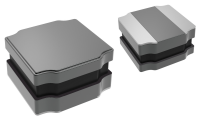
MetalLions

MPN252010S Series

Metal Aolly Wire Wound SMD Power Inductors

FEATURES

- Fe base metal material core provides large saturation current
- Metallization on ferrite core results in excellent shock resistance and damage-free durability
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI)
- Low DCR decreases power loss, small and slim take up less PCB real estate
- Automatic production ensures high quality and consistency
- Operate temperature range .... －40℃～＋125℃(Including self temp. rise)
- RoHS compliant



APPLICATIONS

- Smart phone, set top box, VR, AR
- Notebooks, desktop computers, servers
- Portable gaming devices, personal navigation systems, personal multimedia devices

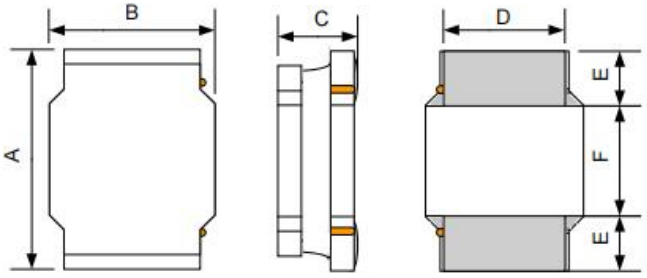
Explanation of Part Number

MPN 252010 S 1R0 M T

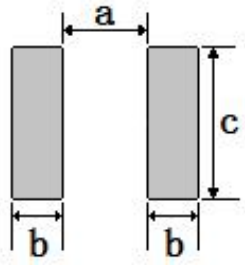
1 2 3 4 5 6

- 1:Product Series:Metal Aolly Wire Wound SMD Power Inductors
- 2:Dimensions:
- 3: Feature Type:Standard
- 4: Initial inductance value: 1R0 = 1.0uH
- 5: Tolerance of Inductance:M:+/-20%， N:+/-30%
- 6:Packing:Tape Carrier Package

SHAPE AND DIMENSIONS [mm]



Recommended Land Pattern



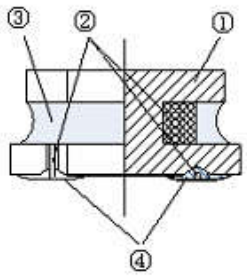
Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
MPN252010S	2.5±0.3	2.0±0.3	1.0 Max.	2.0±0.2	0.8±0.2	0.8±0.2	0.80	0.85	2.0

Electrical Characteristics List

Part Number	Inductance	DC Resistance		Isat(A)		Irms(A)	
	1MHz/0.1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	（uH）	Ω	Ω	A	A	A	A
MPN252010SR24NT	0.24±30%	0.033	0.025	6.10	7.10	3.70	4.50
MPN252010SR33NT	0.33±30%	0.039	0.033	4.80	5.50	3.50	4.05
MPN252010SR47NT	0.47±30%	0.045	0.040	4.40	5.20	3.20	3.60
MPN252010SR68NT	0.68±30%	0.059	0.049	3.20	3.60	2.75	3.20
MPN252010S1R0NT	1.0±30%	0.085	0.080	3.10	4.00	2.20	2.60
MPN252010S1R5NT	1.5±30%	0.106	0.090	2.60	3.00	2.00	2.30
MPN252010S2R2MT	2.2±20%	0.155	0.129	1.90	2.20	1.50	1.80
MPN252010S3R3MT	3.3±20%	0.252	0.210	1.60	1.80	1.20	1.40
MPN252010S4R7MT	4.7±20%	0.340	0.290	1.30	1.50	1.00	1.10
MPN252010S6R8MT	6.8±20%	0.480	0.380	1.00	1.15	0.95	1.00
MPN252010S100MT	10±20%	0.740	0.700	0.90	1.00	0.65	0.75

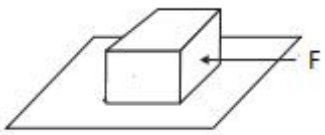
※1: All test data is referenced to 20°C ambient;
※2: Rated current: Isat or Irms, whichever is smaller;
※3: For MPN252010 size inductors, absolute maximum voltage: DC 25V;
※Isat: DC current at which the inductance drops approximate 30% from its value without current;
※Irms: DC current that causes the temperature rise (△T =40°C) from 20°C ambient.

