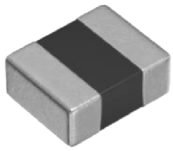
MetalLions

MLZ2012S1R0MT
Multilayer Chip Power Inductors

FEATURES



- High DC bias current due to developed material
- Low DC resistance
- Low profile and thin thickness
- Monolithic structure for high reliability
- Excellent solderability and high heat resistance
- No cross coupling due to magnetic shield
- Operating Temp. : -40℃~ +125℃
- RoHS compliant

APPLICATIONS

- DC-DC converter circuits for mobile phones, DSCs, DVCs, HDDs, PDAs, etc.

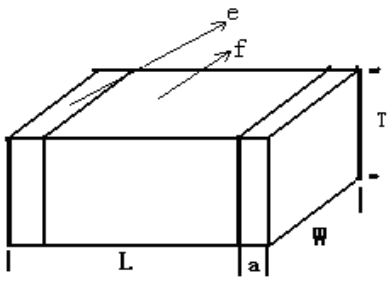
PRODUCT IDENTIFICATION

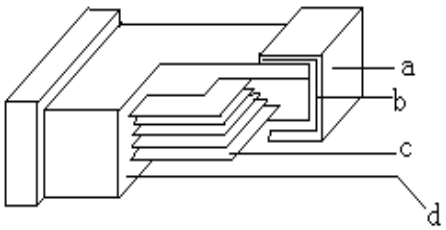
MLZ 2012 S 1R0 M T

1 2 3 4 5 6

- 1:Product Series: Multilayer Chip Power Inductor
- 2:Dimensions:
- 3: Material Code:S
- 4:Inductance:1R0=1uH
- 5:Tolerance: M=±20%
- 6:Packing:Tape Carrier Package

Dimension & Inner-configuration:





a.镀层 Ni/Sn plating
b.银层 Ag layer
c.内电极 Inner electrode
d.瓷体 Body
e.端电极 Terminal electrode
f.瓷体 ferrite or ceramic

Unit: mm（inch）

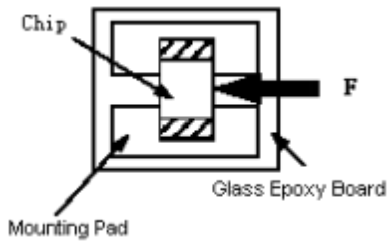
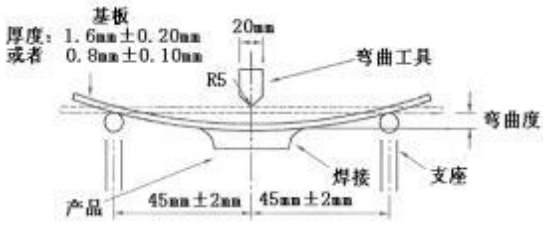
Size	L	W	T	a
201209	2.0±0.20（0.079±0.008）	1.2±0.20（0.047±0.008）	0.9±0.20（0.035±0.008）	0.5±0.3（0.020±0.012）

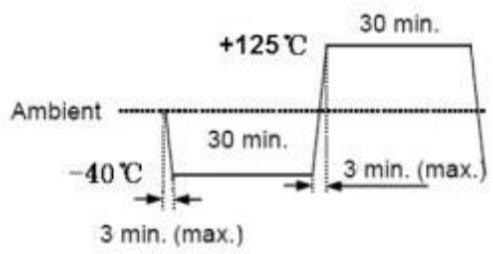
Electrical Characteristics List

Part NO.	Tolerance (%)	Inductance (μH)	RDC max	Test frequency (MHz)	Test voltage (mV)	Rated current (mA)max
MLZ2012S1R0MT	±20	10	0.14	1	50	1500

Reliability Testing Items

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-40℃~+125℃	including the IRMS for surface of the products
2	Solder ability	At least 95% of terminal electrode should be covered with solder	Preheating temperature:1 2 0 ℃ to 15 0 ℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 245±5℃ Immersion tin depth:10mm Duration : 5±1s Dip performance to a flux of about: 3 ~ 5 s
3	Resistance to Soldering	At least 95% of terminal electrode should be covered with solder. No mechanical damage. Inductance : change within ±30%	Preheating temperature: 120 ℃ to 150℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 260℃±5℃ Immersion tin depth:10mm Duration : 10±1s Dip performance to a flux of about:3 ~ 5 s
4	Current:	Current based on increasing product temperature, Current when temperature of the products reaches +40 °C	Impedance analyzer E4982A or equivalent DC power E3644A and Adapter 16200B or equivalent

