

# SUSUMU Low ESL Current Sensing Chip Resistors



## PRL SERIES

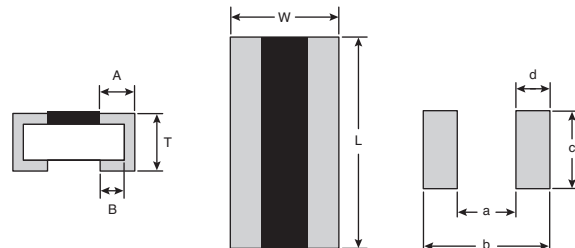
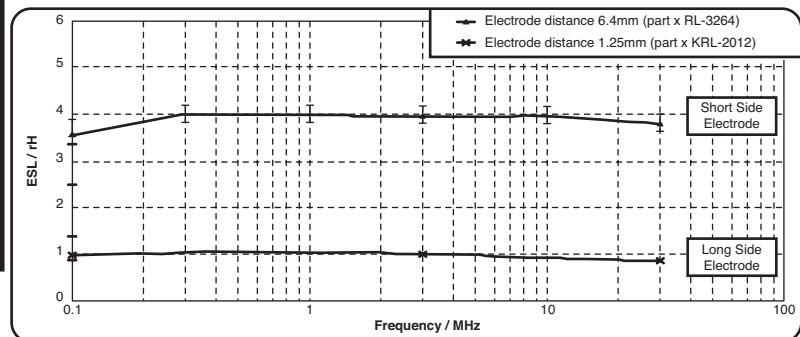
Current sensing low resistance chip resistors have become indispensable components for the power management of mobile and other devices. The requirements for such resistors used to be tight tolerance, small TCR, high power, and small size; however, as signal processing speed and switching frequency have increased, parasitic noise for these components has become a significant issue.

The PRL series, Susumu's long side terminal current sensor chip resistors, has shorter and wider resistive elements compared to their conventional short side terminal counterparts. Due to this reason, they have much less parasitic inductance (ESL), hence, less noise (see Figure 1). Figure 2 shows the pulse shape with a longer side terminal chip (Picture 2) versus a shorter side terminal chip. The reduction of noise in the longer side terminal chip is demonstrated in pulse shape.

### Features:

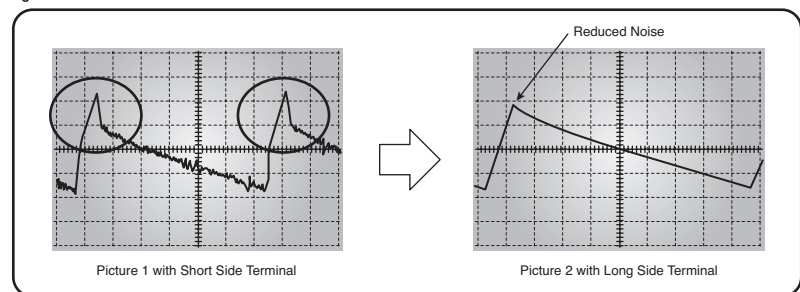
- Power/Size: 0.33W/0603, 0.66W/0805, 1W/1206, 2W/2512
- No hot spots (smallest size for required wattage)
- Long side termination style
- Low ESL (<1nH, typical 0.5nH) low noise supplying ripple-free signals
- Low TCR (50ppm) and tight resistance tolerance (1%)

Figure 1



Dimensions: (in.)	PRL0816 (0603)	PRL1220 (0805)	PRL1632 (1206)	PRL3264 (2512)
L	1.6±0.2	2.0±0.2	3.2±0.2	6.4±0.2
W	0.8±0.2	1.25±0.2	1.6±0.2	3.2±0.2
B	0.2±0.1	0.35±0.15	0.45±0.15	0.9±0.15
T	0.4±0.1	0.5±0.1	0.5±0.1	0.5±0.1

Figure 2



Series	a	b	c	d
PRL0816	0.4	--	2	1
PRL1220	0.55	--	2.5	1.2
PRL1632	0.7	--	4	1.4
PRL3264	1.6	--	7.5	2

\*Insert Value Code from Table of Stocked Values

For quantities greater than listed, call for quote.

