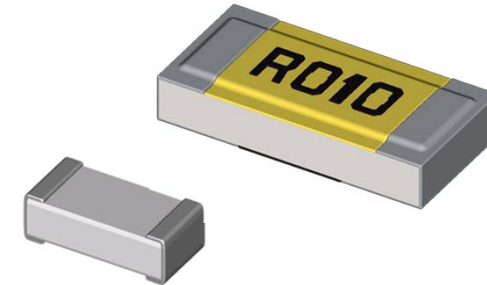


# Thick Film Type Current Sensing Resistor(RUK Series)

- 1608(0603), 2012(0805), 3216(1206), 6432(2512)



## ■ Features

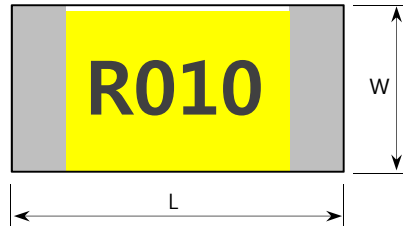
- Current Sensing Resistor
- Very Low Resistance with Low T.C.R.
- High Power
- Stable in Sulfur Atmosphere (Sulfur Resistant)
- 100% Lead Free Component.
- EU RoHS Compliant.

## ■ Part Number System

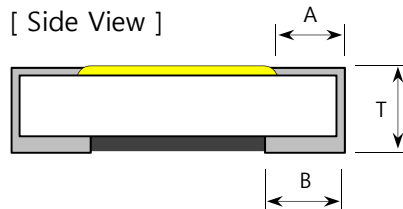
RUK		2012		F		R010		CS	
Type (Series)		Size : mm (inch)		Tolerance		Resistance Value		Packing Type	
RUK	Thick film Ultra low ohm and low TCR chip resistor	1608	1.6×0.8mm (0603)	F	±1%	-4-digit coding System (E-24 series) •R010 : 0.010Ω=10mΩ		CS	7" reel
		2012	2.0×1.2mm (0805)	J	±5%			ES	10" reel
		3216	3.2×1.6mm (1206)					AS	13" reel
		6432	6.4×3.2mm (2512)						

## ■ Structure and Dimensions

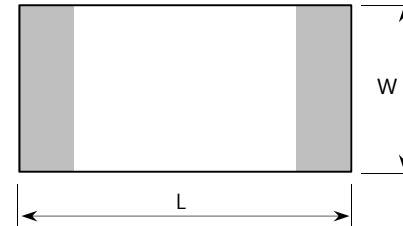
[ Top ] -2012(0805) and bigger size



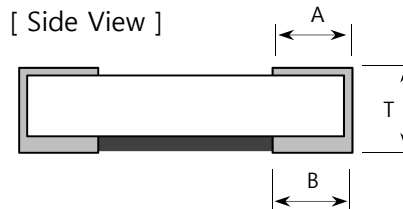
[ Side View ]



[ Top ] -1608(0603) and smaller size



[ Side View ]



[ Bottom View ]



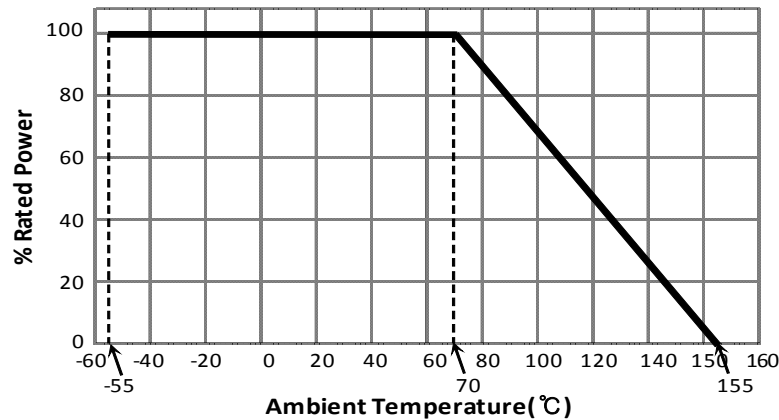
[ Unit : mm ]

Size (mil)	L	W	T	A	B	Average Weight
<b>RUK1608 (0603)</b>	1.60±0.10	0.80±0.10	R<15m : 0.55±0.10 R≥15m : 0.45±0.10	0.35±0.20	0.40±0.20	2.7mg
<b>RUK2012 (0805)</b>	2.00±0.20	1.25±0.15	R<15m : 0.60±0.10 R≥15m : 0.55±0.10	0.40±0.20	0.55±0.20	5.5mg
<b>RUK3216 (1206)</b>	3.20±0.20	1.60±0.15	R<15m : 0.65±0.10 R≥15m : 0.60±0.10	0.45±0.20	0.90±0.20	11.5mg
<b>RUK6432 (2512)</b>	6.30±0.20	3.20±0.20	R<15m : 0.65±0.10 R≥15m : 0.60±0.10	1.15±0.20	0.90±0.20	49mg