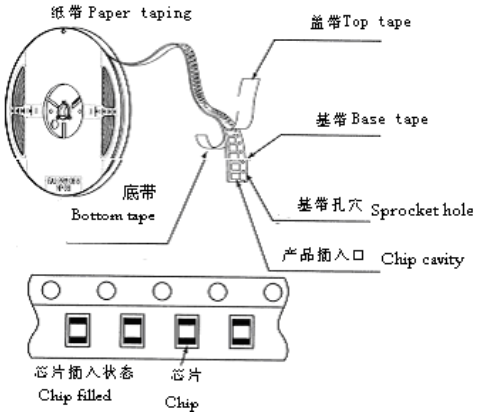
No.	Items	Requirements	Test Methods and Remarks
5	Adhesion of electrode	The termination and body should be no damage.	Applied force: 10N force for 201209 series. Keep time ： 10±1S 
6	Low temperature	No mechanical damage. Inductance change: within ±20%	Temperature：-40±2℃ Testing time ：1000^{+24}_{-0} h
7	Bending strength	No mechanical damage	Testing board: glass epoxy-resin substrate For 0.5 mm/s compression speed, curvature: 2mm, hold time20s±1s 。 
8	Vibration	No mechanical damage. Inductance change: within ±20%	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.

No.	Items	Requirements	Test Methods and Remarks
9	High temperature	No mechanical damage. Inductance change: within ±20%	Testing time: 1000^{+24}_{-0} h Temperature: 125±2℃
10	Static Humidity	No mechanical damage. Inductance change: within ±20%	Humidity: 90% to 95% RH Temperature: 60℃±2℃ Testing time: 1000^{+24}_{-0} h
11	High temperature load	No mechanical damage. Inductance change: within ±20%	impose current: at room Testing time: 1000^{+24}_{-0} h Temperature: 85±2℃
12	Temperature Shock	No mechanical damage. Inductance change: within ±20%	Temperature: -40℃ for 30±3min +125℃ for 30±3min Number of cycles: 32 

Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.

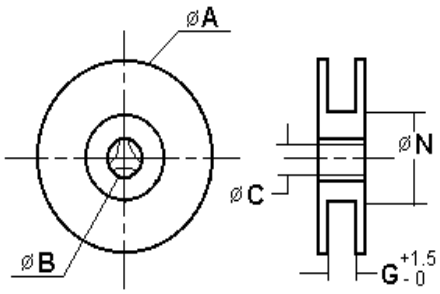
Packaging

Taping drawings

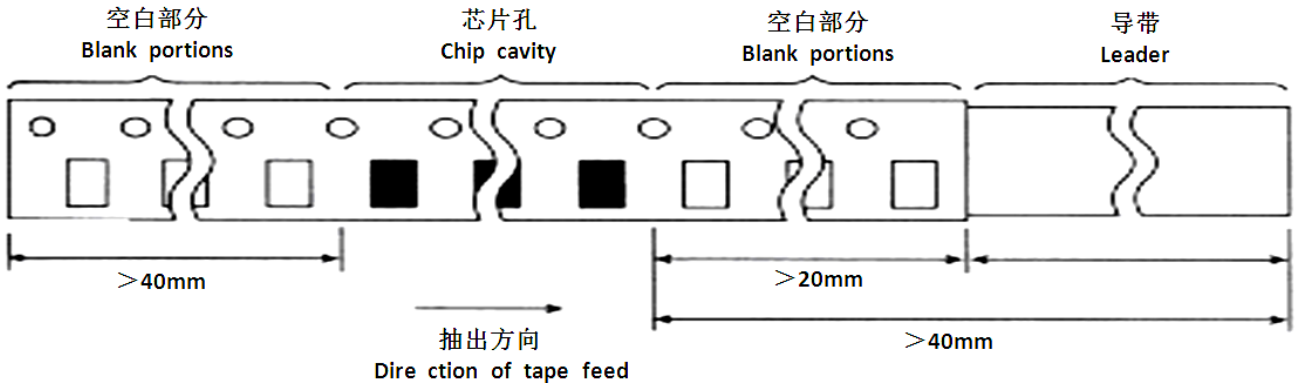


Reel dimensions (Unit: mm)

