Part Number System

Explanation of Part Number System

(Chip Kit Resistors (Lead Free))

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	8	0	5	W	A	F	E	0	2	4	K	I	L

Product Type:
Fill-in these 4 digits with the Chip resistor types as follows:
- 0402
- 0603
- 0805
- 1206
- 1210
- 2010
- 2512
- 08P4
- 10P8
- 16P8

Wattage:
Fill-in these 2 digits with the codes as follows:

Normal size:
- WG = 1/16W
- WA = 1/10W
- W8 = 1/8W
- W4 = 1/4W
- W2 = 1/2W
- 1W = 1W

Small size:
- SA = 1/10W-S
- S8 = 1/8W-S
- S4 = 1/4W-S
- S3 = 1/3W-S
- 07 = 3/4W-S

Special:
- WH = 1/32W

Tolerance:
- F ~ ± 1%
- G ~ ± 2%
- J ~ ± 5%

Resistance Value:
Boxes no 8, 9, 10, 11 For SMD Kit resistor
- -E6 series: E006
- -E12 series: E012
- -E24 series: E024

Special Feature:
Fill-in these 3 digits with the chip resistor types as follows:
- **KIT**: Chip KIT resistor
- **K0N**: Album Kit only (no chip resistor)
- **KIL**: Chip Kit resistor-(LEAD FREE)

Sample : SMD Kit 1/10W (0805) +/- 1% E24 series → 0805WAFE024KIT

Album Kit 1/16W (0603) +/- 1% E6 series → 0603WGFE006K0N (no chip resistor)

Special for Insert Chip Kit → INSERT-CHIPKIT

SMD Kit (LEAD FREE) 1/10W (0805) +/- 1% E24 series → 0805WAFE024KIL

CHANGE NOTIFICATION HISTORY			
Version	**Date of Version**	**History**	**Remark**
1	2005/7/1	Resistance range: 10Ω□1MΩ, 0Ω	

Customer: FARNELL IN ONE	Part No.: 0805WAFE024KIL

1. Scope:

This specification for approval relates to Chip Kit Resistors (Lead Free) manufactured by ROYAL OHM 's specifications.

2. Type designation:

The type designation shall be in the following form:

Type	Power Rating	Resistance tolerance	Nominal Resistance
RMC 0805	1/10 W	F	1KΩ

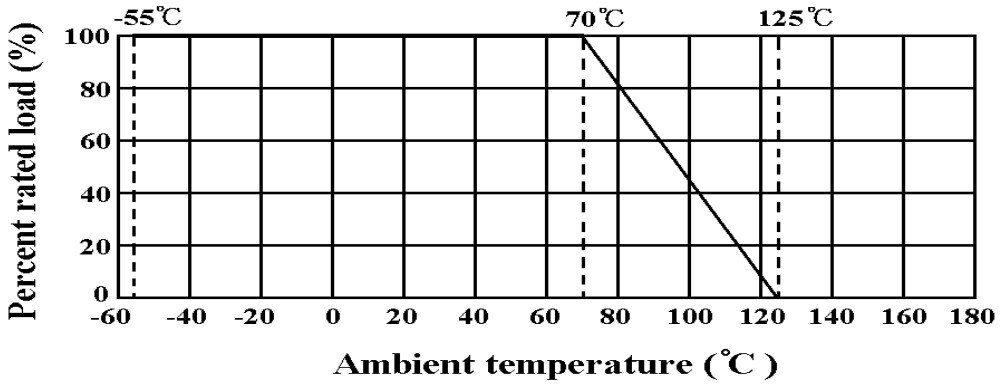
3. Ratings:

Type	RMC 0805
Power Rating	0.10 W
Max. Working Voltage	150 V
Max. Overload Voltage	300 V
Temperature Range	-55□□ +125□
Ambient Temperature	70 □

3.1 Power rating:

Resistors shall have a power rating based on continuous load operation at an ambient temperature of 70 □ . For temperature in excess of 70 □ , The load shall be derate as shown in figure 1.

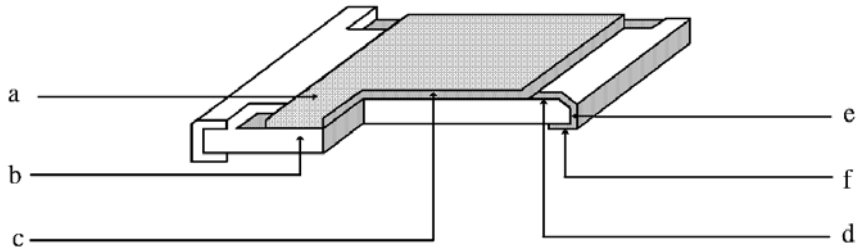
Figure 1



3.2 Nominal Resistance

Effective figures of nominal resistance shall be in accordance with E-24 and E-96 series for 1 % and E-24 series for 2 % and 5 %

4. Construction :



a. Protective coating : Epoxy

b. Al_2O_3 high purity alumina substrate : Al 96 %

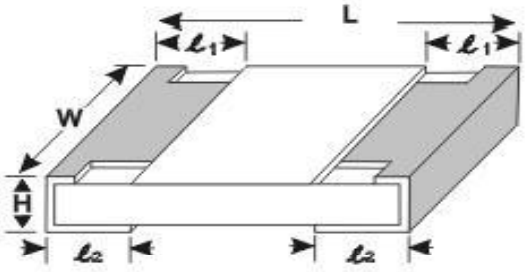
c. Resistive element : metal film

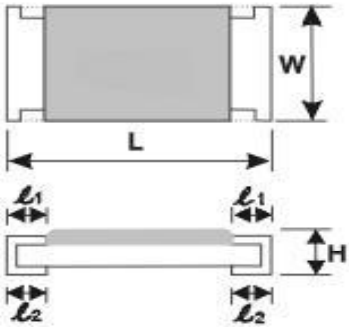
d. Termination (Inner) : Ag/Pd

e. Termination (Between) : Ni plating film

f. Termination (Outer) : Sn/Pb plating film

5. Power rating and dimensions





Dimension :

Type	Dimension (mm)				
	L ± 0.15	W + 0.15 - 0.10	H ± 0.10	λ_1 ± 0.2	λ_2 ± 0.2
RMC 0805	2.00	1.25	0.55	0.40	0.40

Power Rating :

Type	Power Rating at 70 □	Tolerance %	Standard Series
RMC 0805	0.10 W	± 1	E-24

7. Performance specification :

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature coefficient	10Ω□100Ω □ ± 200 PPM/□ 101Ω□1MΩ □ ± 100 PPM/□	5.2 Natural resistance change per temp. degree centigrade. $\frac{R_2-R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM/□) R_1: Resistance value at room temperature (t1) R_2: Resistance value at room temp. plus 100 □ (t2)
Short time overload	Resistance change rate is ± (1.0% + 0.1Ω) Max.	5.5 Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds
Insulation resistance	1,000 MΩ or more	5.6 Apply 500V DC between protective coating and termination for 1 min, then measure
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down	5.7 Apply 500V AC between protective coating and termination for 1 minute
Terminal bending	± (1.0% + 0.05Ω) Max.	6.1.4 Twist of Test Board : Y/X = 5/90 mm for 10 seconds
Temperature cycling	± (0.5% + 0.05Ω) Max.	7.4 Resistance change after continuous 5 cycles for duty cycle specified below :

Step	Temperature	Time
1	-55□ ± 3□	30 mins
2	Room temp.	10□15 mins
3	+125□ ± 2□	30 mins
4	Room temp.	10□15 mins

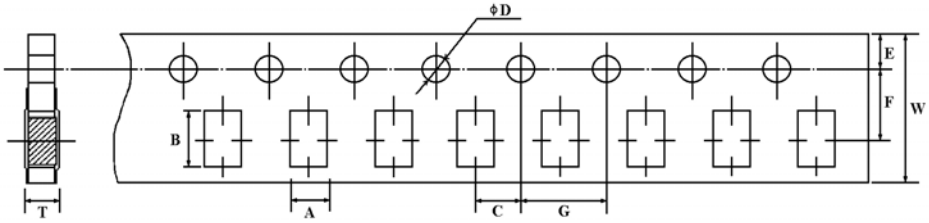
Load life in humidity	Resistance change rate is ± (1.0% + 0.1Ω) Max.	7.9 Resistance change after 1,000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at 40□ ± 2□ and 90 to 95 % relative humidity
Load Life	Resistance change rate is ± (1.0% + 0.1Ω) Max.	7.10 Permanent resistance change after 1,000 hours operating at RCWV, with duty cycle of (1.5 hours"on", 0.5 hour"off") at 70□ ± 2□ ambient

