

### INTRODUCTION

RFE International, Inc. LR Series of low resistance Surface Mount Resistors are ideal for applications where low resistance, tight tolerance and temperature stability is important. Current sense, power supply, Industrial controls, are a few of the applications suitable for this series of resistor.

### APPLICATIONS

- Power Supply
- Battery Pack
- DIY Tools
- Inverter / Converter (AC/DC, DC/DC, DC/AC)
- Test Equipment
- Precision Measuring Equipment
- LED Driver
- Automotive

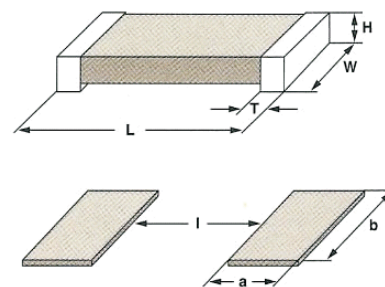
### PERFORMANCE

Test Item	Conditions of test	Test Method
Thermal Shock	-55 °C to +125 °C, 1000 cycles, 15 minutes at each extreme	JIS C5202 7.4
Solderability test	Steam aging: 4hrs, cool down 30 minutes then test	JIS C5202 6.5
Low Temperature Storage	-55°C for 1000 hours	JIS C5202 7.1
High Temperature Exposure	1000 hours @ +155 °C	JIS C5202 7.2
Bias Humidity	+85 °C, 85% RH, 10% Bias, 1000 hours, 90 minutes "ON", 30 minutes "OFF"	JIS C5202 7.9
Mechanical Shock	100 grams for 6 milliseconds, 5 pulses	JIS C5202 6.13
Vibration	Frequency varied 55Hz in one minute, 3 directions, 12 hours	JIS C5202 6.7
Load Life	1000 hours @ rated power, +100 °C, 1.5 hours "ON", 0.5 hours "OFF"	JIS C5202 7.10
Resistance to Solder Heat	Solder temp./immersion time: 260±5 °C, 10±1secs and 350±10 °C 3.5±0.5secs	JIS C5202 6.4
Moisture Resistance	Mil-STD-202, Method 106, 0% power, 7a and 7b not required	JIS C5202 7.6
Resistance to solvent	Immersion time: 60±5 secs, 20 °C~25 °C	JIS C5202 6.9

### DIMENSIONS

Model	Resistance Range m	DIMENSIONS				SOLDER PAD DIMENSIONS		
		L	W	H	T	a	b	i
LR1WMR (1206)	1~50	0.12 0.010 (3.15 0.254)	0.062 0.010 (1.60 0.254)	0.029 0.010 (0.750 0.254)	0.02 0.010 (0.50 0.254)	0.063(1.60)	0.086(2.18)	0.026(0.66)
LR1WSR (2010)	0.5~3	0.20 0.010 (5.10 0.254)	0.10 0.010 (2.54 0.254)	0.031 0.010 (0.8 0.254)	0.051 0.010 (3.15 0.254)	0.011(1.80)	0.115(2.92)	0.048(1.22)
	4~100				0.031 0.010 (0.8 0.254)			
LR1WR, LR1.5WR, LR2WR, LR3WSR (2512)	0.5~4	0.246 0.010 (6.25 0.254)	0.13 0.010 (3.30 0.254)	0.031 0.010 (0.8 0.254)	0.074 0.010 (1.88 0.254)	0.120(3.05)	0.145(3.68)	0.050(1.27)
	4.1~100				0.044 0.010 (1.13 0.254)			
LR4WSR (2725)	0.25, 0.5	0.268 0.010 (6.8 0.254)	0.264 0.010 (6.7 0.254)	0.039 0.010 (1.0 0.254)	0.085 0.010 (2.15 0.254)	0.125(3.2)	0.27(6.9)	0.052(1.32)
	1			0.043 0.010 (1.1 0.254)	0.085 0.010 (2.15 0.254)			
	1.5			0.039 0.010 (1.0 0.254)	0.085 0.010 (2.15 0.254)			
	2			0.035 0.010 (0.9 0.254)	0.071 0.010 (1.8 0.254)			
	2.5				0.065 0.010 (1.65 0.254)			
3	0.051 0.010 (1.3 0.254)							
LR3WR, LR3.5WR, LR4WR (2728)	4~100	0.264 0.010 (6.7 0.254)	0.283 0.010 (7.2 0.254)	0.039 0.010 (1.0 0.254)	0.045 0.010 (1.15 0.254)	0.108(2.75)	0.308(7.8)	0.136(3.5)