Size	A		C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

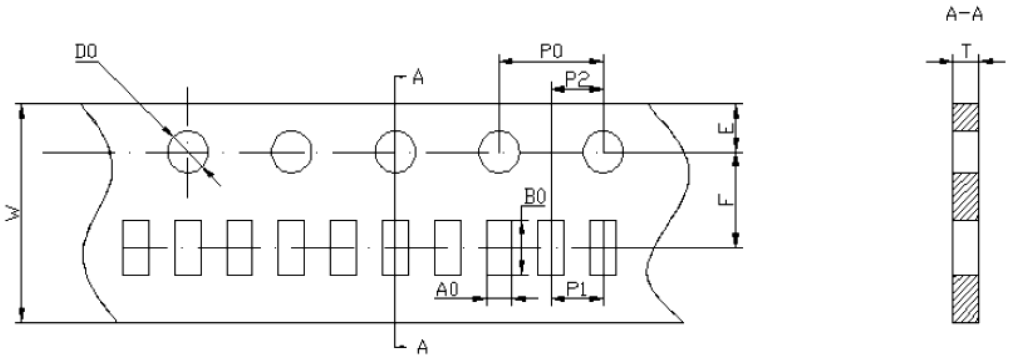


Leader and blank portion



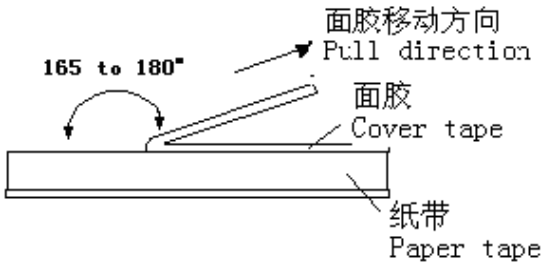
Taping dimensions (Unit: mm)

- **Paper tape**



Size	A0	B0	W	F	E	P1	P2	P0	D0	T
201209	1.50±0.2	2.30±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1

Peeling off force



① Peeling force should be 0.1~0.7N pulling in the direction of arrow.

② Speed of peeling off: 300mm/min.

③ The cover bond should not be damaged and bond the tape when it peeled off.

Packaging number (Unit: Pcs)

Size	201209
REEL	4000
BOX	40000
CASE	240000

Recommend Soldering Conditions

1）Soldering Conditions

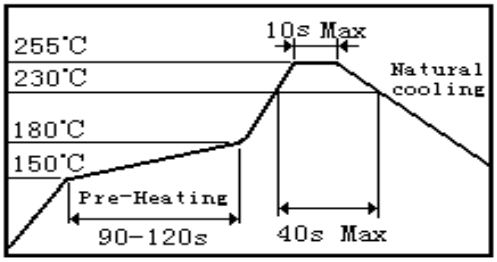
Products can be applied to reflow soldering.

① Soldering conditions

- Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150℃ max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100℃ max. Un-enough pre-heating may cause cracks on the ferrite, resulting in the deterioration of product quality.

- Products should be soldered within the following allowable range indicated by the slanted line. The excessive soldering conditions may cause the corrosion of the electrode. When soldering is repeated, allowable time is the accumulated time.

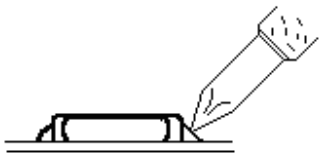
2） Reflow soldering profile



3）Iron soldering

Perform soldering at 350℃ on 30W max.

Soldering Time: < 5S（Take care not to apply the tip of the soldering iron to the terminal electrodes）。



Cleaning

1）**Cleaning Conditions**

Cleaning temperature : 60℃ max

Cleaning time: 1 minute min.

Ultrasonic output power: 200W max

Storage Requirements

1）**Storage period**

Products which inspected inductor company over 1 yeah ago should be examined and used, which can be Confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

2）**Storage conditions**

(1) Products should be storage in the warehouse on the following conditions:

Temperature : -10~+40℃ Humidity: 30~70% relative humidity

(2) Don't keep products in corrosive gases such as sulfur, chlorine gas or acid , or it may case oxidization of Electrodes resulting in poor solder ability.

(3) Products should be storaged on the palette for the prevention of the influence from humidity, dust and so on.

(4) Products should be storaged in the warehouse without heat shock, vibration, direct sunlight and so on.

(5) Products should be storaged under the airtight packaged condition.