



# Low resistance chip resistors (short-side terminal)

## RL series

### Features

- Innovative structure that takes consideration of heat dissipation suppress the surface temperature enabling the small sizes reducing the influence of heat on surrounding components.

### Applications

- PC power sources, inverters, automotive electronics, adapters, industrial machines



\*1 : Except for RL0510, RL1632 and RL3264

### ◆Part numbering system



### ◆Electrical Specification

| Type   | Power ratings | Temperature coefficient of resistance | Resistance range(Ω) Resistance tolerance |            |           | Maximum voltage | Resistance value series | Operating temperature | Packaging quantity |          |
|--------|---------------|---------------------------------------|------------------------------------------|------------|-----------|-----------------|-------------------------|-----------------------|--------------------|----------|
|        |               | (ppm/°C)                              | ±1% (F)                                  | ±2% (G)    | ±5% (J)   |                 |                         |                       |                    |          |
| RL0510 | 1/8W          | 0 ~ +350(T)                           | 50m≤R<100m                               |            |           | √(P · R)        | E-24                    | -55℃<br>~ 125℃        | 10,000pcs          |          |
|        | 1/6W          | 0 ~ +200(S)                           | 100m≤R≤4.7                               |            | —         |                 |                         |                       |                    |          |
| RL0816 | 1/4W          | 0 ~ +200(S)                           | 20m≤R<100m                               |            |           |                 |                         |                       |                    | 5,000pcs |
|        | 1/5W          | 0 ~ +350(T)                           |                                          |            |           |                 |                         |                       |                    |          |
|        |               | 0 ~ +100(R)                           | 100m≤R≤6.8                               | —          |           |                 |                         |                       |                    |          |
|        |               | 0 ~ +200(S)                           | 7.5≤R≤68                                 |            |           |                 |                         |                       |                    |          |
| RL1220 | 1/4W          | 0 ~ +200(S)                           | 43m≤91m                                  |            |           |                 |                         |                       |                    | 5,000pcs |
|        | 1/3W          | 0 ~ +350(T)                           | 10m≤91m                                  |            |           |                 |                         |                       |                    |          |
|        |               | 0 ~ +100(R)                           | 100m≤R≤10                                |            |           |                 |                         |                       |                    |          |
|        |               | 0 ~ +200(S)                           | 11≤R≤100                                 |            |           |                 |                         |                       |                    |          |
| RL1632 | 1/2W          | 0 ~ +100(R)                           | 510m≤R≤4.7 <sup>*1</sup>                 | 56m≤R≤470m | —         |                 |                         |                       | —                  | T1<br>T5 |
|        |               | 0 ~ +200(S)                           | —                                        | 33m≤R≤51m  |           |                 |                         |                       |                    |          |
|        |               | 0 ~ +350(T)                           |                                          | 27m≤R≤30m  | 18m≤R≤24m |                 |                         |                       |                    |          |
|        |               | 0 ~ +500(T)                           |                                          | —          | 10m≤R≤16m |                 |                         |                       |                    |          |

\*1 RL series with resistance tolerance 0.5% is also available. Please contact our sales office.

◆Dimensions



| Type   |                      | Size<br>(inch) | L               | W               | a               | b               | t                      |
|--------|----------------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------------|
| RL0510 | $R \leq 0.2\Omega$   | 0402           | $1.00 \pm 0.05$ | $0.50 \pm 0.05$ | $0.15 \pm 0.10$ | $0.25 \pm 0.10$ | $0.35 + 0.15 / - 0.10$ |
|        | $R > 0.2\Omega$      |                |                 |                 |                 | $0.15 \pm 0.10$ | $0.35 \pm 0.10$        |
| RL0816 | $R \leq 0.082\Omega$ | 0603           | $1.60 \pm 0.20$ | $0.80 \pm 0.20$ | $0.20 \pm 0.15$ | $0.25 \pm 0.20$ | $0.45 + 0.15 / - 0.10$ |
|        | $R > 0.091\Omega$    |                |                 |                 |                 | $0.20 \pm 0.15$ | $0.45 \pm 0.10$        |
| RL1220 | $R \leq 0.068\Omega$ | 0805           | $2.00 \pm 0.20$ | $1.25 \pm 0.20$ | $0.40 \pm 0.20$ | $0.40 \pm 0.20$ | $0.50 \pm 0.20$        |
|        | $R > 0.075\Omega$    |                |                 |                 |                 | $0.40 \pm 0.20$ | $0.40 \pm 0.10$        |
| RL1632 |                      | 1206           | $3.20 \pm 0.20$ | $1.60 \pm 0.20$ | —               | $1.00 \pm 0.15$ | $0.50 \pm 0.15$        |

(unit : mm)

◆Derating Curve



◆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.