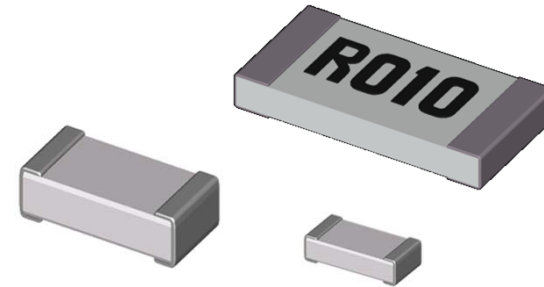


Thick Film Type Current Sensing Resistor (RU Series)

- 1005(0402), 1608(0603), 2012(0805), 3216(1206)
3225(1210), 5025(2010), 6432(2512)

■ Features

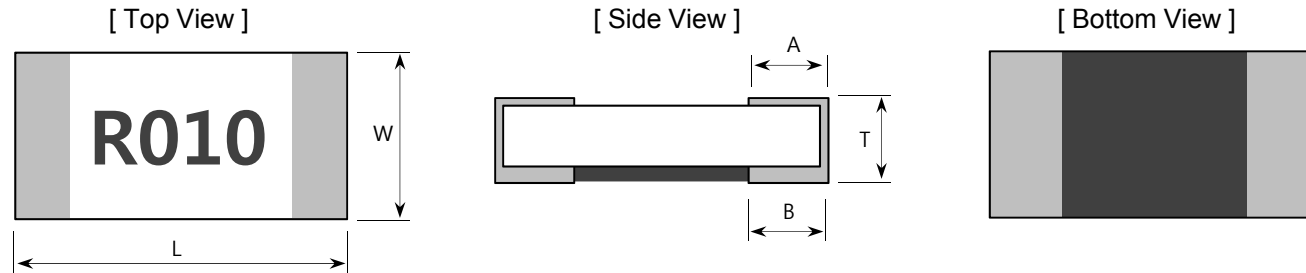
- Current Sensing Resistor
- Very low resistance with high precision reliability.
- Low T. C. R
- Stable in Sulfur Atmosphere (Sulfur Resistant)
- 100% Lead Free Component.
- EU RoHS Compliant.



■ Part Number System

RU		1608		F		R010	CS	
Type (Series)		Size : mm (inch)		Tolerance		Resistance Value	Packing Type	
RU	Thick film Ultra low ohm chip resistor	1005	1.0×0.5mm (0402)	F	±1%	- 4-digit code System (E-24 series) - R010 : 0.010Ω=10mΩ	CS	7" reel
		1608	1.6×0.8mm (0603)	J	±5%		ES	10" reel
		2012	2.0×1.2mm (0805)				AS	13" reel
		3216	3.2×1.6mm (1206)					
		3225	3.2×2.5mm (1210)					
		5025	5.0×2.5mm (2010)					
		6432	6.4×3.2mm (2512)					

■ Structure and Dimensions



[Unit : mm]

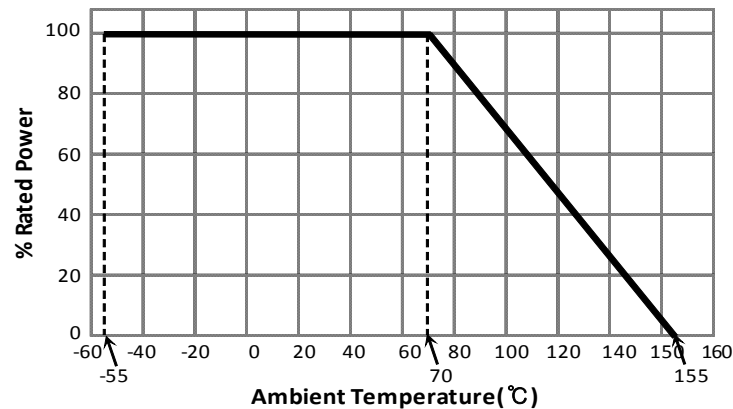
Size (mil)	L	W	T	A	B	Average Weight
RU1005 (0402)	1.00±0.05	0.50±0.05	0.35±0.05	0.25±0.15	0.25±0.15	0.6mg
RU1608 (0603)	1.60±0.10	0.80±0.10	0.45±0.10	0.30±0.20	R≤0.05Ω : 0.50±0.20 R>0.05Ω : 0.35±0.20	2.2mg
RU2012 (0805)	2.00±0.20	1.25±0.15	0.55±0.10	0.40±0.20	R≤0.05Ω : 0.65±0.20 R>0.05Ω : 0.40±0.20	4.7mg
RU3216 (1206)	3.20±0.20	1.60±0.15	0.60±0.10	0.45±0.20	R≤0.05Ω : 0.90±0.20 R>0.05Ω : 0.60±0.20	9.4mg
RU3225 (1210)	3.20±0.20	2.55±0.20	0.60±0.10	0.45±0.20	R≤0.05Ω : 1.20±0.20 R>0.05Ω : 0.75±0.20	9.5mg
RU5025 (2010)	5.00±0.20	2.50±0.20	0.60±0.10	0.50±0.20	R≤0.05Ω : 1.50±0.20 R>0.05Ω : 0.90±0.20	27g
RU6432 (2512)	6.30±0.20	3.20±0.20	0.60±0.10	0.50±0.20	R≤0.05Ω : 1.90±0.20 R>0.05Ω : 1.10±0.25	42mg

