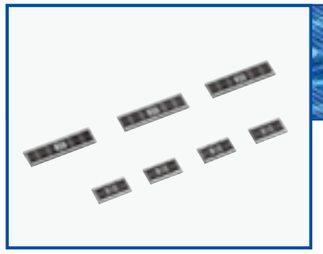


Low resistance chip resistors (long side terminal type)

This series includes(some of) former PRL/RL series

Lead free | Halogen free | RoHS Compliance

Features

- The distinctive structure that encourages heat dissipation and radiation limits the rise of the surface temperature, allows the realization of smaller sizes, and reduces influence of heat on surrounding components. Low ESL contributes to less noise. This product also withstands temperature cycles very well.

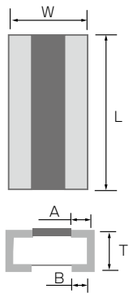
Applications

- PCs, power sources, inverters, automotive electronics, adaptors and industrial machining equipment.

Specifications

*All made to order.

Dimensions



Dimension (mm)	PRL0816 (0603)	PRL1220 (0805)	PRL1632 (1206)	PRL3264 (2512)	RL3720W (1508)	RL7520W (3008)
L	1.60±0.20	2.00±0.20	3.20±0.20	6.40±0.20	3.75±0.30	7.50±0.30
W	0.80±0.20	1.25±0.20	1.60±0.20	3.20±0.20	2.00±0.20	2.00±0.20
A	–	–	–	–	0.40±0.20	0.40±0.20
B	0.20±0.10	0.35±0.15	0.45±0.15	0.90±0.15	0.40+0.20	0.40±0.20
T	0.40±0.10	0.50±0.10	0.50±0.10	0.50±0.10	0.50±0.20	0.50±0.20

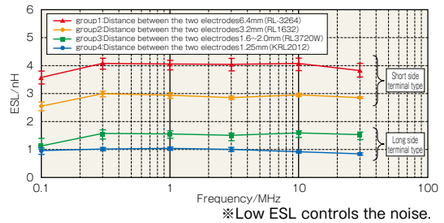
(unit : mm)

Electrical characteristics

Series name		PRL0816		PRL1220			PRL1632		PRL3264			
Power		1/3W		2/3W			1W		2W			
E series offered		E-24		E-24 1mΩstep(7m～10mΩ)			E-24 1mΩstep(5m～10mΩ)		E-24 1mΩstep(3m～10mΩ)			
Initial resistance value(Ω)		0.01～0.039	0.043～0.1	0.007～0.009	0.01～0.043	0.047～0.1	0.005～0.009	0.01～0.1	0.003～0.004	0.005～0.009	0.010～0.043	0.047～0.1
Resistance tolerance (%)	±0.5% (D)	–	○	–	–	○	–	○	–	–	–	○
	±1.0% (F)	○	○	–	○	○	○	○	–	–	○	○
	±2.0% (G)	–	–	○	○	○	○	○	–	○	○	○
	±5.0% (J)	–	–	–	–	–	–	–	○	–	–	–
Temperature coefficient of resistance (ppm/℃)		15mΩ or less 0～350ppm/℃ 18m～27mΩ 0～200ppm/℃ 33m～68mΩ ±100ppm/℃ 75m～100mΩ ±50ppm/℃		7m～9mΩ 0～350ppm/℃ 10m～18mΩ 0～200ppm/℃ 20m～51mΩ ±100ppm/℃ 56m～100mΩ ±50ppm/℃			9mΩ or less 0～350ppm/℃ 10m～18mΩ 0～200ppm/℃ 20m～51mΩ ±100ppm/℃ 56m～100mΩ ±50ppm/℃					
Maximum voltage		√(P・R)										
Operating temperature		−55℃～125℃										
Packaging	5,000pcs	○										

