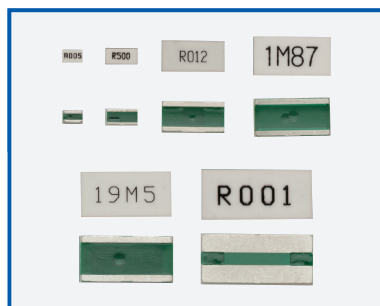




## Metal foil low resistance chip resistors (long-side terminals)

KRL series

AEC-Q200 Compliant

### Features

- The C type utilizes materials that withstand high temperatures and can be operated up to 175°C. The M type utilizes low emf materials that are stable up to 155°C. TCR is very stable for very low resistance:  $\pm 150\text{ppm}/^\circ\text{C}$  for 1mΩ,  $\pm 100\text{ppm}/^\circ\text{C}$  for 2mΩ, and  $\pm 50\text{ppm}/^\circ\text{C}$  for 3mΩ. Face down mounting allows for accurate current measurement. Long and short side terminal types, as well as power ratings from 1W to 6W are offered to meet customers' specific requirements. The protective outer coating is halogen free in consideration of the environment.

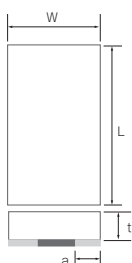
### Applications

- PCs, hard drive discs, audio visual equipments, power sources, inverters, automotive electronics, industrial machining equipments, industrial test and measurements, etc.

### Specifications

\*All made to order.

#### Dimensions



| Dimensions (mm) | KRL2012   | KRL3216   | KRL6432   | KRL7638   | KRL9045   | KRL11050   |
|-----------------|-----------|-----------|-----------|-----------|-----------|------------|
| L               | 2.00±0.20 | 3.20±0.20 | 6.30±0.20 | 7.60±0.20 | 9.00±0.20 | 11.00±0.20 |
| W               | 1.25±0.20 | 1.60±0.20 | 3.10±0.20 | 3.80±0.20 | 4.50±0.20 | 5.00±0.20  |
| t               | 0.50±0.20 | 0.50±0.20 | 0.50±0.20 | 0.50±0.20 | 0.50±0.20 | 0.50±0.20  |
| a (1.0mΩ)       | 0.55±0.20 | 0.55±0.20 | 1.20±0.20 | 1.35±0.20 | 1.60±0.20 | 1.60±0.20  |
| a (2.0mΩ~)      | 0.30±0.20 | 0.30±0.20 | 0.50±0.20 | 0.60±0.20 | 0.70±0.20 | 0.80±0.20  |

#### Electrical characteristics

| Series name                                    | KRL2012  |               |       |          | KRL3216  |    |       |          | KRL6432  |    |       |          | KRL7638  |    |       |          | KRL9045  |    |       |          | KRL11050 |    |       |          |
|------------------------------------------------|----------|---------------|-------|----------|----------|----|-------|----------|----------|----|-------|----------|----------|----|-------|----------|----------|----|-------|----------|----------|----|-------|----------|
| Power                                          | 1W       |               |       |          | 1.5W     |    |       |          | 3W       |    |       |          | 4W       |    |       |          | 5W       |    |       |          | 6W       |    |       |          |
| E series offered                               | 1mΩ STEP |               | E-6   |          | 1mΩ STEP |    | E-6   |          | 1mΩ STEP |    | E-6   |          | 1mΩ STEP |    | E-6   |          | 1mΩ STEP |    | E-6   |          | 1mΩ STEP |    | E-6   |          |
| Resistance range (Ω)                           | 1m       | 2m            | 3m~9m | 10m~500m | 1m       | 2m | 3m~9m | 10m~500m | 1m       | 2m | 3m~9m | 10m~500m | 1m       | 2m | 3m~9m | 10m~500m | 1m       | 2m | 3m~9m | 10m~500m | 1m       | 2m | 3m~9m | 10m~500m |
| Resistance tolerance (%)                       | ±1.0(F)  | —             | —     | ○        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        |
|                                                | ±2.0(G)  | —             | ○     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        |
|                                                | ±5.0(J)  | ○             | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        |
| Temperature coefficient of resistance (ppm/°C) | ±50      | —             | —     | ○        | ○        | —  | —     | ○        | ○        | —  | —     | ○        | ○        | —  | —     | ○        | ○        | —  | —     | ○        | ○        | —  | —     | ○        |
|                                                | ±100     | —             | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        | —        | —  | ○     | —        |
|                                                | ±150     | ○             | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        | —        | ○  | —     | —        |
| Operating temperature                          | C        | -55°C ~ 175°C |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |
|                                                | M        | -55°C ~ 155°C |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |
| Rated ambient temperature (at terminals)       | C        | 120°C or less |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |
|                                                | M        | 100°C or less |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |          |    |       |          |
| Packaging                                      | 1,000pcs | ○             | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        |
|                                                | 5,000pcs | ○             | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        | ○        | ○  | ○     | ○        |

### Part numbering system

**KRL 2012 E - C - R010 - F - T1**

- Series code
- Size
- Lap electrode type: D (Bottom electrode) E (U-shape electrode)
- Operating temperature: C (High temperature type) M (Low emf type)
- Resistance value
- Resistance tolerance
- Packaging: T1 (1000pieces) T5 (5000pieces)