1206

Metal Alloy Chip Resistors

Features

- Low-resistance alloy resistor for surface mounting.
- Complies with RoHS requirements.
- Conforms to automotive AEC-Q200 tests.
- Parasitic inductance ≤5 nH.



Type designation

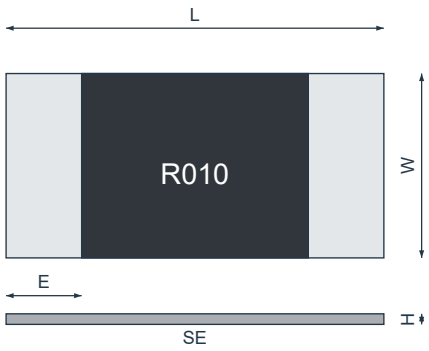
Size	Type	Rated power	Tolerance	Resistance range
1206	SE (small electrode)	1W	D:0.5% F:1% G:2% J:5%	R000~R100

Ordering code

Manufacturer	Size	Type	Power	Resistance	Tolerance	Quantity
INLANX	1206	SE (small electrode)	1W	R001 R002 ……	0.5%=D 1%=F 2%=G 5%=J	1206(5)

Example: INLANX1206SE1WR002F5

Construction and dimensions (mm)



Size	Type	Symbol	Dimension (mm)	Resistance
1206	SE	L	3.2±0.2	-
1206	SE	W	1.6±0.2	-
1206	SE	E	0.6±0.2	-
1206	SE	H	0.7±0.2	R≤R006
1206	SE	H	0.55±0.2	R>R006

Storage and handling

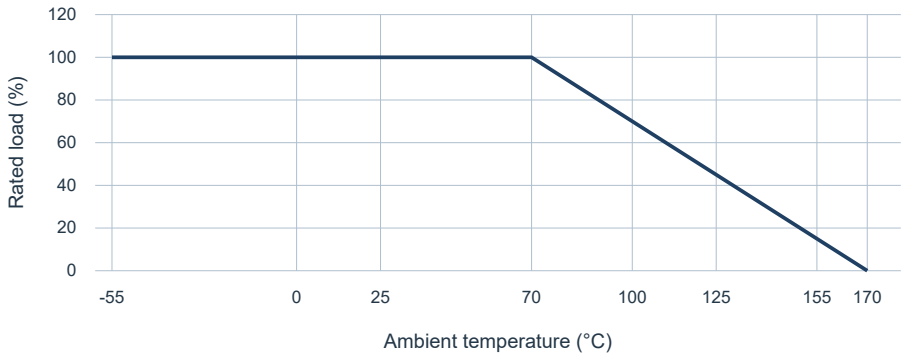
Store at 5-35°C and 45-75% RH. Storage life: 1 year.

Avoid prolonged direct sunlight, moisture, dust and gases that impair solderability, including hydrogen chloride, sulfurous acid gas and hydrogen sulfide.

Electrical specifications

Type	Power	Resistance	Alloy	TCR ppm/°C	Operating temp.	Tolerance	Insulation	Max. voltage V
SE 1206	3W	R000	Copper	/	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	R<0.2mΩ	Copper	/	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	1mΩ≤R<3mΩ	MuCu	±350	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	3mΩ≤R≤5mΩ	MuCu	±50	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	5mΩ<R≤40mΩ	MuCu	±50	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	40mΩ<R<70mΩ	CuNi	±50	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½
SE 1206	1W	70mΩ≤R≤100mΩ	KaMa	±50	-55°C~+170 °C	0.5% 1% 2% 5%	Over 100MΩ	(P*R)½

Power derating



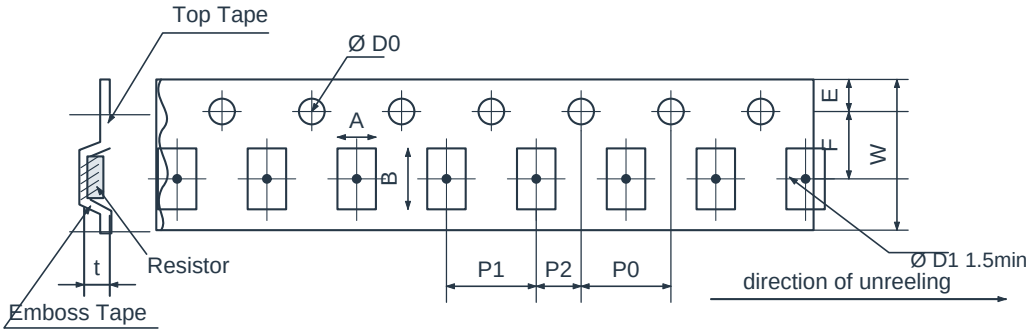
100% rated power at and below 70°C; linear derating above 70°C to zero at 170°C.

