dimensions (Unit : mm)



#### Equivalent circuit

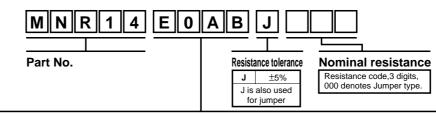


#### Packaging



Rohm

Product designation

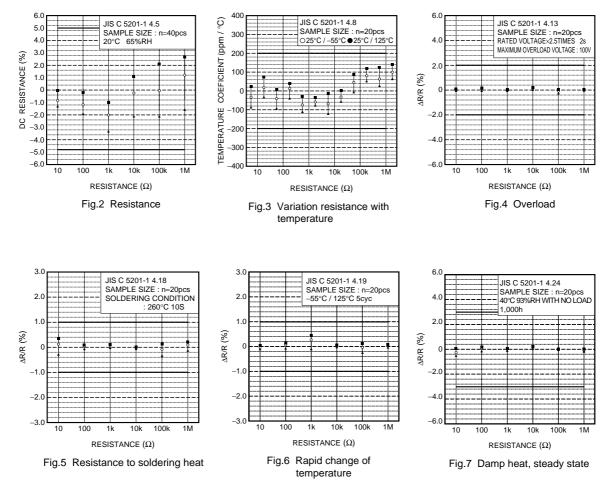


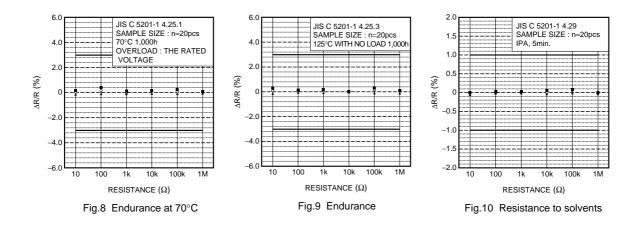
#### Packaging Specifications Code

Part No.	Code	Resistance tolerance J(±5%)	Packaging specifications	Reel	Basic ordering unit (pcs)
MNR14	E0AB	0	Paper tape (4mm Pitch)	φ180mm (7in.)	5,000

Reel (¢180) : JEITA ET-7200B

#### Electrical characteristics





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