Structure

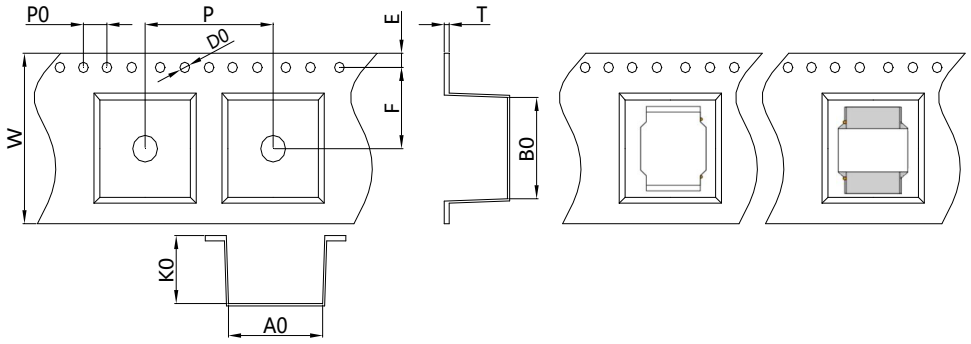


NO.	Components	Material
①	Core	Soft magnetic Metal
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Electrodes	AgNiSn or FeNiCu + Sn Alloy

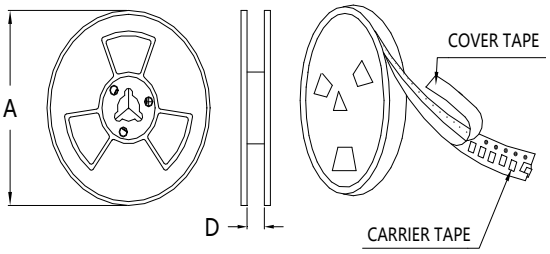
Reliability Test

No.	TEST ITEM	SPECIFICATION	TEST CONDITION
1	High temperature Storage test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: 125℃±5℃ (N: Follow the product specification for the setting.) Time : 96±2 hours Place the samples for one hour at room temperature and test them within two hours
2	Low temperature Storage test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: -40℃±5℃ (M: Follow the product specification for the setting) Time : 96±2 hours Place the samples for one hour at room temperature and test them within two hours.
3	Humidity test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: 40±2℃ , Humidity: 93±3%RH Time : 96±2 hours Place the samples for one hour at room temperature and test them within two hours
4	Solderability test	Terminals must have 95% minimum solder coverage	1.Dip pads in flux then dip in solder pot at 245±5°C for 5 second. 2.Solder: lead free 3.Flux: rosin flux
5	Heat endurance of flow soldering	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	1.Refer to the above reflow curve and go through the reflow for twice. 2.The peak temperature : 260+0/-5℃
6	Vibration test	1.No significant defects in appearance. 2.No short and no open.	Apply frequency 10~55~10Hz and amplitude 1.5mm, 1 min/cycle in X Y and Z direction for 2 hours each. (total 6 hours)
7	Terminal strength push test	1. Applied force:10N Duration: 10sec 2.Solder paste thickness:0.12mm 3.Meet the above requirements without any loose termina	Solder the test samples to the PCB through245 ℃ reflow, apply a standard force on the side of the test samples for 10 seconds. 

PACKAGING SPECIFICATION :



Size	Item	W	A0	B0	K0	P	T	E	F	D0	P0
252010	(mm)	8.00±0.3	2.35±0.2	2.65±0.2	1.40±0.1	4.00±0.1	0.25±0.1	1.75±0.1	3.50±0.1	1.50±0.1	4.00±0.2



	7″
A	Φ178±2.0
D	8.5

Packing Quantity:2000pcs/Reel

Re-flowing Profile: