

NEW

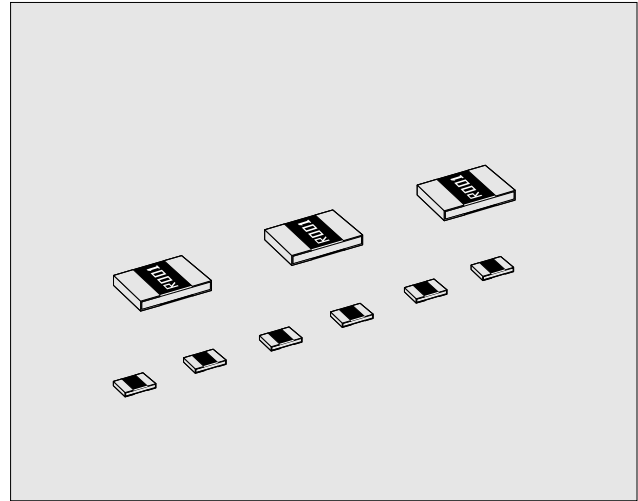
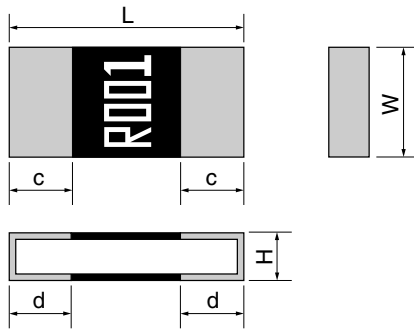
METAL-PLATE CHIP RESISTORS; LOW OHM

KAMAYA OHM

RLP,MLP

Chip Resistors
RLP**●Features**

1. New Lineup, 1mΩ to 5mΩ, 10mΩ, 15mΩ.
2. Suitable for current sensing of Battery pack.
3. Pb*1, Halogen*2 and Antimony*3 free product
 - *1 Pb ≤ 1000ppm
 - *2 Cl or Br ≤ 900ppm, Cl+Br ≤ 1500ppm
 - *3 Sb₂O₃ ≤ 900ppm
4. Stability Class: 5%

**●Dimensions**

Rated Resistnace marking is 4digit on over coating.
Please contact KAMAYA for marking of RLP16.

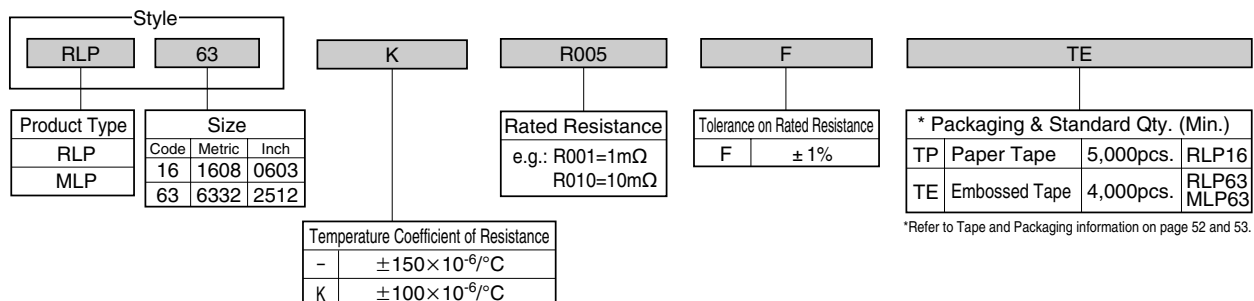
Unit : mm

Style	Metric	Inch	Rated Resistance	L	W	H	c	d	*Unit weight/pc.	
NEW RLP16	1608	0603	10mΩ	1.6 ± 0.1	0.8 ± 0.1	0.3 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	2mg	
RLP63	6332	2512	1mΩ	6.3 ± 0.25	0.32 ± 0.25	0.38 ± 0.15	2.2 ± 0.25	2.2 ± 0.25	50mg	
			5mΩ				0.34 ± 0.15	1.95 ± 0.25	1.95 ± 0.25	43mg
			10mΩ				0.23 ± 0.15	1.75 ± 0.25	1.75 ± 0.25	30mg
			15mΩ					0.95 ± 0.25	0.95 ± 0.25	26mg
			NEW MLP63						2mΩ	0.31 ± 0.25
3mΩ	0.48 ± 0.15	2.2 ± 0.25		2.2 ± 0.25	63mg					
4mΩ	0.37 ± 0.15	2.2 ± 0.25		2.2 ± 0.25	48mg					
5mΩ	0.51 ± 0.15	1.1 ± 0.25		1.1 ± 0.25	64mg					

*Values for reference

●Part Number Description

Example



*Refer to Tape and Packaging information on page 52 and 53.

