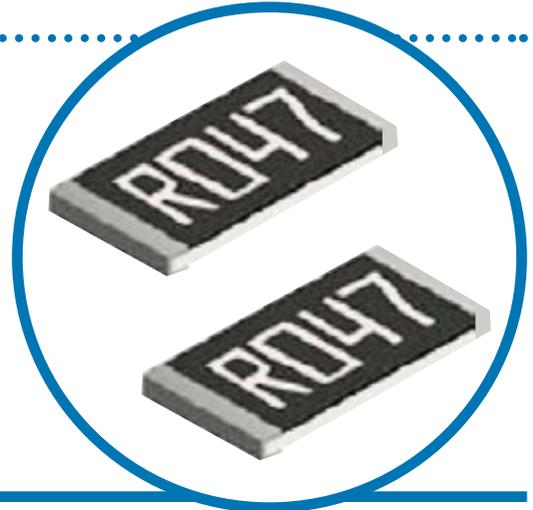


# Low Value Current Sense Surface Mount Chip Resistor

## L RCS Series

- 0402, 0603 and 0805 sizes (larger sizes refer to our LRF Series)
- Resistance R020 (20mΩ) to 1R0 (1000mΩ)
- Designed for current sensing in power electronic systems
- RoHS compliant



## Electrical Data

		L RCS0402	L RCS0603	L RCS0805
Power rating @70°C	watts	0.063	0.1	0.125: R02 to <R10 0.25: R10 to 1R0
Resistance range	ohms	R05 to 1R0	R02 to 1R0	R02 to 1R0
Isolation voltage	volts	50V	100V	200V
TCR	ppm/°C	±400: R05 – R10 ±300: R101 – R50 ±200: R501 – 1R0	±600: R02 – R05 ±400: R051 – R10 ±300: R101 – R50 ±200: R501 – 1R0	±600: R02 – R05 ±400: R051 – R10 ±300: R101 – R50 ±200: R501 – 1R0
Resistance tolerance	%	1(F), 5(J)		
Standard values		E24 preferred		
Ambient temperature range	°C	-55 to +155		

## Physical Data

	L	W	T	D1	D2	Nom wt. (g)
L RCS0402	1.00 ±0.05	0.50 ±0.10	0.32 ±0.10	0.25 ±0.10	0.20 ±0.10	0.0007
L RCS0603	1.60 ±0.10	0.80 ±0.10	0.45 ±0.10	0.30 ±0.20	0.30 ±0.20	0.002
L RCS0805	2.00 ±0.15	1.25 ±0.15	0.55 ±0.10	0.30 ±0.20	0.40 ±0.25	0.005

All dimensions in mm unless stated.

### Construction

A resistor element is applied to an alumina substrate. The product is adjusted to value and protected. Marking is applied to 0603 and 0805 sizes. A wraparound conductor is applied to join the top and bottom sides. The terminations are electroplated with a Ni barrier layer prior to plating with a Sn finish.

### Solvent Resistance

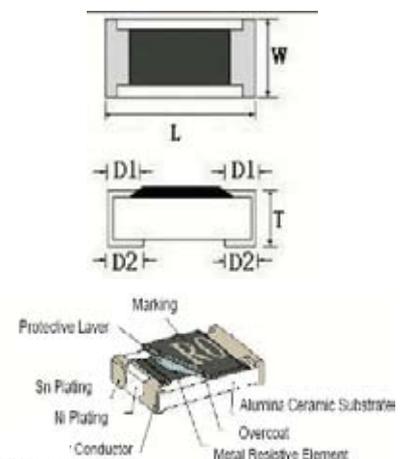
The body protection and marking are resistant to all normal industrial solvents suitable for printed circuits.

### Flammability

The resistor will not burn or emit incandescent particles under any condition of applied temperature or overload.

### Solderability

95% min coverage (MIL-STD 202F / 208H, 235C 2 secs)



### General Note

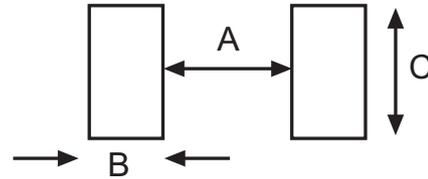
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**Marking**

The LRCS0402 is not marked, the LRCS0603 is marked with 3 digits and LRCS0805 with 4 digits.  
e.g. 100mΩ is marked as R10 (3digit) and R100 (4digit) and 35 mΩ is marked as 035 (3digit) or R035 (4digit)

**Mounting**

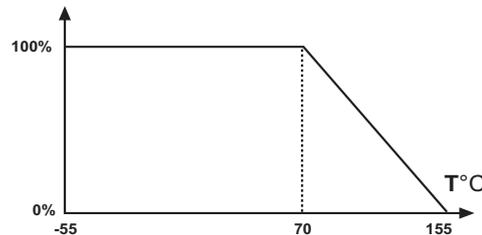
Type	A	B	C
LRCS0402	0.6	0.4	0.50±0.2
LRCS0603	1.0	0.7	1.00±0.2
LRCS0805	1.0	0.8	1.30±0.2



**Performance Data**

		Maximum
Load at rated power (1000hrs cyclic load at 70°C)	ΔR%	±1% + 0.05Ω
De-rating from rated power at 70°C		See Graph
Short term overload (6.25 x rated power for 5s)	ΔR%	±0.5% + 0.05Ω ±1% + 0.05Ω(0.25W LRCS0805 rating)
Dry heat (96Hrs, no load, +155°C)	ΔR%	±0.5% + 0.05Ω
Temperature rapid change (-55 / +150°C, 100 cycles)	ΔR%	±0.5% + 0.05Ω
Damp heat steady state	ΔR%	±0.5% + 0.05Ω
Resistance to solder heat (260°C for 10s)	ΔR%	±0.5% + 0.05Ω
Low Temperature Operation	ΔR%	±0.5% + 0.05Ω
Insulation Resistance		>1000MΩ

**Power de-rating graph**



**Packaging**

The standard packing for LRCS parts is on 8mm wide paper tape wound on 178mm diameter reels.

**Ordering Procedure**

Example: LRCS0603 at 25 milliohms and 1% tolerance on reel of 5000 pieces:

**LRCS0603 - R 0 2 5 F T5**

Type \_\_\_\_\_

Value (use IEC62 code) \_\_\_\_\_

Tolerance (use IEC62 code) \_\_\_\_\_

F	1%
J	5%

Packing \_\_\_\_\_

T10	Tape	0402	10,000 / reel
T5	Tape	0603	5,000 / reel
T5	Tape	0805	5,000 / reel

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[PF2512FKF7W0R033L](#) [CD2015FC-0.10-1%](#) [PR2512FKF7W0R004L](#) [RC1005F124CS](#) [RL73K3AR56JTDF](#) [RL7520WT-R001-F](#)  
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