Current Sensing Resistors
ALMJ28

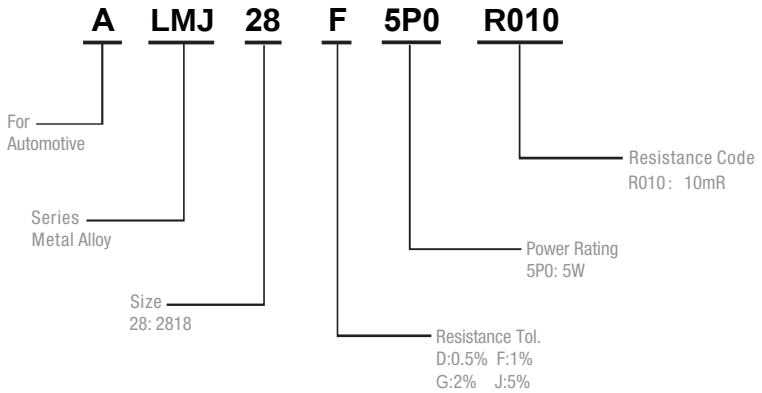
Description

- Thick copper conductor.
- Long-term stability.
- Halogen-free lead free RoHS compliant.
- Stable material.
- Excellent reliability.
- Inductance characteristic ≤ 5 nH
- Ultra-low temperature drift (Low TCR).
- AEC-Q200 qualified Current Sensing Resistor

Appications

- Battery Management System (BMS).
- New energy vehicles、Charging makeup.
- Charger、Smart home.
- Power tools、Large household appliances.
- Consumer electronics、Main board Lithium.
- protection、Clean appliances.

Part Numbering System



Parameter	Standard
Maximum rated power	5W
Resistance Value	4~50mΩ
Operating Temperature Range	-55 to +170°C
Component Temperature Coefficient (TCR)	± 200 & ±75ppm/°C
Maximum Working Voltage (V)	$(P \times R)^{1/2}$
Rating Current(A)	$(P / R)^{1/2}$

P=Power Rating; R=Resistance Value

Standard Electrical Specifications

Type	Maximum rated power	T.C.R. (ppm/c)	Resistance Range(mΩ) 0.5%(D)； 1%(F) 2% (G)； 5.0%（J）	Operating Temperature(℃)
ALMJ28	5W	±200	4-6mΩ	-55~+170°C
		±75	7-50mΩ	

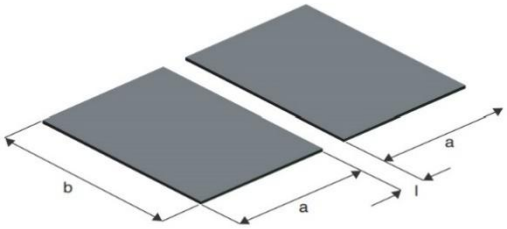
Construction



Unit: Millimeters

Type	L	H	T	W
ALMJ28	7.15±0.254	1.5±0.254	2.9±0.254	4.5±0.254

Recommended land pattern

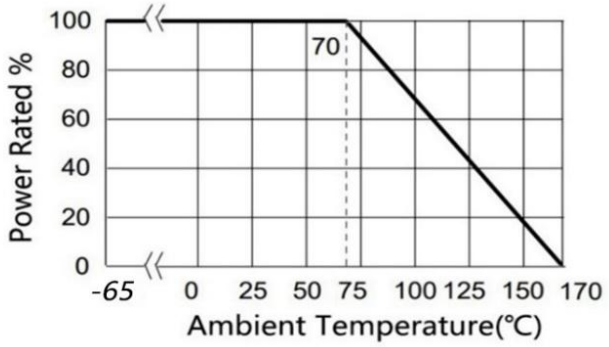


Unit: Millimeters

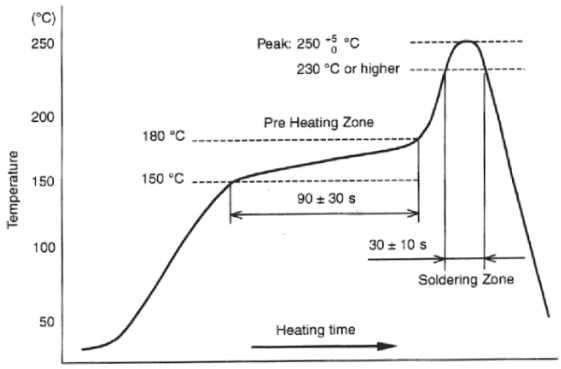
Type	a	b	l
ALMJ28	3.50	5.30	0.60

Power Derating Curve

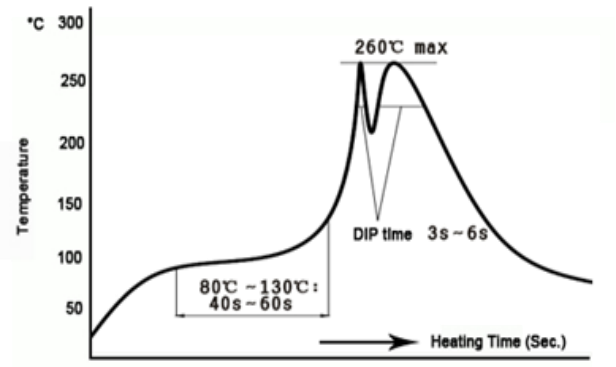
For resistors operated in ambient temperatures 70°C, power rating shall be derated inaccording with the curve below:



