

Automotive Current Sensing Resistors

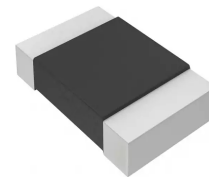
ALMJ12 Series

PROSEMI offers AEC-Q200 qualified Current Sensing Resistor

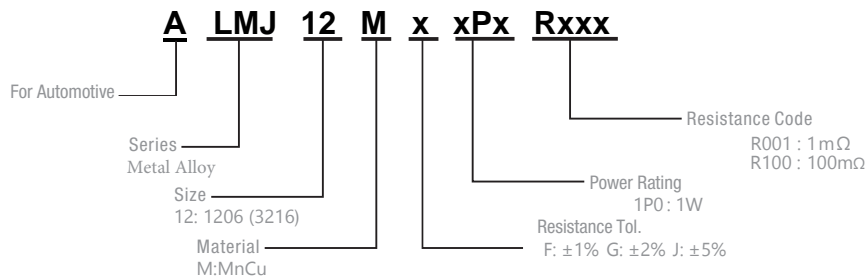


Description

- Proprietary processing technique produces extremely low resistance values
- Very low inductance
- Low thermal EMF
- Metallic Material
- AEC-Q200 qualified available



Part Numbering System

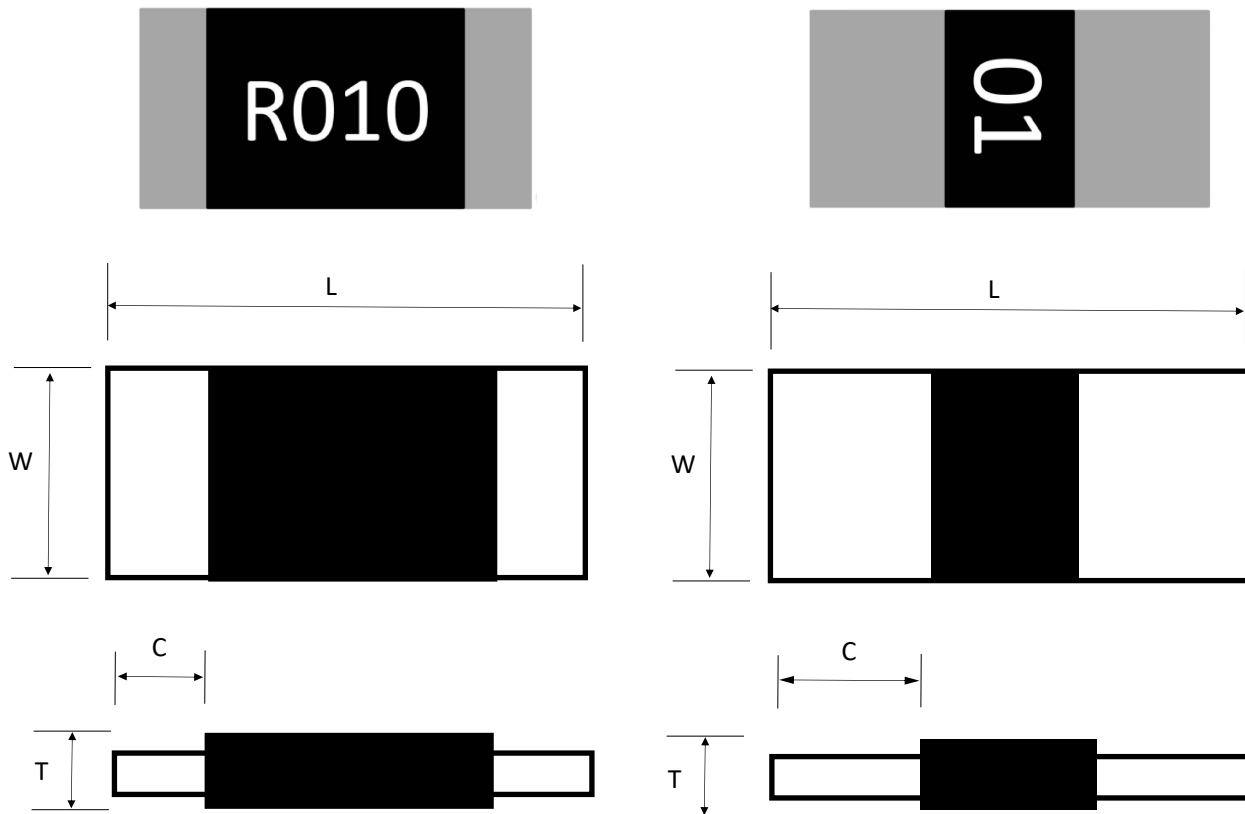


Parameter	Standard
Power Rating	1W
Resistance Value	1~100mΩ
Operating Temperature Range	-55 to +170°C
Component Temperature Coefficient (TCR)	± 50 ppm/°C
Maximum Working Voltage (V)	$(P \times R)^{1/2}$
Rating Current(A)	$(P / R)^{1/2}$

Standard Electrical Specifications

Type	Rating Power at 70°C	T.C.R. (ppm/°C)	Resistance Range(mΩ) 1.0% (F) 2.0% (G) 5.0% (J)	Material	Operating Temperature(°C)
ALMJ12	1W	50	1~100	R001~R100:MnCu	-55~+170°C