Size	MOUSER STOCK NO.		Susumu Part No.	Resistance (ohms)	Tolerance	Power Rating	Temperature Coefficient	Price Each		
	Value	Suffix						1	10	100
0603	754-PRL0816-Code	-FT1	PRL0816-Code-F-T1	11m-16m	1%	0.33Watt (1/3Watt)	0PPM/C to + 350PPM/C	.37	.35	.34
0603	754-PRL0816-Code	-FT1	PRL0816-Code-F-T1	20m-27m	1%	0.33Watt (1/3Watt)	0PPM/C to + 200PPM/C	.37	.35	.34
0603	754-PRL0816-Code	-FT1	PRL0816-Code-F-T1	30m-68m	1%	0.33Watt (1/3Watt)	±100PPM/C	.37	.35	.34
0603	754-PRL0816-Code	-FT1	PRL0816-Code-F-T1	75m-100m	1%	0.33Watt (1/3Watt)	±50PPM/C	.37	.35	.34
0603	754-PRL0816-Code	-FT1	PRL0816-Code-F-T1	10m	1%	0.33Watt (1/3Watt)	0PPM/C to + 350PP/C	.37	.35	.34
0805	754-PRL1220-Code	-FT1	PRL1220-Code-F-T1	10m-18m	1%	0.67Watt (2/3Watt)	0PPM/C to + 200PP/C	.38	.36	.36
0805	754-PRL1220-Code	-FT1	PRL1220-Code-F-T1	20m-51m	1%	0.67Watt (2/3Watt)	±100PPM/C	.38	.36	.36
0805	754-PRL1220-Code	-FT1	PRL1220-Code-F-T1	56m-100m	1%	0.67Watt (2/3Watt)	±50PPM/C	.38	.36	.36
1206	754-PRL1632-Code	-FT1	PRL1632-Code-F-T1	5m-9m	1%	1Watt	0PPM/C to + 350PPM/C	.76	.70	.60
1206	754-PRL1632-Code	-FT1	PRL1632-Code-F-T1	10m-18m	1%	1Watt	0PPM/C to + 200PPM/C	.76	.70	.60
1206	754-PRL1632-Code	-FT1	PRL1632-Code-F-T1	20m-51m	1%	1Watt	±100PPM/C	.76	.70	.60
1206	754-PRL1632-Code	-FT1	PRL1632-Code-F-T1	56m-100m	1%	1Watt	±50PPM/C	.76	.70	.60
2512	754-PRL3264-Code	-FT1	PRL3264-Code-F-T1	10m-18m	1%	2Watts	0PPM/C to + 200PPM/C	1.30	1.10	1.00
2512	754-PRL3264-Code	-FT1	PRL3264-Code-F-T1	20m-51m	1%	2Watts	±100PPM/C	1.30	1.10	1.00
2512	754-PRL3264-Code	-FT1	PRL3264-Code-F-T1	56m-100m	1%	2Watts	±50PPM/C	1.30	1.10	1.00

## TABLE OF STOCKED VALUES

Value	Value Code *	Case Sizes				Value	Value Code *	Case Sizes				Value	Value Code *	Case Sizes			
		0603	0805	1206	2512			0603	0805	1206	2512			0603	0805	1206	2512
5m	R005			X		18m	R018		X	X	X	47m	R047	X	X	X	X
6m	R006			X		20m	R020	X	X	X	X	50m	R050	X	X	X	X
7m	R007			X		22m	R022	X	X	X	X	51m	R051	X		X	X
8m	R008			X		24m	R024		X		X	56m	R056	X	X	X	X
9m	R009			X		25m	R025	X			X	62m	R062	X	X	X	X
10m	R010	X	X	X	X	27m	R027	X	X	X	X	68m	R068	X	X	X	X
11m	R011	X	X	X	X	30m	R030	X	X	X	X	75m	R075	X	X	X	X
12m	R012	X	X	X		33m	R033	X	X	X		82m	R082	X	X	X	X
13m	R013	X	X	X	X	36m	R036	X		X	X	91m	R091	X	X	X	
15m	R015	X	X	X		39m	R039	X	X	X	X	100m	R100	X	X	X	X
16m	R016		X	X		43m	R043		X	X	X						