Reliability tests

Reference: IEC 60115, IEC 60068 and JIS-C 5201-1.

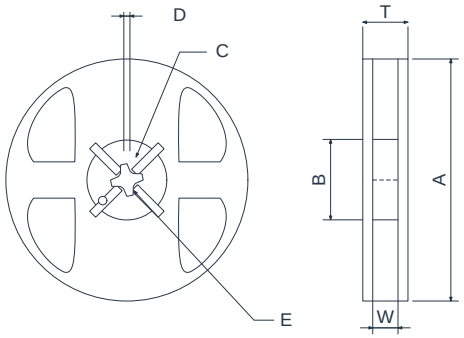
Test	Conditions / method	Requirements
Temperature coefficient	Measure at 25°C and 125°C; TCR=(R2-R1)/(R1×(T2-T1))×10^6.	Refer to electrical TCR specification
Short-time overload	5 times rated power for 5 s. Maximum 100 A for R000/R0005.	ΔR≤±(1%+0.05mΩ)
Insulation resistance	Apply 100±15 V DC between electrodes and substrate for 60 s.	>100 MΩ
Withstand voltage	Apply AC with RMS value equal to maximum overload voltage between electrodes and substrate, ramping at about 100 V/s; hold for 60±5 s.	No breakdown or arcing
Solderability	Solder bath at 245±5°C for 2±0.5 s.	Electrode solder coverage >95%
Soldering heat	Solder bath at 270±5°C for 10±1 s.	ΔR≤±(0.5%+0.05mΩ); no visible damage
Bending	Bend by 2 mm; hold for 60±5 s.	ΔR≤±(0.5%+0.05mΩ); no mechanical damage
Solvent resistance	Isopropanol (IPA), 23±5°C for 10 h.	No visible damage
High-temperature exposure	170±2°C for 1000 h; measure after resting for 1 h.	ΔR≤±(1%+0.05mΩ)
Low-temperature exposure	-55±2°C for 1000 h; measure after resting for 1 h.	ΔR≤±(0.5%+0.05mΩ)
Temperature cycling	-55°C for 30 min → room temperature for 5 min → 155°C for 30 min; 1000 cycles.	ΔR≤±(0.5%+0.05mΩ)
Load life	70±2°C, rated power, 1.5 h ON / 0.5 h OFF for 1000 h.	ΔR≤±(1%+0.05mΩ)
Moisture with load	85±2°C, 85±3% RH, rated power, 1.5 h ON / 0.5 h OFF for 1000 h.	ΔR≤±(1%+0.05mΩ)

Carrier tape dimensions (mm)



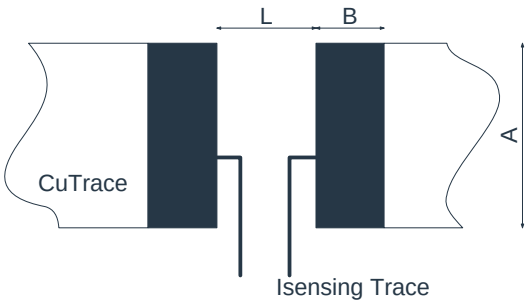
A	B	W	F	E	P1	P2	P0	D0	t
2.0±0.15	3.6±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.05	1.5~1.6	0.87±0.05

Reel dimensions (mm)



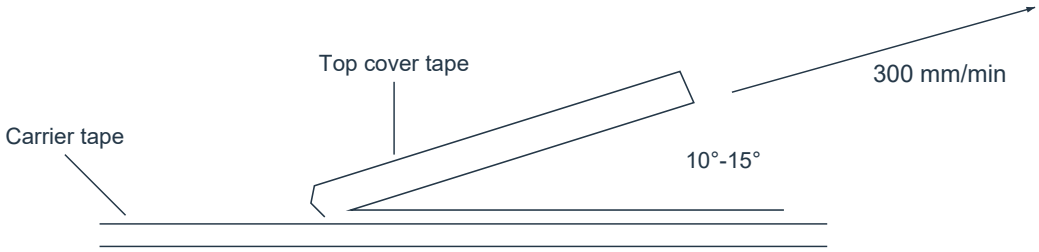
Size	A	B	C	D	E	T	W
Reel	178±2.0	60±1.0	13±1.0	2.0±0.5	>22	11.4±0.5	9.0±0.3

Recommended solder pads (mm)



Type	A	B	L
SE	1.8	1.7	1.6

Cover tape peel force



Top cover tape peel speed: 300 mm/min; angle: 10°-15°; peel force: 0.1-0.7 N.