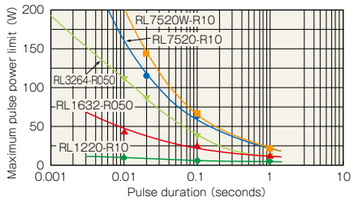
Series name		RL3720W				RL7520W			
power		1W				2W			
E series offered		E-24 1mΩstep(1m～10mΩ)				E-24 1mΩstep(1m～10mΩ)			
Initial resistance value(Ω)		0.001～0.004	0.005～0.009	0.010～0.091	0.1～1.0	0.001～0.004	0.005～0.009	0.010～0.091	0.1～0.47
Resistance tolerance(%)	±1.0% (F)	○	○	○	○	○	○	○	○
	±2.0% (G)	○	○	○	○	○	○	○	○
	±5.0% (J)	–	–	–	–	○	○	–	–
Temperature coefficient of resistance (ppm/℃)	0～+50(Q)	–	–	–	○	–	–	–	○
	0～+100(R)	–	–	–	○	–	–	○	○
	0～+200(S)	–	○	○	○	–	–	–	○
	0～+350(T)	○	○	○	–	–	–	○	–
	0～+420(T)	–	–	–	–	–	○	–	–
	0～+800(T)	–	–	–	–	○	–	–	–
Maximum voltage		√(P・R)							
Operating temperature		−55℃～125℃							
Packaging	4,000pcs	○							

ESL



※Low ESL controls the noise.

Resistance to power pulse



Test procedure

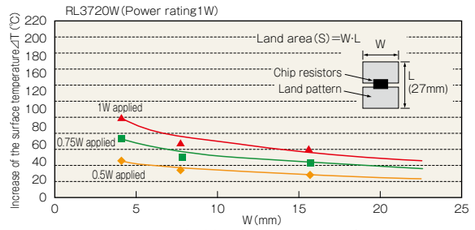
Voltage pulse is applied to the test samples mounted on the test board.

After each pulse, resistance drift is measured. Pulse voltage is increased until the drift exceeds +/-0.5%. The power at that voltage is defined as the maximum pulse power.

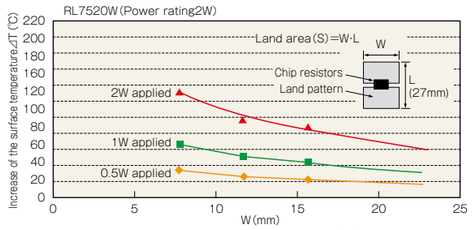
Surface temperature data

The high power type land pattern and surface temperature

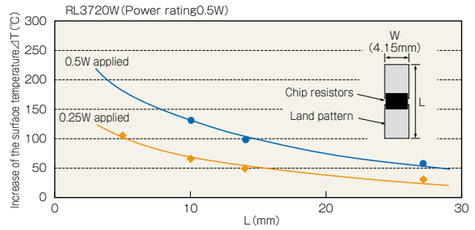
These high-power low resistance chip resistors are designed to dissipate heat efficiently through the land patterns on circuit boards. The actual temperature of the surface of the resistor is dependent upon the dimensions and the shape of the land patterns.



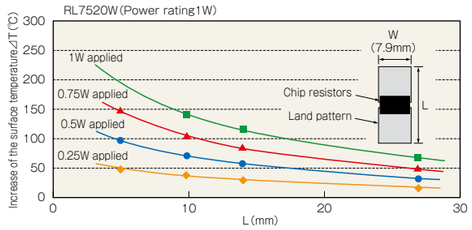
RL3720W (Power rating1W)



RL7520W (Power rating2W)

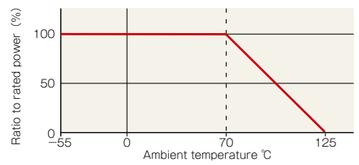


RL3720W (Power rating0.5W)

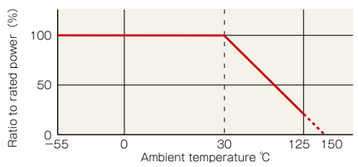


RL7520W (Power rating1W)

Power derating characteristics



Power derating curve
RL3720W



RL7520W

Part numbering system

PRL 1220 T - R10 - F - (T5)

- Packaging:T5(5000pcs)
- Resistance tolerance
- Resistance value
- Temperature coefficient of resistance
- Size
- Series code

〈OLD P/N〉 RL 3720W T - R10 - F