



# Metal foil low resistance chip resistors (4 terminal type)

## ■KRL series

### Features

- Separated voltage terminal for precise measurement of voltage
- TCR stable at very low resistance:  $4\text{m}\Omega$ :  $\pm 50\text{ppm}/^\circ\text{C}$
- Power ratings:  $1\text{W} \sim 5\text{W}$

### Applications

- Smartphones, mobile telephones, PCs, HDD, audio visual equipment, power devices, inverters.
- automotive electronics, industrial measurement instrumentation/equipment.



## ◆Part numbering system

**KRL 3216T4 - M - R010 - F - T1**  
**(KRL 3216T4A - M - R010 - F - T1)**

Series code

Size: KRL3216T4, KRL6432T4, KRL7638T4  
 KRL9045T4, KRL11050T4,

Temperature characteristics type: M (low EMF)

Packaging quantity:  
 T1(1,000pcs), T5(5,000pcs)

Resistance tolerance

Nominal resistance value

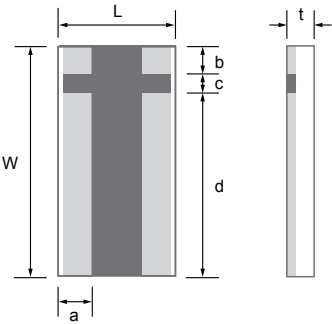
## ◆Electrical Specification

| Type                             | Power ratings | Temperature coefficient of resistance | Resistance range( $\Omega$ ) Resistance tolerance <sup>*1</sup>                                                                                            |                     |                     | Resistance value series | Operating temperature                                  | Packaging quantity |
|----------------------------------|---------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-------------------------|--------------------------------------------------------|--------------------|
|                                  |               | (ppm/ $^\circ\text{C}$ )              | $\pm 1\%$ (F)                                                                                                                                              | $\pm 2\%$ (G)       | $\pm 5\%$ (J)       |                         |                                                        |                    |
| <b>KRL3216T4</b><br>(KRL3216T4A) | 1W            | $\pm 50$<br>( $\pm 35$ )              | $4\text{m}\Omega \leq R \leq 9\text{m}\Omega$<br>(1m step)<br>$10\text{m}\Omega \leq R \leq 100\text{m}\Omega$<br>$R=200\text{m}\Omega, 500\text{m}\Omega$ | —                   | —                   | E6 <sup>*2</sup>        | $-55^\circ\text{C} \sim 155^\circ\text{C}$<br>(Code M) | T1<br>T5           |
|                                  |               | $\pm 100$ ( $\pm 75$ )                | $R=3\text{m}\Omega$                                                                                                                                        | $R=2\text{m}\Omega$ | $R=1\text{m}\Omega$ |                         |                                                        |                    |
| <b>KRL6432T4</b>                 | 2W            | $\pm 50$                              | $4\text{m}\Omega \leq R \leq 9\text{m}\Omega$<br>(1m step)<br>$10\text{m}\Omega \leq R \leq 100\text{m}\Omega$<br>$R=200\text{m}\Omega, 500\text{m}\Omega$ | —                   | —                   |                         |                                                        |                    |
|                                  |               | $\pm 100$                             | $R=3\text{m}\Omega$                                                                                                                                        | $R=2\text{m}\Omega$ | $R=1\text{m}\Omega$ |                         |                                                        |                    |
| <b>KRL7638T4</b>                 | 3W            | $\pm 50$                              | $4\text{m}\Omega \leq R \leq 9\text{m}\Omega$<br>(1m step)<br>$10\text{m}\Omega \leq R \leq 100\text{m}\Omega$<br>$R=200\text{m}\Omega, 500\text{m}\Omega$ | —                   | —                   |                         |                                                        |                    |
|                                  |               | $\pm 100$                             | $R=3\text{m}\Omega$                                                                                                                                        | $R=2\text{m}\Omega$ | $R=1\text{m}\Omega$ |                         |                                                        |                    |
| <b>KRL9045T4</b>                 | 4W            | $\pm 50$                              | $4\text{m}\Omega \leq R \leq 9\text{m}\Omega$<br>(1m step)<br>$10\text{m}\Omega \leq R \leq 100\text{m}\Omega$<br>$R=200\text{m}\Omega, 500\text{m}\Omega$ | —                   | —                   |                         |                                                        | T1                 |
|                                  |               | $\pm 100$                             | $R=3\text{m}\Omega$                                                                                                                                        | $R=2\text{m}\Omega$ | $R=1\text{m}\Omega$ |                         |                                                        |                    |
| <b>KRL11050T4</b>                | 5W            | $\pm 50$                              | $4\text{m}\Omega \leq R \leq 9\text{m}\Omega$<br>(1m step)<br>$10\text{m}\Omega \leq R \leq 100\text{m}\Omega$<br>$R=200\text{m}\Omega, 500\text{m}\Omega$ | —                   | —                   |                         |                                                        | T1                 |
|                                  |               | $\pm 100$                             | $R=3\text{m}\Omega$                                                                                                                                        | $R=2\text{m}\Omega$ | $R=1\text{m}\Omega$ |                         |                                                        |                    |

\*1 We can meet your requirement of less than  $1\text{m}\Omega$ . Please contact our sales office.

\*2 We can meet your requirement of resistance value outside of E-6 series. Please contact our sales office.

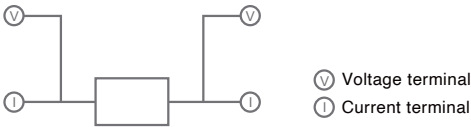
◆Dimensions



| Type       | Size (inch) | L         | W         | a         | b         | c         | d         | t         |
|------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| KRL3216T4  | 0612        | 1.60±0.20 | 3.20±0.20 | 0.35±0.20 | 0.35±0.15 | 0.20±0.10 | 2.65±0.15 | 0.50±0.20 |
| KRL3216T4A | 0612        | 1.60±0.20 | 3.20±0.20 | 0.45±0.20 | 0.50±0.20 | 0.50±0.20 | 2.20±0.20 | 0.50±0.20 |
| KRL6432T4  | 1225        | 3.20±0.20 | 6.40±0.20 | 0.50±0.20 | 0.70±0.15 | 0.50±0.10 | 5.20±0.15 | 0.50±0.20 |
| KRL7638T4  | 1530        | 3.80±0.20 | 7.60±0.20 | 0.55±0.20 | 0.80±0.20 | 0.60±0.20 | 6.20±0.10 | 0.50±0.20 |
| KRL9045T4  | 1835        | 4.50±0.20 | 9.00±0.20 | 0.50±0.20 | 0.70±0.20 | 0.50±0.20 | 5.20±0.10 | 0.50±0.20 |
| KRL11050T4 | 2043        | 5.00±0.20 | 11.0±0.20 | 0.70±0.20 | 1.40±0.20 | 1.10±0.20 | 8.50±0.10 | 0.50±0.20 |

(unit : mm)

◆Circuit diagram



◆Derating Curve

