

Ultra Low Ohm (Metal Strip) Chip Resistor—LR Series 超合金貼片電阻



Features

- High Wattage Rating Up to 3W
- Low TCR $\pm 50, \pm 100$ PPM/ $^{\circ}\text{C}$
- Resistance Values from 0.5 to 20 m ohms
- Without Laser Trimmed with Very Low Inductance
- Customized Resistance Available

Applications

- NB (for Power Management)
- MB (for Power Management)
- SWPS (DC-DC Converter, Charger, Adaptor)
- Monitor (for Power Management)

Construction

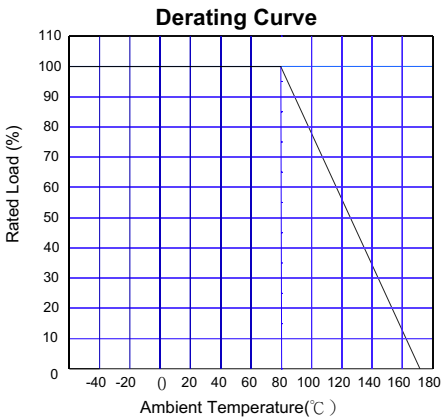


Figure 1



Figure 2

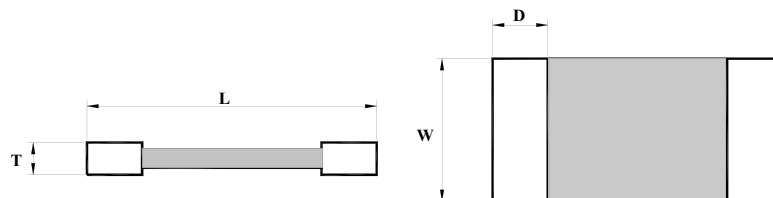
Part Numbering

LR	12	J	T	E	S	R003	G
①	②	③	④	⑤	⑥	⑦	⑧

① Product Type		
Product Type		
LR	Ultra Low Ohm Metal Strip Chip Resistor	
② Dimensions (L×W)		
Codes	Dimensions (L×W)	EIA
LR12	6.3×3.1mm	2512
③ Resistance Tolerance		
Codes	Resistance Tolerance	
J	±5%	
H	±3%	
G	±2%	
F	±1%	
④ Packaging		
Code	Type	
T	Taping Reel	
⑤ TCR		
Codes	Type	
D	±50 PPM/°C	
W	±75 PPM/°C	
E	±100 PPM/°C	
K	±150 PPM/°C	

⑥ Power Rating	
Codes	Type
	Standard (1W)
S	(2W)
R	(3W)
B	(2.5W)
⑦ Resistance	
Codes	Type
0M50	0.00050 Ω
0M75	0.00075 Ω
1M50	0.00150 Ω
R002	0.00200 Ω
R020	0.02000 Ω
⑧ Protective Coating	
Codes	Type
	Black Coating
G	Green Coating

Dimensions



Unit: mm

Part No.	Resistance(m Ω)	L	W	T	D
LR12□T□□□□□G	0.50~0.75	6.35±0.25	3.18±0.35	1.00±0.20	1.93±0.75
LR12□T□□□□□G	1.0~20	6.35±0.25	3.18±0.35	0.60±0.20	1.93±0.75
LR12□T□0M50	0.50	6.35±0.25	3.18±0.25	1.40±0.20	1.30±0.30
LR12□T□0M75	0.75	6.35±0.25	3.18±0.25	1.00±0.20	1.30±0.30
LR12□T□R001	1.00	6.35±0.25	3.18±0.25	0.80±0.20	1.30±0.30
LR12□T□1M50	1.50	6.35±0.25	3.18±0.25	0.65±0.20	1.30±0.30
LR12□T□R002	2.00	6.35±0.25	3.18±0.25	0.50±0.20	1.30±0.30
LR12□T□2M50	2.50	6.35±0.25	3.18±0.25	1.00±0.20	1.30±0.30
LR12□T□R003	3.00	6.35±0.25	3.18±0.25	0.70±0.20	1.30±0.30
LR12□T□3M50	3.50	6.35±0.25	3.18±0.25	0.71±0.20	1.30±0.30
LR12□T□R004	4.00	6.35±0.25	3.18±0.25	0.60±0.20	1.30±0.30
LR12□T□4M50	4.50	6.35±0.25	3.18±0.25	0.58±0.20	1.30±0.30
LR12□T□R005	5.00	6.35±0.25	3.18±0.25	0.50±0.20	1.30±0.30
LR12□T□5M50	5.50	6.35±0.25	3.18±0.25	0.47±0.20	1.30±0.30
LR12□T□R006	6.00	6.35±0.25	3.18±0.25	0.50±0.20	1.30±0.30
LR12□T□6M50	6.50	6.35±0.25	3.18±0.25	0.47±0.20	1.30±0.30
LR12□T□R007	7.00	6.35±0.25	3.18±0.25	0.45±0.20	1.30±0.30
LR12□T□R010	10.0	6.50±0.35	3.20±0.25	0.80±0.15	1.90±0.15

Standard Electrical Specifications

Type	Item	Power Rating at 80℃	Operating Temp. Range	Resistance Tolerance (±%)	Resistance (mΩ)	TCR (PPM/℃)
LR12□TD□□□□□		1W	-55℃ ~ +170℃	1,3,5	0.5~2.0	50
LR12□TK□□□□□		1W		1,3,5	2.5~3.0	150
LR12□TE□□□□□		1W		1,3,5	4.0~5.5	100
LR12□TW□□□□□		1W		1,3,5	6.0~7.0	75
LR12□TER010		1W		1,3,5	10	100
LR12□TD□□□□□G		1W		1,3,5	11~20	50