### ■ Application Characteristics

Type mm(mil)	Power Rating [W]	Tolerance [%]	Resistance Range [Ω]	T.C.R * [ppm/°C]	Working Temp. [°C]
RUK1608	1/2(0.50)	F(±1), J(±5)	0.010 ~ 0.030	±100	-55 ~ +155
RUK2012	1/2(0.50)	F(±1), J(±5)	0.007 ~ 0.009	±250	
			0.010 ~ 0.030	±100	
RUK3216	1	F(±1), J(±5)	0.010 ~ 0.030	±100	
RUK6432	1	F(±1), J(±5)	0.007 ~ 0.009	±500	
			0.010 ~ 0.030	±100	

### ■ Power Derating Curve

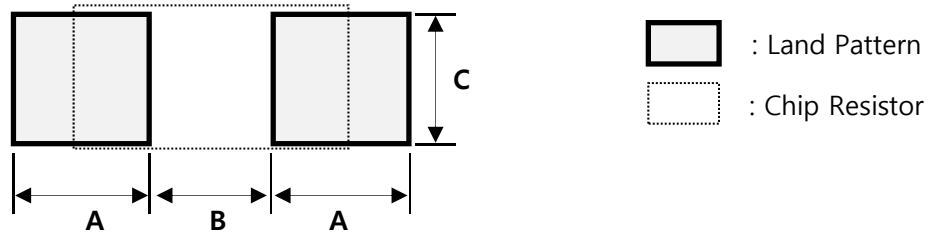


### ■ Rated Voltage

- $V = \sqrt{P \times R}$
- $I = \sqrt{P / R}$

V : Rated Voltage (V)  
 I : Rated Current (I)  
 P : Rated Power (W)  
 R : Resistance Value (Ω)

## ■ Standard Soldering Pad Dimensions



[ Unit : mm ]

Size (mil)	Reflow Soldering			
Dimension	A	B	2A + B	C
RUK1608 (0603)	0.80	0.50	2.10	0.80
RUK2012 (0805)	0.90	0.80	2.60	1.20
RUK3216 (1206)	1.70	1.20	4.60	1.40
RUK6432 (2512)	2.30	3.00	7.60	3.30

## ■ Performance Characteristics

ITEM	Requirements Specification	Test Conditions (JIS C 5201-1)
	Resistors	
Resistance	Within the specified tolerance	JIS C 5201-1 4.5
Temperature Characteristic	$\Delta R \leq \pm 100\text{ppm}$	JIS C 5201-1 4.8 +20°C → -55°C / +20°C → +125°C
Short time Overload	$\Delta R < \pm 1\% + 0.0005\Omega$	JIS C 5201-1 4.13 Rated Current × 2.5, 5sec
Solderability	Immersed over 95%	JIS C 5201-1 4.17 Rosin Ethanol (25%WT) 245±5/-0°C, 2±0.5 sec
Resistance to Solder Heat	$\Delta R < \pm 1\% + 0.0005\Omega$	JIS C 5201-1 4.18 260±5°C, 10±1 sec
Temperature Cycle	$\Delta R < \pm 1\% + 0.0005\Omega$	JIS C 5201-1 4.19 -55°C ↔ +155°C, 100 cycle
Moisture Resistance	$\Delta R < \pm 3\% + 0.0005\Omega$	JIS C 5201-1 4.24 40±2°C, 90~95%RH, 1000 <sup>+48</sup> hours
Load Life	$\Delta R < \pm 3\% + 0.0005\Omega$	JIS C 5201-1 4.25 Rated Current, 70±2°C, 1000 <sup>+48</sup> hours 90mins ON, 30mins OFF
High Temp. Exposure	$\Delta R < \pm 3\% + 0.0005\Omega$	JIS C 5201-1 4.25.3 155±2°C, 1000 <sup>+48</sup> hours
Flower of Sulfur (FOS)	$\Delta R < \pm 1\% + 0.1\Omega$	105°C, FoS, 720 <sup>+2</sup> hours

※ The reliability test condition can be replaced by the corresponding accelerated test condition.

 Product specifications included in the specifications are effective as of March 01, 2015.

Please be advised that they are standard product specifications for reference only.

We may change, modify or discontinue the product specifications without notice at any time.

So, you need to approve the product specifications before placing an order.

Should you have any question regarding the product specifications,

please contact our sales personnel or application engineers.