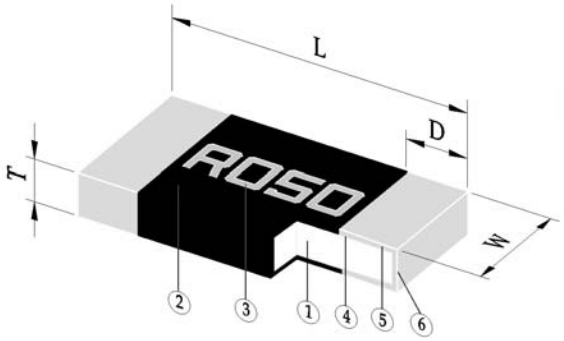
Low Ohm (Metal Strip) Chip Resistor－LRM Series

■Construction



①	Alloy Plate	②	Overcoat (molding)	③	Marking
④	Internal Electrode (Cu)	⑤	Barrier Layer (Ni)	⑥	Solder Plating (Sn)

■Features

－High power rating up to3 Watts
－Low TCR down to ±100 PPM/°C
－Resistance values from 10m to 50m ohm
－Customized resistance available

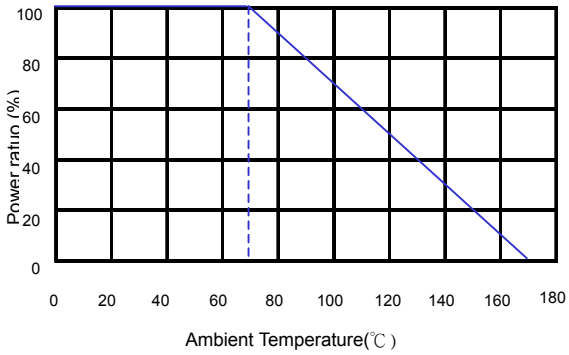
■Dimensions

Type	Size (Inch)	L	W	T	D	Weight (g) (1000pcs)
LRM06	1206	3.20±0.20	1.60±0.20	0.60±0.20	0.50±0.30	18.80
LRM10	2010	5.00±0.20	2.50±0.20	0.60±0.20	0.60±0.30	40.50
LRM12	2512	6.20±0.20	3.20±0.20	0.60±0.20	1.10±0.30	90.90

■Applications

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

■Derating Curve



■Part Numbering

LRM	12	J	T	E	S	R010	
Product Type	Dimensions (L×W)	Resistance Tolerance	Packaging Code	TCR (PPM/℃)	Power Rating	Resistance	Marking
	06: 1206 10: 2010 12: 2512	F: ±1% G: ±2% J: ±5%	T: Taping Reel	E: ±100 W: ±75	V: 1/4W U: 1/2W Q: 3/4W T: 1W A: 1.5W S: 2W R: 3W	R010: 0.01Ω R050: 0.05Ω R100: 0.10Ω	: Black Coating N: No Marking

■Standard Electrical Specifications

Item / Type	Power Rating at 80°C	Operating Temp. Range	Resistance Range (mΩ)			TCR (PPM/°C)
			±1%	±2%	±5%	
LRM06 (1206)	1/4W 1/2W 1W	-55 ~ +170°C	5-10			±100
			11-30			±75
LRM10 (2010)	3/4W 1W	-55 ~ +170°C	5-10			±100
			11-30			±75
LRM12 (2512)	1W 2W	-55 ~ +170°C	10-50			±75

Operating Current =√(P/R) , Operationg Voltage=√(P*R)

■High Power Rating Electrical Specifications

Item / Type	Power Rating at 80°C	Operating Temp. Range	Resistance Range (mΩ)			TCR (PPM/°C)
			±1%	±2%	±5%	
LRM10 (2010)	1.5W	-55 ~ +170°C	10-30			±75
LRM12 (2512)	1W 2W	-55 ~ +170°C	51-100			±75
	3W		10-100			

Operating Current =√(P/R) , Operationg Voltage=√(P*R)

■Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	+25/-55/+25/+125/+25°C
Short Time Overload	±0.5%	5*rated power for 5 seconds
Endurance	±1%	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs “ON” and 0.5 hrs “OFF”
Dry Heat	±1%	at +170°C for 1000 hrs
Solderability	95% min. coverage	245±5°C for 3 seconds
Resistance to Soldering Heat	±0.5%	260±5°C for 10 seconds
Thermal Shock	±0.5%	-55°C ~ 150°C, 100 cycles
Bending Strength	±1%	Bending width 2mm once for 5 seconds
Insulation Resistance	>1GΩ	Max. overload voltage for 1 minute