Operating Current $I = \sqrt{P/R}$; Operating Voltage $V = \sqrt{P \cdot R}$

High Power Rating Electrical Specifications

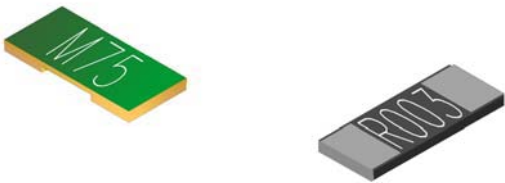
Type	Item	Power Rating at 80℃	Operating Temp. Range	Resistance Tolerance (±%)	Resistance (mΩ)	TCR (PPM/℃)
LR12□TDS□□□□□		2.0W	-55℃ ~ +170℃	1,3,5	0.5~2.0	50
LR12□TDS□□□□□G		2.0W		1,3,5	7.0~10.0	50
LR12□TDB□□□□□G		2.5W		1,3,5	4.0~6.0	50
LR12□TWRR003G		3.0W		1,3,5	3.0	75
LR12□TDR□□□□□G		3.0W		1,3,5	1.0~2.0	50
LR12□TER□□□□□G		3.0W		1,3,5	0.5~0.75	100

Operating Current $I = \sqrt{P/R}$; Operating Voltage $V = \sqrt{P \cdot R}$

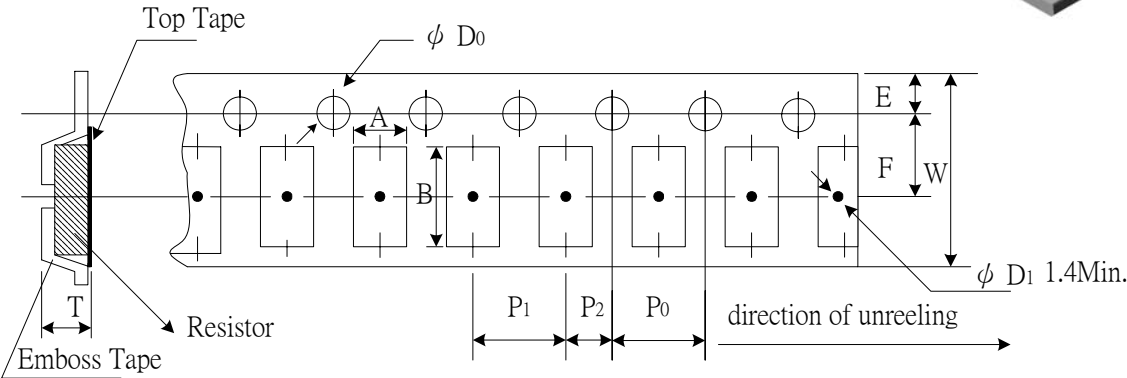
Packaging

Packaging Quantity

Unit: EA	
Packaging	Emboss Plastic Tape
Series	
LR12	2,000



Emboss Plastic Tape Specifications



Unit: mm										
Resistance (mΩ)	A	B	W	E	F	P ₀	P ₁	P ₂	ΦD ₀	T
0.50	3.40±0.1	6.70±0.1	12.0±0.1	1.75±0.1	5.5±0.05	4.0±0.05	4.00±0.1	2.0±0.05	1.50+0.1	1.40±0.1
0.75	3.50±0.1	6.80±0.2	12.0±0.1	1.75±0.1	5.5±0.05	4.0±0.05	4.00±0.1	2.0±0.05	1.50+0.1	1.35±0.1
1~20	3.40±0.1	6.70±0.1	12.0±0.1	1.75±0.1	5.5±0.05	4.0±0.05	4.00±0.1	2.0±0.05	1.50+0.1	0.80±0.1

- Notice:
1. The cumulative tolerance of 10 sprocket hole pitch is ±0.2mm.
 2. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
 3. A & B measured 0.3mm from the bottom of the packet
 4. t measured at a point on the inside bottom of the packet to the top surface of the carrier.
 5. Pocket position relative to sprocket hole is measured as the true position of the pocket and not the pocket hole.

Environmental Characteristics

Item		Specification		Test Method
		Black coating	Green coating	
1	Temperature Coefficient of Resistance	As Spec.		MIL-STD-202F- Method 304 +25/-55/+25/+125/+25℃
2	Thermal Shock	±(0.5%+0.5mΩ)	±1%	MIL-STD-202F- Method 107G -55℃~150℃,100 cycles
3	Short Time Overload	±(0.5%+0.5mΩ)	±1%	JIS-C-5202-5.5 5×rated power · 5 seconds
4	Resistance to Dry Heat	±(1%+0.5mΩ)	±1%	JIS-C-5202-7.2 96 hours @ +155℃ without load
5	Load Life	±(1%+0.5mΩ)	±1%	MIL-STD-202F-Method 108A RCWV,70℃ ,1.5 hours on, 0.5 hours off, total 1000~1048 hours
6	Resistance to Soldering Heat	±(0.5%+0.5mΩ)	±1%	MIL-STD-202F-Method 210E 260±5℃,10±1seconds
7	Solderability	95% min coverage		MIL-STD-202F-Method 208H 235±5℃,2±0.5seconds

* Storage Temperature :25±3℃; Humidity <80%RH