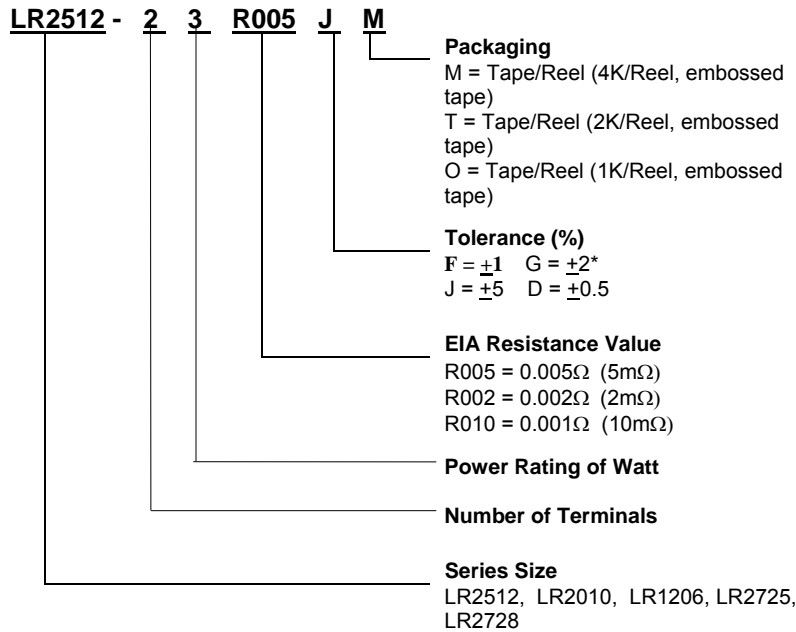


## LR Series - Metal Alloy Current Sense Resistor

### HOW TO ORDER

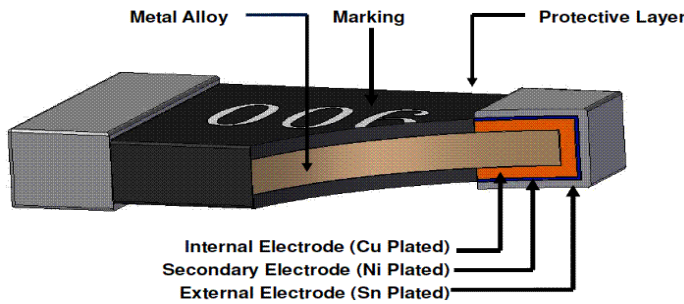


### FEATURES

- Perfection solution of high precision current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers.
- Extremely low values start from 0.25mΩ
- High temperature performance (up to +275°C).
- Excellent frequency response.
- All welded construction.
- Excellent low TCR. and Stable
- Excellent stability ( $|\Delta R/R| \leq \pm 0.5\%$  for 1000h at 100°C) different environmental conditions.

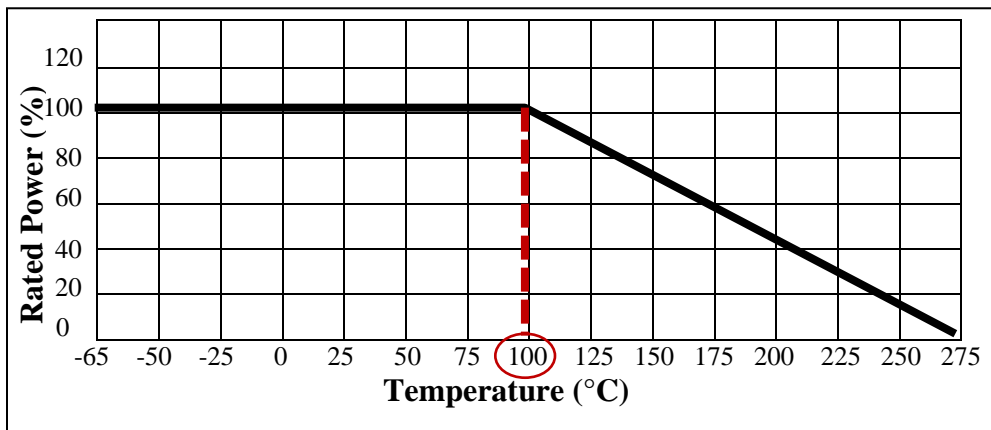
### APPLICATIONS

- Power Supply, PC, Power Pack, Battery Pack
- DIY Tools
- Inverter/Converter (AC/DC, DC/DC, DC/AC)
- Measurable Instrument, Consumer Electronics
- Note Book, LED Driver



### DERATING CURVE

- The Category Temperature Range: -65°C~+275°C
- For resistors operated in ambient temperature above 100°C, power rating must be derated in accordance with the curve below:



## SPECIFICATIONS

Type	Maximum Rating Power	Maximum Rating Current	Maximum Overload Current	mΩ/TCR (ppm/°C)	Resistance Range (mΩ)**		Operating Temperature
					D (±0.5%)	F (±1%); G (±2%); J (±5%)	
LR1206	0.5W	22.36A	44.72A	1.0~4.0m: +50 4.1~15.0m: -25 15.1~50.0m: -15	7.0~50.0	1.0~50.0	-65~+275°C
	1W	31.62A	63.25A	1.0~4.0m: +50 4.1~15.0m: -25 15.1~50.0m: -15	7.0~50.0	1.0~50.0	
LR2010	1W	31.62A	63.25A	1.0~3.0m: +50 3.1~6.9m: -25 7.0~100m: -15	3.0~100	1.0~100	
LR2512	1W	44.72A	100.00A	0.5~3.0m: +50 3.1~6.9m: -25 7.0~100m: -15	7.0~100	0.5~100	
	1.5W	54.77A	122.48A				
	2W	63.25A	141.42A	0.5~3.0m: +50 3.1~6.9m: -25 7.0~75m: -15	7.0~75.0	0.5~75.0	
	3W	77.46A	134.16A	0.5~2.0m: +50 2.1~10.0m: -25	7.0~10.0	0.5~10.0	
LR2725	4W	126.49A	252.95A	0.25~0.9m: +50 1.0~3.0m: -25	--	0.25~3.0	
LR2728	3W	27.39A	47.43A	4.0~7.0m: -25 7.1~100m: -15	4.0~100	4.0~100	
	3.5W	29.58A	51.23A	4.0~7.0m: -25 7.1~100m: -15	4.0~100	4.0~100	
	4W	31.62A	63.25A	4.0~7.0m: -25 7.1~50m: -15	4.0~50.0	4.0~50.0	

- The Maximum Power Rating is operated at 100°C
- “\*\*” customize available for tolerance and range of resistance.

## RELIABILITY PERFORMANCE

Test Item	Condition of Test	Test Method	Test Limits
Short Time Overload	The number of rated power are as follow: <ul style="list-style-type: none"> <li>LR1206-0.5W: 4 times rated power</li> <li>LR1206-1W: 4 times rated power</li> <li>LR2010-1W: 4 times rated power</li> <li>LR2512-1W 5 times rated power</li> <li>LR2512-1.5W: 5 times rated power</li> <li>LR2512-2W: 5 times rated power</li> <li>LR2512-3W: 3 times rated power</li> <li>LR2725-4W: 4 times rated power</li> <li>LR2728-3W: 3 times rated power</li> <li>LR2728-3.5W: 3 times rated power</li> <li>LR2728-4W: 4 times rated power</li> </ul> Rating power duration: 5 secs	JIS C 5201-1 4.13	±(0.5%+0.0005Ω)ΔR
Dielectric Withstanding Voltage	Applied 500V <sub>AC</sub> for 1 minute & limit surge current 50mA (max.)	JIS C 5201-1 4.7	Without break down

## DIMENSIONS

LR1206	0.5&1.0	1.0~50.00	0.120±0.010 (3.048±0.254)	0.062±0.010 (1.575±0.254)	0.0254±0.010 (0.645±0.254)	0.020±0.010 (0.508±0.254)
LR2010	1.0	1.0~3.0	0.200±0.010 (5.080±0.254)	0.100±0.010 (2.540±0.254)	0.031±0.010 (0.787±0.254)	0.051±0.010 (1.295±0.254)
		3.1~100.0			0.0254±0.010 (0.645±0.254)	0.031±0.010 (0.787±0.254)
LR2512	1.0&1.5	0.5~4.0	0.245±0.010 (6.248±0.254)	0.130±0.010 (3.302±0.254)	0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)
		4.1~75.0			0.0254±0.010 (0.645±0.254)	0.044±0.010 (1.118±0.254)
		75.1~100.0			0.0254±0.010 (0.645±0.254)	0.034±0.010 (0.868±0.254)
LR2512	2.0	0.5~4.0	0.245±0.010 (6.248±0.254)	0.130±0.010 (3.302±0.254)	0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)
		4.1~75.0			0.0254±0.010 (0.645±0.254)	0.044±0.010 (1.118±0.254)
LR2512	3.0	0.5	0.245±0.010 (6.248±0.254)	0.130±0.010 (3.302±0.254)	0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)
		0.6~2.9				0.044±0.010 (1.118±0.254)
		4.1~10.0				0.066±0.010 (1.676±0.254)
LE2725	4.0	0.25, 0.50	0.268±0.010 (6.807±0.254)	0.254±0.010 (6.452±0.254)	0.039±0.010 (0.991±0.254)	0.085±0.010 (2.159±0.254)
		1.0			0.043±0.010 (1.092±0.254)	
		1.5			0.039±0.010 (0.991±0.254)	
		2.0			0.035±0.010 (0.889±0.254)	0.071±0.010 (1.803±0.254)
		2.5				0.065±0.010 (1.651±0.254)
		3.0				0.045±0.010 (1.295±0.254)
LR2728	3.0~3.5&4.0	4.0~100.0	0.264±0.010 (6.706±0.254)	0.283±0.010 (7.188±0.254)	0.039±0.010 (0.991±0.254)	0.045±0.010 (1.143±0.254)

## RATING CURVE

The following equation may be used to determine the Direct Current and Alternating Currents (RMS, root mean square value) of normal rater power. However, if the result value exceeds the highest current of regulated standards, the highest normal rated (see specifications) power is to be used.

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

Remark:

- I: Rating Current
- P: Rating Power
- R: Resistance