Inch (mm)

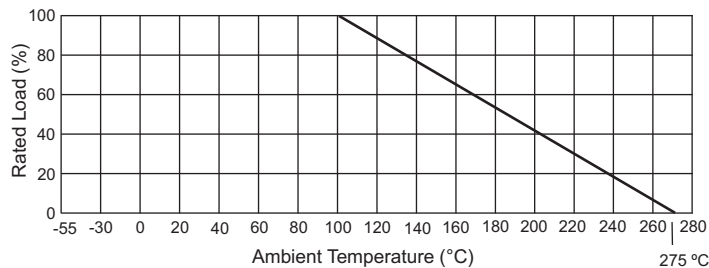


**TEMP. COEFFICIENT**

Type	Resistance Range	Temp. Coeff. (PPM / C°)
LR1WMR (1206)	1 ~ 4m	50
	4.1 ~ 15m	-25
	15.1 ~ 50m	-15
LR1WSR (2010)	0.5 ~ 3m	50
	3.1 ~ 6.9m	-25
	7 ~ 100m	-15
LR1WR, LR1.5WR, LR2WR (2512)	0.5 ~ 3m	50
	3.1 ~ 6.9m	-25
LR3WSR (2512)	0.5~1.5m	50
	1.6~10m	-25
LR4WSR (2725)	0.25~0.9m	50
	1~3m	-25
LR3WSR, LR3.5WR (2728)	4~7m	-25
	7.1~100m	-15
LR4WR (2728)	4~7m	-25
	7.1~50m	-15

**DERATING CURVE**

Operating Temp. Range -65°C ~ +275°C



**RATINGS & STANDARD RANGES**

Item	Power Rating at 100C° (Watts)	Max. Rating Current	Max. Overload Current	Resistance Range m		
				0.5% (D)	1% (F)	5% (J)
LR1WMR (1206)	1	31.62A	126.49A	7~50	1~50	1~50
LR1WSR (2010)	1	44.72A	178.89A	3~100	0.5~100	0.5~100
LR1WR, LR1.5WR (2512)	1	44.72A	223.61A	7~100	0.5~100	0.5~100
	1.5	54.77A	273.86A			
LR2WR, LR3WSR (2512)	2	63.25A	252.98A	7~75	0.5~75	0.5~75
	3	77.46A	232.38A	7~10	0.5~10	0.5~10
LR3WR, LR3.5WR (2728)	3	27.39A	82.16A	4~100	4~100	4~100
	3.5	29.58A	88.74A			
LR4WSR (2725), LR4WR (2728)	4	31.62A	126.49A	4~50	4~50	4~50

**m OHM TO OHMS**

(m = milli)  
 100m = 0.1  
 50m = 0.05  
 5m = 0.005  
 0.5m = 0.0005

**PACKAGING**

Size	Reel		
	Tape Width	Diameter	Pieces/Reel
1206	8mm/Embossed Plastic	178mm/7"	2,000
2010	12mm/Embossed Plastic	178mm/7"	2,000
2512	12mm/Embossed Plastic	178mm/7"	1,000
2725	12mm/Embossed Plastic	178mm/7"	1,000
2728	12mm/Embossed Plastic	178mm/7"	1,000

**PART NUMBER EXAMPLE**

LR1WSR - R05 - J