

Soldering condition for Resistors  
Lead free paste  
(Sn-3Ag-0.5Cu) version

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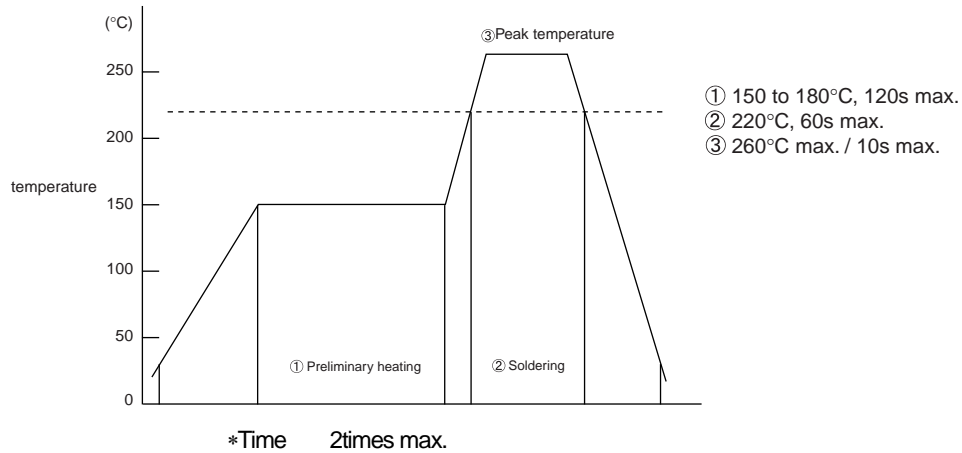
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## Resistors

### ● Recommended reflow soldering condition

Corresponded products

MCR series / MNR series / PMR series / ESR series / KTR series / RCN series



### ● Recommended flow soldering condition

Corresponded products

MCR series (except for MCR006 series) / MNR series (except for MNR02 / 04 / 12 / 14 / 15 / 18 series) /  
PMR series / ESR series / KTR series

Peak temperature 265°C, 10s max.

### ● Recommended hand soldering condition

Corresponded products

MCR series (except for MCR006 series) / MNR series (except for MNR15 / 18 series) /  
PMR series / ESR series / KTR series / RCN series

Temperature	less than 350°C
Time	less than 3s
Times	one time
Watt	less than 20W

## Resistors

## ● Recommended washing condition

Corresponded products

MCR series / MNR series / PMR series / ESR series / KTR series / RCN series

## 1. Washing liquid

washing liquid	manufacturers
water	—
ethanol	—
methanol	—
pine alpha ST-100S	ARAKAWA CHEMICAL
clean through 750H	KAO
technocare FRW-1	TOSHIBA TECHNOCARE

## 2. Condition of washing

washing bath		time	temperature	remarks
first bath	ultrasonic bath	less than 2min	less than 60°C	25 to 28kHz, 15W / L
second bath	immersion bath	less than 2min	less than 40°C	
third bath	immersion bath	less than 2min	room temperature	

## 3. Condition of drying

	time	temperature	remarks
Drying machine	less than 5min	less than 100°C	

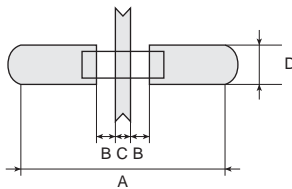
## Resistors

### ●Sample of land pattern

(Unit : mm)

MCR006	MCR01	PMR100

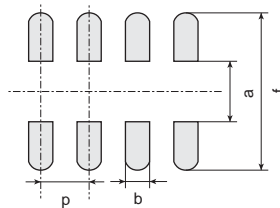
### MCR / ESR / KTR



Type	Dimension	A	B	C	D reference
MCR03		2.7	0.3	0.2	0.52 to 0.92
MCR10, ESR10, KTR10		3.5	0.3 to 0.4	0.3	1.1 to 1.3
MCR18, ESR18, KTR18		5.0	0.8	0.6	1.4 to 1.8
MCR25		5.0	0.8	0.6	2.1 to 3.0
MCR50		8.4	1.6	0.6	2.1 to 3.0
MCR100		10.5	1.6	0.6	2.56 to 4.8

MNR02 / RCN02	MNR04	MNR35

### MNR12 / MNR14 / MNR32 / MNR34



Division	a	b	p	f
MNR12 / 14	1.0	0.4	0.8	2.6
MNR32 / 34	2.1	0.8	1.27	4.1

MNR15	MNR18

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