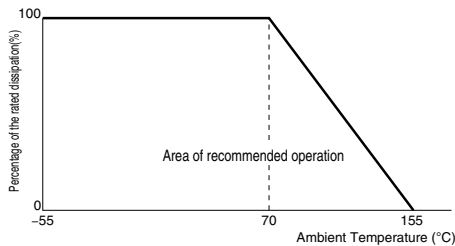
●Ratings

Style	Size Metric (Inch)	Rated Dissipation at 70°C W	Rated Current Range A	Combination of Rated Resistance Range and Temperature Coefficient of Resistance		Tolerance on Rated Resistance	Isolation Voltage V	Category Temperature Range °C
				Rated Resistance Range	Temperature Coefficient of Resistance 10 ⁻³ /°C			
RLP16	1608 (0603)	0.33	5.74	10m	± 100	F(± 1%)	100	-55~+155
RLP63	6332 (2512)	2.0	44.7	1m	± 150			
MLP63		1.0	8.16, 10, 14.1	5m ,10m ,15m	± 100			
		2.0	20, 22.3, 25.8, 31.6	2m ,3m ,4m ,5m				

Note1. Rated Current = $\sqrt{(\text{Rated Dissipation})/(\text{Rated Resistance})}$
 Note2. Rated Voltage = $\sqrt{(\text{Rated Dissipation}) \times (\text{Rated Resistance})}$. (d.c. or a.c. r.m.s. Voltage)
 Note3. Please contact Kamaya Sales Dept. for any other resistance values.

●Derating Curve

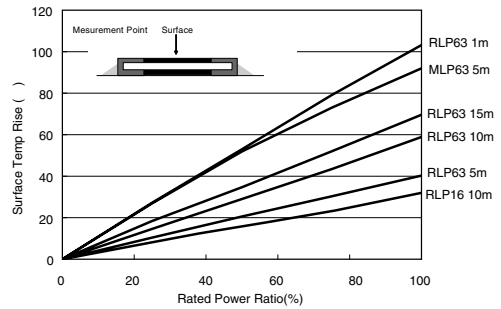
The derated values of dissipation for temperatures in excess of 70°C shall be indicated by the following Curve.



●Climatic Category

55/155/56
 Lower Category Temperature -55°C
 Upper Category Temperature +155°C
 Duration of the Damp heat, Steady-State Test 56 days

●Surface Temperature Rise (Reference)

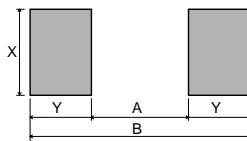


*Because values are different, please contact Kamaya salesdepartment for the details about deployment condition and terms of use.

●Rated Resistance

Style	Resistance	Code
RLP63	1m	R001
MLP63	2m	R002
	3m	R003
	4m	R004
RLP63 · MLP63	5m	R005
RLP16 · RLP63	10m	R010
RLP63	15m	R015

●Recommended land Pattern



Style	Metric	Inch	Rated Resistance	A	B	X	Y
RLP16	1608	0603	10m	1.0	2.2	0.8	0.6
RLP63	6332	2512	1m	2.0	7.6	3.5	2.8
			5m	2.4			2.6
			10m	4.0			1.8
			15m	1.8			2.9
			2m				
3m							
MLP63			4m	4.0			2.9
			5m				1.8

Unit : mm

●Performance Characteristics JIS C 5201-1 : 1998

Description	Requirements	Test Methods
Voltage proof	No breakdown or flashover R _z ≥1G ohm	Clause 4.7 100Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8 Measuring temperature : +20°C/+155°C/+20°C
Overload	ΔR _s ±1% No visible damage, legible marking	Clause 4.13 The applied voltage shall be 2.5 times of Rated Voltage, or equivalent current 2s.
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17 235°C, 2s
Resistance to soldering heat	ΔR _s ±1%	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in Solder bath at 260°C for 5s.
Rapid change of temperature	ΔR _s ±1% No visible damage	Clause 4.19 5 cycles between -55°C and +155°C.
Climatic sequence	ΔR _s ±5% No visible damage	Clause 4.23 Dry/Damp heat(12+12h cycle), first cycle/ Cold/Damp heat(12+12h cycle), remaining cycle./ D.C. Load.
Damp test, steady state	ΔR _s ±5% No visible damage, legible marking	Clause 4.24 40°C, 95%R.H., 56 days, test a) of Clause 4.24.2.1
Endurance at 70°C	ΔR _s ±5% No visible damage	Clause 4.25.1 Rated current, 1.5h "ON", 0.5h "OFF", 70°C, 1,000h.
Endurance at the upper category temperature	ΔR _s ±5% No visible damage	Clause 4.25.3 155°C, no-load, 1,000h.
Adhesion	No visible damage	Clause 4.32 5N, 10s
Bend strength of the face plating	ΔR _s ±1%	Clause 4.33 RLP16 Amount of bend : 3 mm RLP63,MLP63 Amount of bend : 1 mm

*Values for reference

●Precautions of use

Resistance value will be changed by soldering condition.
 Please design products in consideration of this change of resistance value.