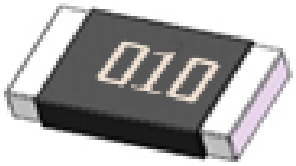
Current Sensing Resistors
ALMJ08 Series

Description

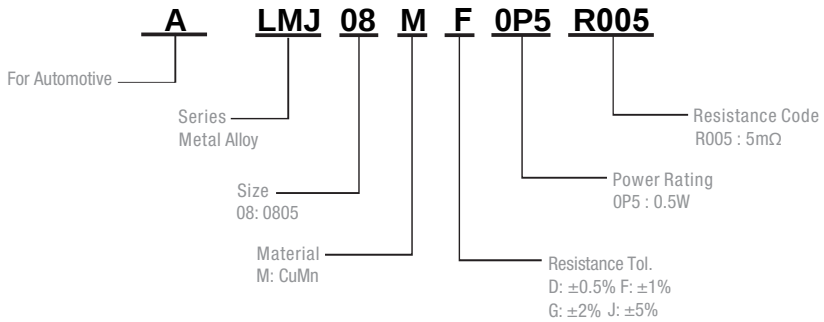
- Thick copper conductor.
- Long-term stability.
- Halogen-free lead free RoHS compliant.
- Stable material.
- Excellent reliability.
- Ultra-low temperature drift (Low TCR).
- AEC-Q200 qualified



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



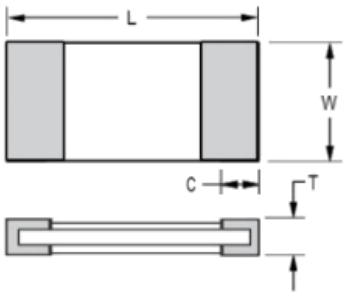
Parameter	Standard
Maximum rated power	0.5W
Resistance Value	3~40mΩ
Operating Temperature Range	-55 to +170°C
Component Temperature Coefficient (TCR)	± 50 ppm/°C
Maximum Working Voltage (V)	$(P \times R)^{1/2}$
Rating Current(A)	$(P / R)^{1/2}$

P=Power Rating; R=Resistance Value

Standard Electrical Specifications

Type	Maximum rated power (W)	T.C.R. (ppm/c)	Resistance Range(mΩ) 0.5% (D) 1.0% (F) 2.0% (G) 5.0% (J)	Meterial	Operating Temperature(℃)
ALMJ08	0.5	±50	3~30mΩ	CuMn	-55~+170°C

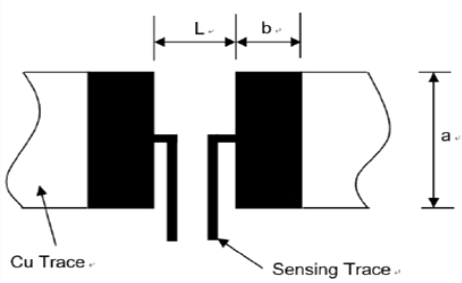
Construction



Unit: Millimeters

Series	L	W	C	T
ALMJ08	2.0±0.1	1.25±0.1	0.4±0.2	0.65±0.2

Recommended land pattern

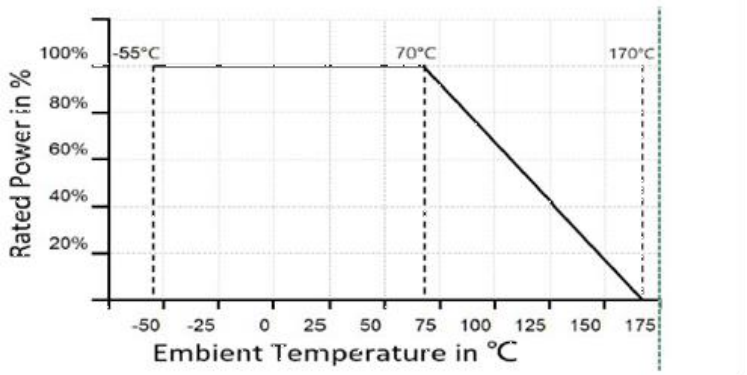


Unit: Millimeters

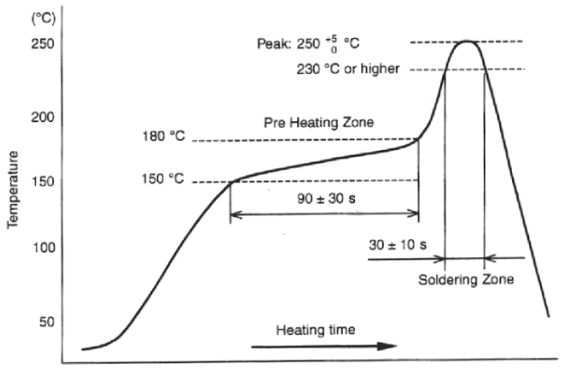
Resistance Range (Ω)	a	b	l
0.003~0.040	1.4±0.1	1.15±0.1	1.2±0.1

