

Current Sensing Resistors

ALMJ12 Series

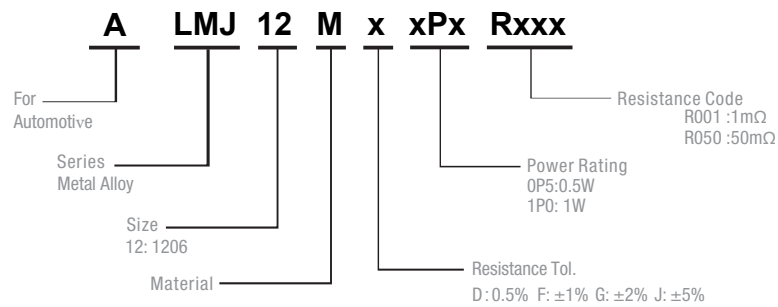
PROSEMI offers AEC-Q200 qualified Current Sensing Resistor



Description

- Proprietary processing technique produces extremely low resistance values
- Very low inductance
- Low thermal EMF
- Metallic Material

Part Numbering System



Parameter	Standard
Power Rating	0.5&1W
Resistance Value	1~200mΩ
Operating Temperature Range	-55 to +170°C
Component Temperature Coefficient (TCR)	± 50ppm/°C
Maximum Working Voltage (V)	$(P \times R)^{1/2}$
Rating Current(A)	$(P / R)^{1/2}$

P=Power Rating; R=Resistance Value

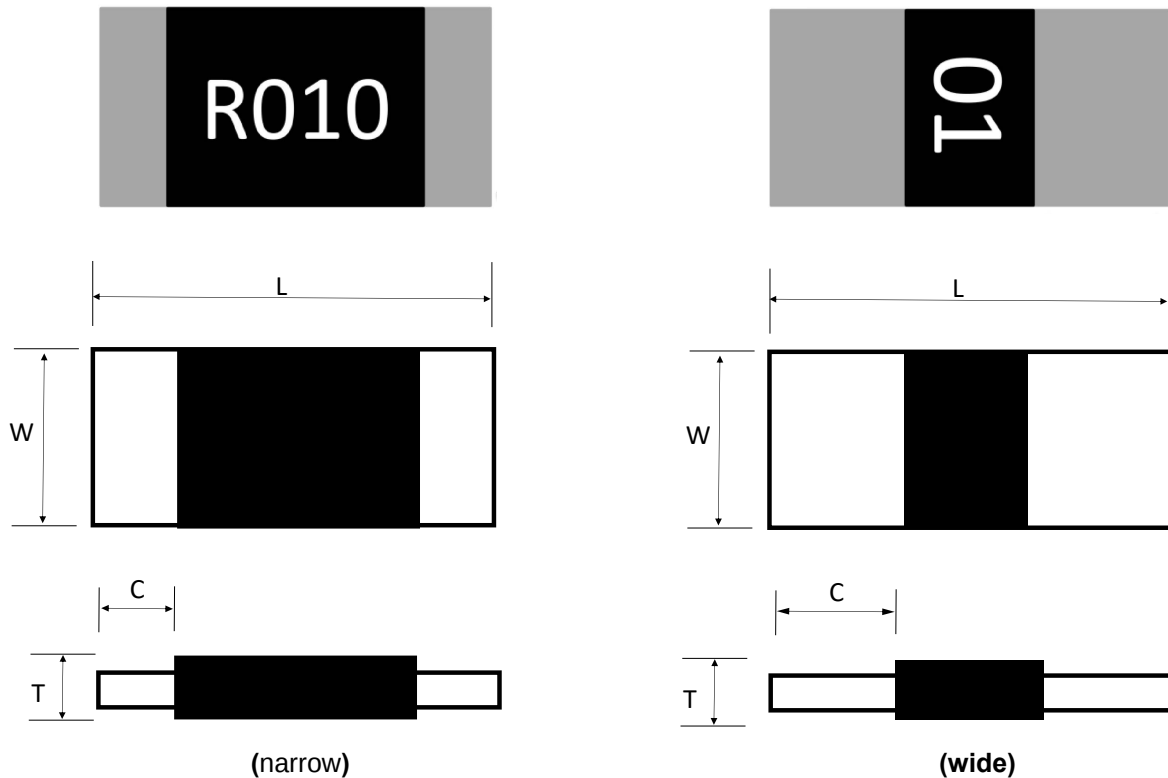
Standard Electrical Specifications

Type	Rating Power at 70℃	T.C.R. (ppm/℃)	Resistance Range(mΩ) 0.5% (D) 1%(F) 2% (G) 5%(J)	Meterial	Electrode	Operating Temperature(℃)
ALMJ12	1W	±150	1	MnCu	Wide	-55~+170℃
		±380	1.5		Narrow	
		±100	2&2.5			
		±50	3~100			
	0.5W	±50	101~200	Karma	Narrow	