IR Reflow-Soldering Profile



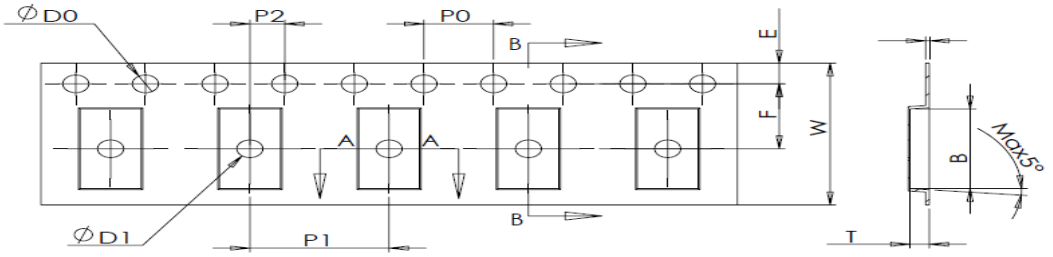
Wave- Soldering Profile



Product Characteristics

Item	Test condition/ Methods	Limited
Temperature coefficient of resistance	TCR =(R-R0)/R0(T2-T1)X 10^6 R0: resistance of room temperature R: resistance of 125℃ ; T1: Room temperature T2: Temperature at 125℃	Refer to Spec
Short time Overload	4 times the rated power for 5 seconds continuously.	≤±1%
Temperature Cycling	1000 Cycle (-55℃ to 150℃) , 15 min at each extreme	≤±0.5%
Low temperature Storage	-55±2℃ for 96 hours, measure the resistance change rate after more than 1 hour	≤±0.5%
High Temperature Storage	1000 hours at 170℃,measure the resistance change rate after more than 24±4 hours	≤±1%
Biased Humidity	85℃±5℃, 85±5% RH 10% bias, 1000 hours, at rated power 1.5 hours “ON”, 0.5 hours “OFF” , after standing 24±4 hours to measure the resistance change rate.	≤±0.5%
Load Life	70℃± 2℃, 1000 hours, at rated power 1.5 hours “ON”, 0.5 hours “OFF” , after taking it out and standing for more than 1 hour, the resistance change rate is measured.	≤±1%
Resistance to Solder Heat	260℃± 5℃, time: 1 0 ±1 sec, measure the resistance change rate after more than 1 hour	≤±0.5%
Solderability	Soak in the furnace at 245±5℃ for 3±1 sec .Take out and observe the solder area under a magnifying alass.	At least 95% of surface area of electrode shall be covered with new solder
Terminal bending	(Bendability Test) Weld it into the bending test plate, place it on the bending test machine, apply 2.5kg force in the center of the test plate, press 2mm under the load for 60s, and measure the resistance change rate	≤±0.5%

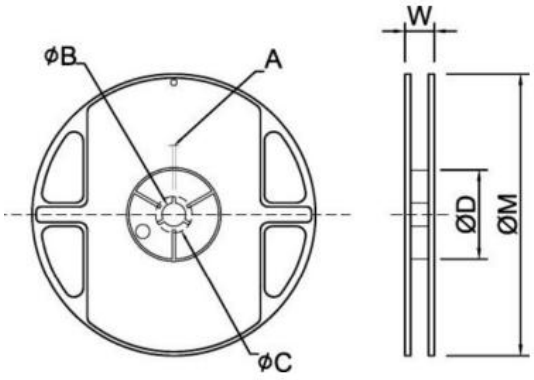
Tapping & Package



Unit: mm

Type	A ±0.1	B ±0.1	D0 ±0.1	E ±0.1	F ±0.1	D1 ±0.1	W ±0.3	P0 ±0.1	P1 ±0.1	P2 ±0.1	T
2818	5.21	7.69	1.50	1.75	7.50	1.5	16.00	4.00	8.00	2.00	1.97

Reel Specification



Unit: mm

Type	A	B	C	D	M	W
2818	3.00±0.5	13.5±0.5	＞22	56.00±0.5	178.00±1.0	18.0±0.5

Packaging

Quantity: 1, 000pcs