Power Derating Curve

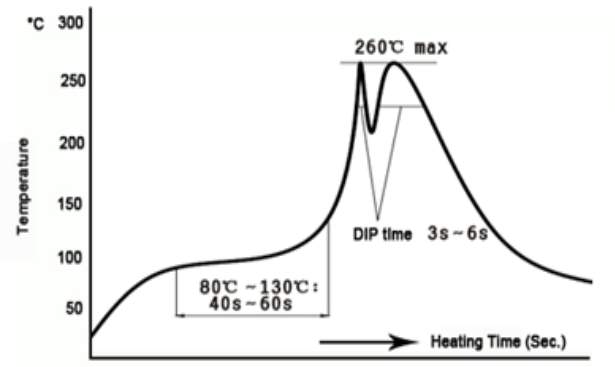
For resistors operated in ambient temperatures 70°C, power rating shall be derated inaccording with the curve below:



IR Reflow-Soldering Profile



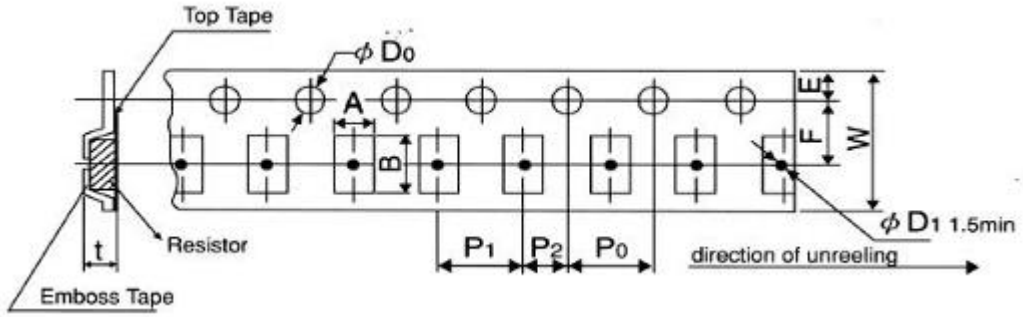
Wave- Soldering Profile



Product Characteristics

Item	Test condition	Limited	Standard
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: 125℃（Temperature at 125℃）	Refer to Spec	IEC60115-1 4.8
Short Time Overload	Apply 5times the rated power for 5 seconds	≤±1%	IEC 60115-1 4.13
Solderability	245±5℃/ 5s±0.5s	Solder coverage over 95%	J-STD-002
High Temperature Exposure	1,000 hours170℃No power	≤±1%	MIL-STD-202 Method 108
Temperature Cycling	1,000 Cycles Lower Temperature of the Chamber: -55℃ Upper Temperature of the Chamber: 150℃ Dwell Time：15min	≤±0.5%	JESD22-A 104
Humidity Bias	1,000 hours 85℃/85%RH 10% of operating power	≤±0.5%	MIL-STD-202 Method 103
High Temperature Operating Life	1,000h 90 minutes ON and 30 minutesOFF Temperature of the Chamber：70±2℃ At rated power	≤±1%	MIL-STD-202 Method 108
Terminal Strength	Apply a 17.7 N (1.8 Kg) force to the side of a devicebeing tested. This force shall be applied for 60 +1 seconds.	≤±0.5%	AEC-Q200-006
Resistance to Soldering Heat	Condition K, time above 217°C, 60s – 150s	≤±0.5%	MIL-STD-202 Method 210

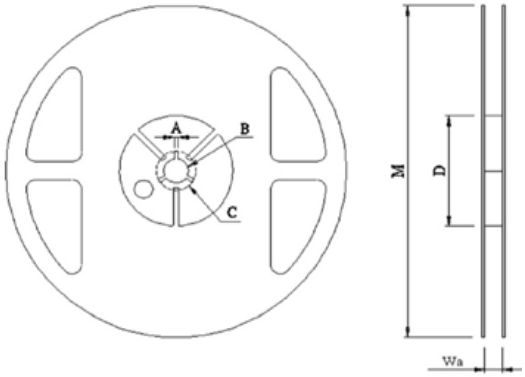
Tapping & Package



Unit: mm

Type	Pack	A ±0.15	B ±0.2	D0 +0.1/-0	E ±0.1	F ±0.05	P0 ±0.1	P1 ±0.1	P2 ±0.1	W ±0.2	T ±0.1
0805	Emboss	1.60	2.40	1.50	1.75	3.50	4.00	4.00	2.00	8.00	0.84

Reel Specification



Unit: mm

Type	A	B	C	D	M	W
ALMJ08	2.00±0.5	13.5±0.5	21.00±0.5	60.00±1.0	178.00±2.0	9.0±0.5

Packaging

Quantity: 5, 000pcs

Storage

The temperature condition must be controlled less than 40，The R.H. must be controlled less than 75%. Store in accordance with this requirement, and the validity period is two years after the date of manufacture.

Please avoid the mentioned harsh environment below when storing to ensure product performance and its' weldability. Places exposed to sea breeze or other corrosive gas, such as Cl_2,H_2S,NH_3,SO_2 and NO_2.

When the product is moved and stored, please ensure the correct orientation of the box.