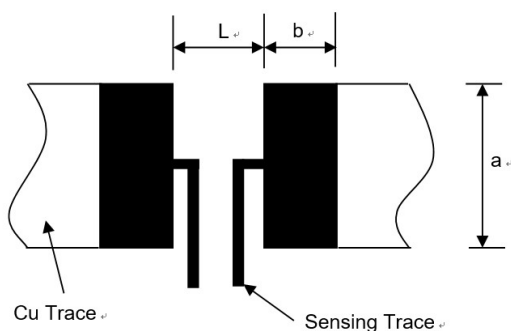
Dimensions



Unit: Millimeters

Type	L	W	C	T
ALMJ12	3.2±0.2	1.6±0.2	0.5±0.3	0.7±0.15

Recommended land pattern



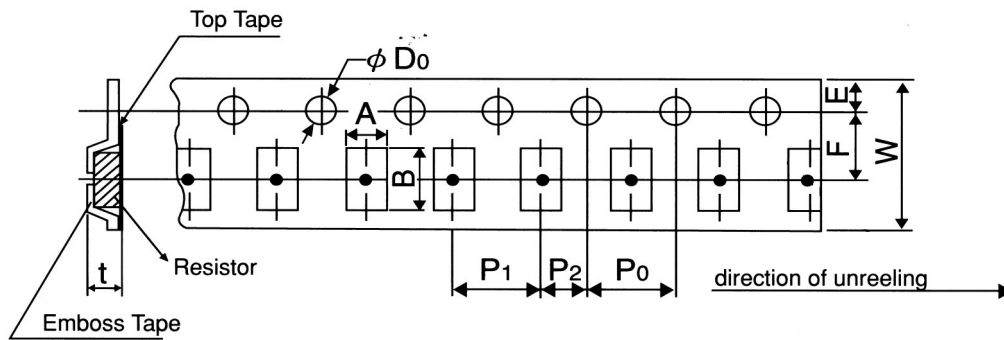
Unit: Millimeters

Resistance Range (Ω)	a	b	L
0.001~0.100	1.8±0.1	2.3±0.1	1.0±0.1

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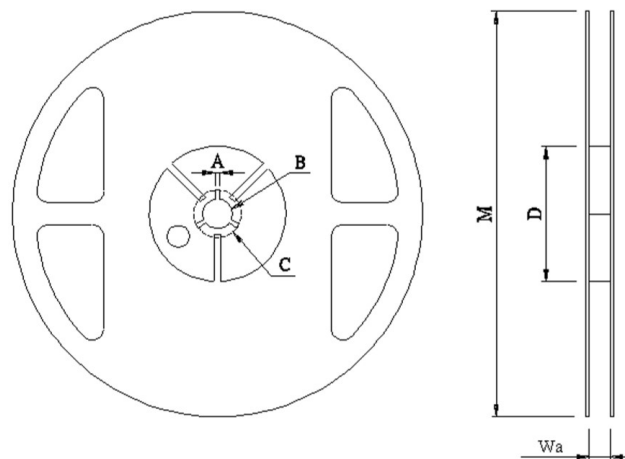
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Tapping & Package



Type	Pack	A ±0.2	B ±0.2	D0 +0.5-0	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

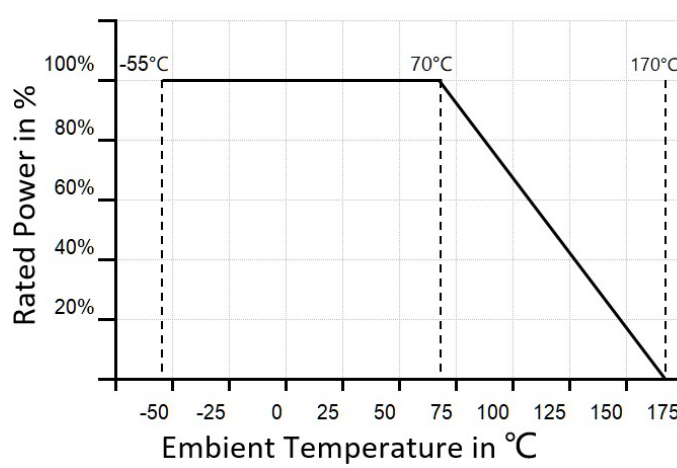


Type	A	B	C	D	M	W
1206	2.00±0.5	13.5±0.5	21.00±0.5	60.00±1.0	178.00±2.0	9.00±1.0

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	$TCR = \frac{(R-R_0)/R_0}{T_2-T_1} \times 10^6$ 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	Apply overload for 5 seconds and measure the resistance change rate after standing for 24 hours. 5 times the rated power for 5 seconds	≤±0.5%	MIL-R-26E
Resistance to Soldering Heat	260°C± 5°C time: 10sec± 1sec	≤±0.5%	MIL-STD-202 Method 210
Temperature Cycling	-55°C (30min)/+125°C(30min), 1000 cycles	≤±0.5%	MIL-STD-202 Method107G
Low temperature Storage	-55°C for 1000hours, No power	≤±0.5%	MIL-STD-26E
High Temperature Storage	125°C for 1000hours, No power	≤±1%	IEC6011501-4.25
Bias Humidity	+85°C, 85% RH, 10%bias1.5 hours "ON", 0.5 hours "OFF", 1000hours	≤±0.5%	MIL-STD-202 Method103
Mechanical shock	Condition C ,100 g's ,6 msec, 3 mutually perpendicular axes, in 6 directions, three impacts each for a total of 18 times 18 shocks.	≤±0.5%	MIL-STD-202 Method 213
Vibration	The frequency varies from 10HZ to 55HZ and return to 10HZ, shall be transferred in 1 min. Amplitude : 1.5mm, 3 directions, and 12 hours	≤±0.5%	MIL-STD-202 Method 201
Operational life	70°C± 2°C, 1000 hours, at rated power 1.5 hours "ON", 0.5 hours "OFF"	≤±1%	MIL-STD-202 Method 108
Moisture resistance	MIL-STD-202,method106, No power, 7b not required	≤±0.5%	MIL-STD-202 Method 106

Derating Curve



Packaging

Quantity: 5,000pcs

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