7. Performance specification :

Characteristics	Limits	Test Methods (JIS C 5201-1)
Soldering Heat	Electrical characteristics shall be satisfied. Without distinct deformation in appearance.	Solder bath method Pre-heat : 100 to 105 □, 30 ± 5 sec. Temperature : 265 ± 3□, 5 +1/-0 sec. Reflow soldering method Peak : 250 +5/-0□ 230□or higher 30 ± 10Sec. Soldering iron method Bit temperature : 350 ± 10□ Application time of soldering iron : 3 +1/-0sec.
Solderability	95 % coverage Min.	6.5 Test temperature of solder : 245 ± 3□ Dipping them solder : 2~3 seconds

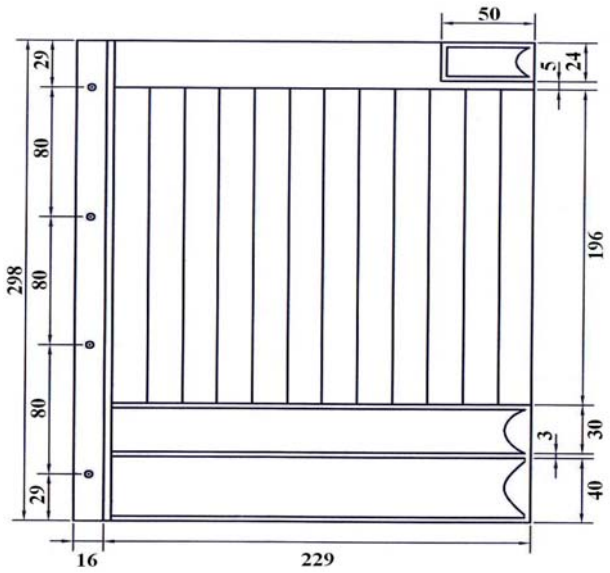
8. Packing specification :

* Taping Dimension (mm)

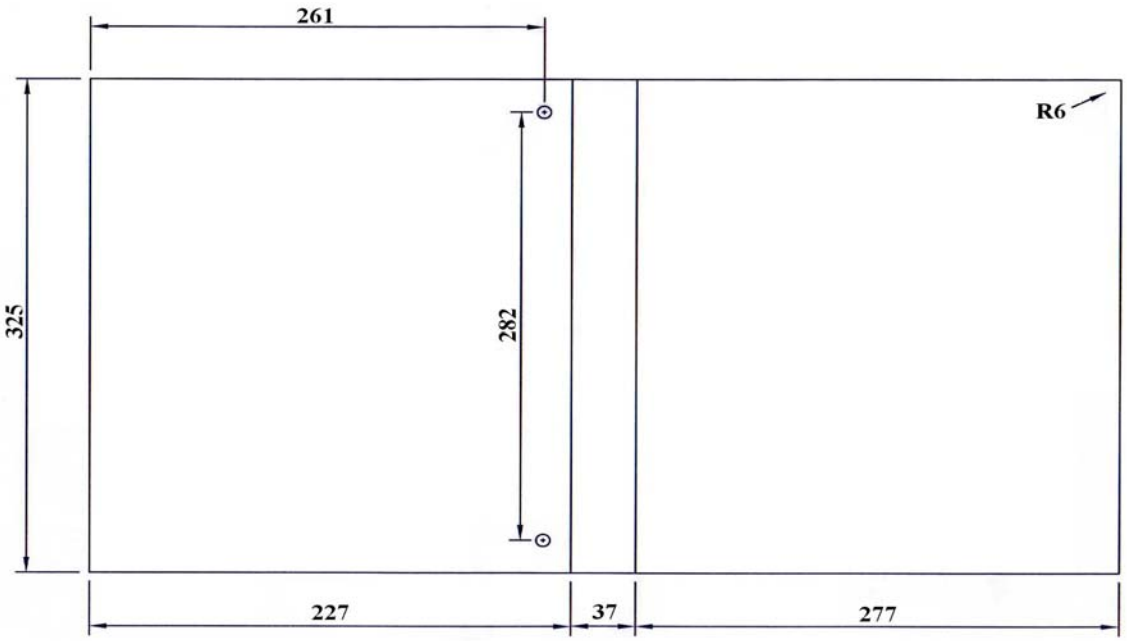


Type	A ± 0.2	B ± 0.2	C ± 0.05	ψD +0.1 - 0	E ± 0.1	F ± 0.05	G ± 0.1	W ± 0.2	T ± 0.1
0805	1.65	2.40	2.0	1.5	1.75	3.5	4.0	8.0	0.81

* Insert Chip Kit Dimension (mm)



* Chip Kit Album Dimension (mm)



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