※ 1608 and smaller sizes don't have marking on the top of the chips

■ Application Characteristics

Type mm(mil)	Power Rating [W]	Tolerance [%]	Resistance Range [Ω]	T.C.R * [ppm/℃]	Working Temp. [℃]
RU1005 (0402)	1/8(0.125)	±1, ±5	0.020 ~ 0.100	R<47m :±500 R≥47m :±150	-55~ +155
RU1608 (0603)	1/4(0.25)	±1, ±5	0.010 ~ 0.100	R<25m :±600 R<33m :±400 R≥33m :±150	
RU2012 (0805)	1/3(0.33)	±1, ±5	0.010 ~ 0.100		
RU3216 (1206)	1/2(0.50)	±1, ±5	0.010 ~ 0.100	R<25m :±500 R<33m :±350 R≥33m :±150	
RU3225 (1210)	2/3(0.66)	±1, ±5	0.010 ~ 0.100		
RU5025 (2010)	3/4(0.75)	±1, ±5	0.010 ~ 0.100		
RU6432 (2512)	1(1.0)	±1, ±5	0.010 ~ 0.100		

■ Power Derating Curve



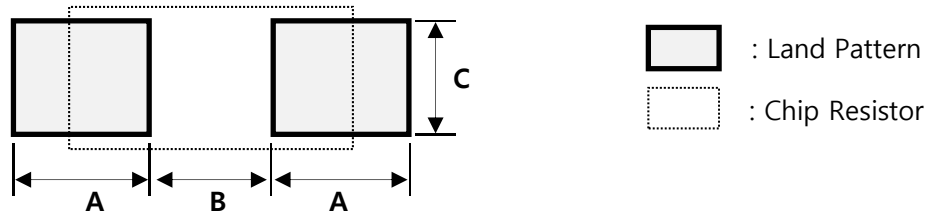
■ Rated Voltage & Current

$$\bullet V = \sqrt{P \times R}$$

$$\bullet I = \sqrt{P / R}$$

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

■ Standard Soldering Pad Dimensions



[Unit : mm]

TYPE (Inch)	Reflow Soldering			
Dimension	A	B	2A + B	C
RU1005 (0402)	0.80	0.50	2.10	0.50
RU1608 (0603)	0.80	0.50	2.10	0.80
RU2012 (0805)	0.90	0.80	2.60	1.20
RU3216 (1206)	1.70	1.20	4.60	1.40
RU3225 (1206)	1.70	1.20	4.60	1.40
RU5025 (2010)	2.15	1.80	6.10	2.60
RU6432 (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	Within the specified T.C.R	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 Voltage×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 ⁺⁴⁸ hours
Load Life	$\Delta R < \pm 3\% + 0.0005\Omega$	JIS C 5201-1 4.25 Rated Voltage, 70±2°C, 1000 ⁺⁴⁸ 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 ⁺⁴⁸ hours
Flower of Sulfur (FOS)	$\Delta R < \pm 1\% + 0.1\Omega$	105°C, FoS, 720 ⁺² 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.