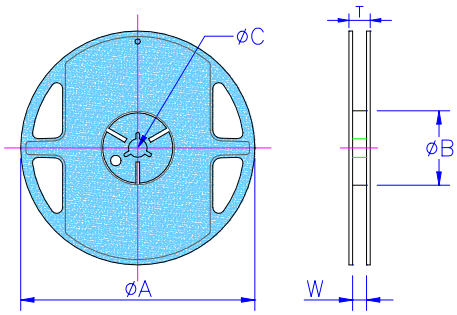
■ **Reference Standards: MIL-STD-202, JIS-C 5201-1, IEC-60115**
■ **Storage Temperature: 25±3°C; Humidity < 80%RH**

■Packaging

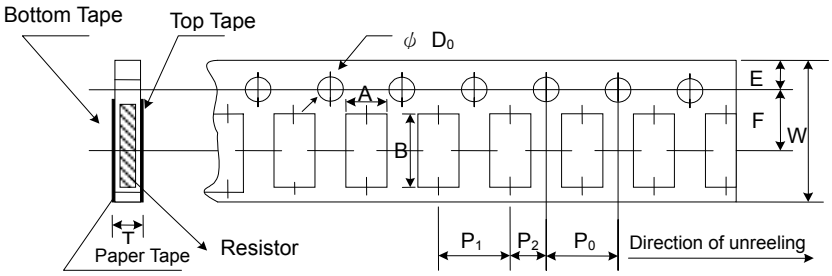
Reel Specifications & Packaging Quantity

Unit: mm

Type	Packaging Quantity		Tape Width	Reel Diameter	ΦA	ΦB	ΦC	W	T
LRM06	Paper	5K	8mm	7 inch	178.5±1.5	$60^{+1/-0}$	13.0±0.5	9.0±0.5	11.5±0.5
LRM10	Embossed	4K	12mm	7 inch	178.5±1.5	$60^{+1/-0}$	13.0±0.5	13.0±0.5	15.5±0.5
LRM12	Embossed	4K	12mm	7 inch	178.5±1.5	$60^{+1/-0}$	13.0±0.5	13.0±0.5	15.5±0.5



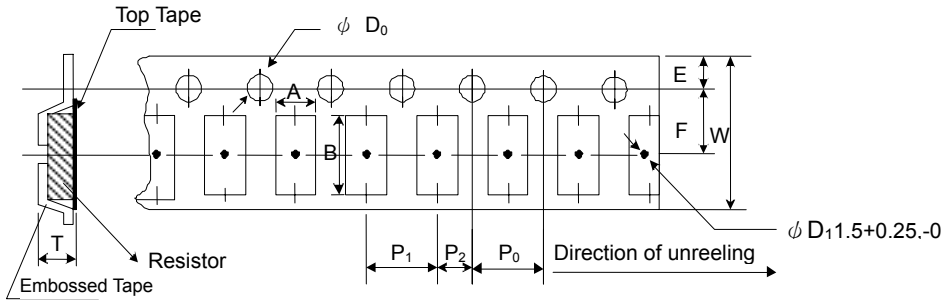
Paper Tape Specifications



Unit: mm

Type	A	B	W	E	F	P_0	P_1	P_2	ΦD_0	T
LRM06	2.00±0.15	3.60±0.20	8.00±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.1/-0	0.85±0.10

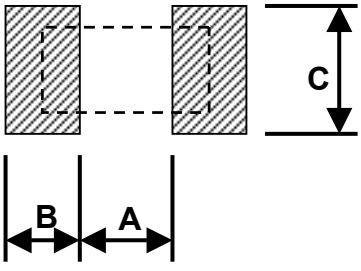
Embossed Plastic Tape Specifications



Unit: mm

Type	A	B	W	E	F	P_0	P_1	P_2	ΦD_0	T
LRM10	2.80±0.20	5.30±0.20	12.0±0.20	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.1, -0	1.2^{+0}
LRM12	3.50±0.10	6.70±0.10	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.1, -0	1.2^{+0}

■Recommend Land Pattern



Unit: mm

Type	A	B	C
LRM06	1.40	1.90	1.80
LRM10	3.50	1.50	2.80
LRM12	3.80	1.60	3.50
LRM12 (High Power)	4.10	2.10	4.00