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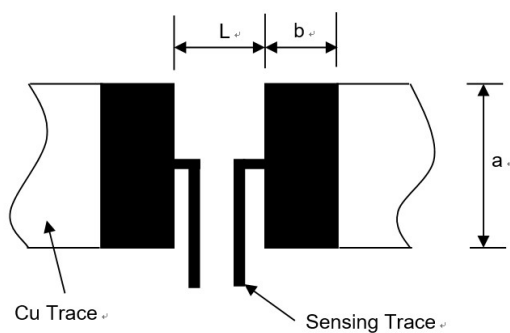
Dimensions



Unit: mm

Type	Resistance Range (mΩ)	L	W	C	T
ALMJ12	1	3.2±0.2	1.6±0.2	1.2±0.2 (wide)	0.7±0.15
	2~200	3.2±0.2	1.6±0.2	0.5±0.2(narrow)	0.7±0.15

Recommended land pattern

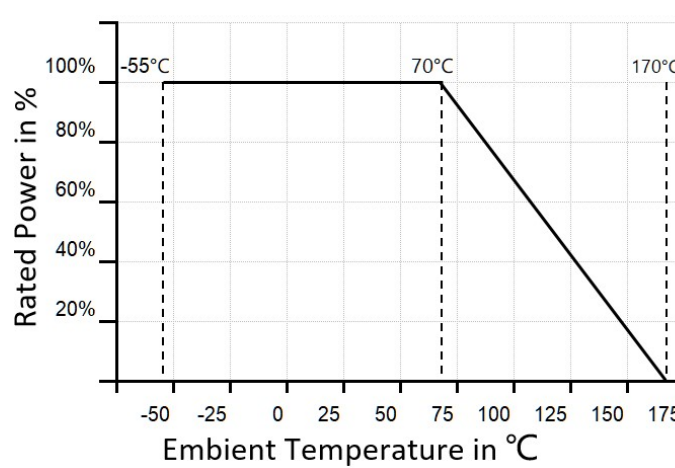


Unit: mm

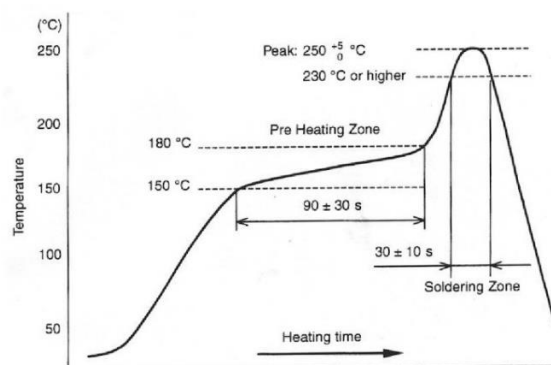
Resistance Range (mΩ)	a	b	L
1	1.8±0.1	2.3±0.1	1.0±0.1
2~200	1.8±0.1	1.7±0.1	1.6±0.1

Derating Curve

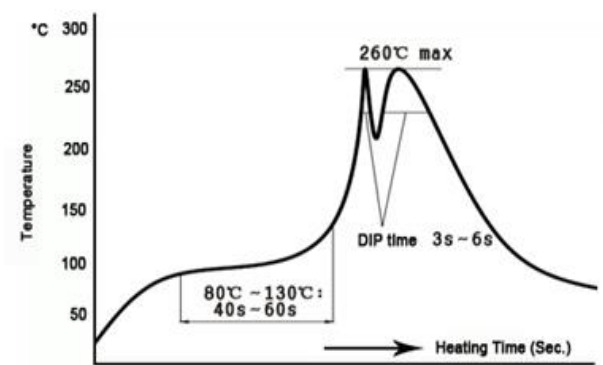
For resistors operated in ambient temperatures 70°C , power rating shall be derated in according with the curve below:



IR Reflow-Soldering Profile



Wave- Soldering Profile



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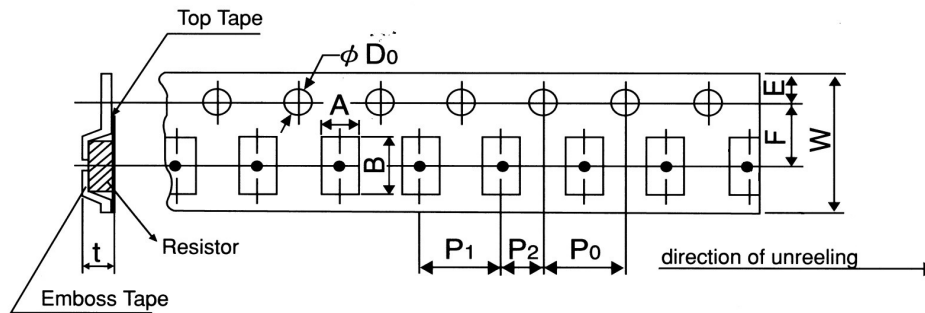
Product Characteristics

Item	Test condition/ Methods	Limited	Standard
Resistance	Measuring resistance value at room temperature 25°C±5°C	Refer to Spec	IEC60115-1 4.5
Temperature coefficient of resistance	$TCR = (R - R_0) / R_0 (T_2 - T_1) \times 10^6$ R ₀ : resistance of room temperature R: resistance of 125°C T ₁ : Room temperature T ₂ : Temperature at 125°C	Refer to Spec	MIL-STD-202 Method 304
Short time Overload	5×Rated power for 5 seconds	≤±0.5%	MIL-STD-202 Method 210
Resistance to Soldering Heat	260°C±5°C time: 10sec±1sec	≤±0.5%	MIL-STD-202 Method 210
Temperature Cycling	-55°C (30min)/+150°C(15min), 1000 cycles	≤±0.5%	MIL-STD-202 Method107G
Low temperature Storage	-55°C for 96hours, No power	≤±0.5%	MIL-STD-26E
High Temperature Storage	170°C for 1000hours, No power	≤±1%	IEC6011501-4.25
Bias Humidity	+85 , 85% RH , 10%bias 1000hours	≤±0.5%	MIL-STD-202 Method103
Terminal bending	It is soldered into a bendable test board and placed on a bending tester. A force of 2.5 kg is applied to the center of the test board to press it down by 2 mm. The resistance change rate is measured after maintaining the load for 60 seconds.	≤±0.5%	JIS-C5201
Solderability	Temperature of Solder: 245±5°C Dipping time:3±1s	Solder coverage over 95%	IEC60115-1 4.17
Load life	1000 h at 70 °C , 1.5 h "ON", 0.5 h "OFF"	≤±1%	JIS-C5201

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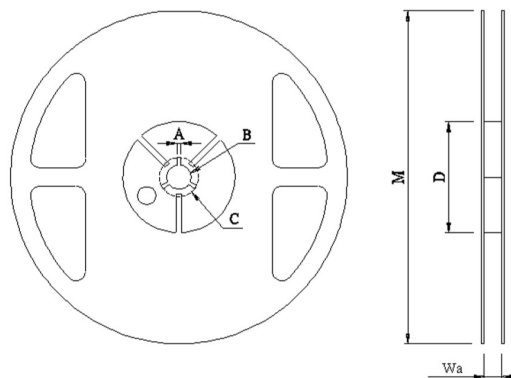
Tapping & Package



Unit: mm

Type	Pack	A ±0.2	B ±0.2	D0 ±0.05/-0	E ±0.1	F ±0.05	P0 ±0.1	P1 ±0.1	P2 ±0.1	W ±0.2	T ±0.15
1206	Paper	2.00	3.60	1.50	1.75	3.50	4.00	4.00	2.00	8.00	0.81

Reel Specification



Unit: mm

Type	A	B	C	D	M	W
1206	2.00±0.5	13.5±0.5	21.00±0.5	60.00±1.0	178.00±2.0	9.00±0.5

Packaging

Quantity: 5, 000pcs

8mm wide tape on 178mm(7 inch)
diameter reel -specification EIA
Standard 481.