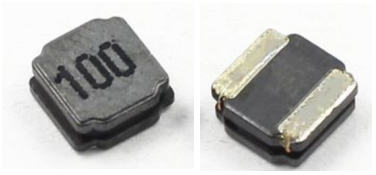
MetalLions

MNR4018 Series

Wire Wound SMD Power Inductors

FEATURES

- Magnetic-resin shielded construction reduces buzz noise to ultra-low levels
- 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)
- 30% higher current rating than conventional inductors of equal size
- Takes up less PCB real estate and save more power
- Operate temperature range .... −40℃～+125℃(Including self temp. rise)
- RoHS compliant



APPLICATIONS

- Smart phone, smart TV, set top box, notebook
- Car navigation systems, telecomm base stations
- VR, AR
- LED lighting

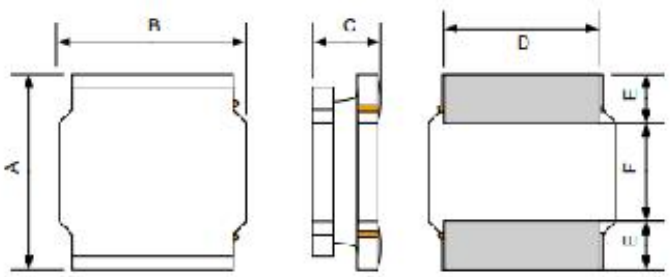
Explanation of Part Number

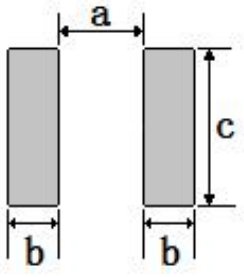
MNR 4018T1R0 M T

1 2 3 4 5

- 1:Product Series:Wire Wound SMD Power Inductors
- 2:Dimensions:
- 3: Initial inductance value: 1R0 = 1.0uH
- 4:Tolerance of Inductance:M:±20%
- 5.Packing:Tape Carrier Package

Dimensions: [mm]





Recommended Land Pattern

Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
MNR4018	4.0±0.2	4.0±0.2	1.8 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7

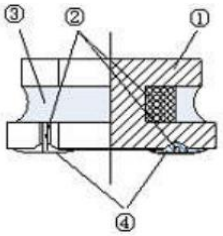
Electrical Characteristics List

Part Number	Inductance	DC Resistance		Isat(A)		Irms(A)		Marking
	100KHz/1.0V	Max.	Typ.	Max.	Typ.	Max.	Typ.	
Units	（uH）	Ω	Ω	A	A	A	A	
MNR4018TR24NT	0.24±30%	0.018	0.011	6.00	6.50	4.50	5.00	R24
MNR4018TR47NT	0.47±30%	0.018	0.014	4.30	5.20	4.00	4.50	R47
MNR4018TR68NT	0.68±30%	0.026	0.022	4.90	5.60	3.30	3.80	R68
MNR4018T1R0NT	1.00±30%	0.035	0.026	4.80	5.20	3.20	3.50	1R0
MNR4018T1R2NT	1.20±30%	0.042	0.037	4.50	4.80	3.10	3.30	1R2
MNR4018T1R5NT	1.50±30%	0.042	0.367	3.35	4.00	3.00	3.20	1R5
MNR4018T2R2MT	2.20±20%	0.059	0.048	3.00	3.20	2.70	3.00	2R2
MNR4018T3R3MT	3.30±20%	0.091	0.061	2.45	2.70	2.30	2.50	3R3
MNR4018T3R9MT	3.90±20%	0.105	0.079	2.40	2.70	2.00	2.30	3R9
MNR4018T4R7MT	4.70±20%	0.117	0.096	2.20	2.30	2.00	2.20	4R7
MNR4018T6R8MT	6.80±20%	0.143	0.115	1.70	1.90	1.50	1.70	6R8
MNR4018T100MT	10.0±20%	0.234	0.210	1.30	1.60	1.00	1.20	100
MNR4018T150MT	15.0±20%	0.325	0.250	0.94	1.10	0.94	1.00	150
MNR4018T220MT	22.0±20%	0.468	0.350	0.80	0.88	0.80	0.95	220
MNR4018T330MT	33.0±20%	0.689	0.524	0.56	0.70	0.50	0.70	330
MNR4018T470MT	47.0±20%	0.845	0.596	0.50	0.60	0.40	0.60	470
MNR4018T680MT	68.0±20%	1.300	1.160	0.45	0.55	0.35	0.50	680
MNR4018T101MT	100.0±20%	1.854	1.750	0.35	0.40	0.30	0.40	101

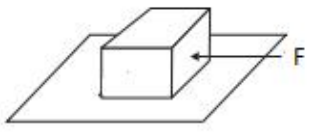
※1: All test data is referenced to 20°C ambient;

※2: Rated current: Isat or Irms, whichever is smaller;
※*3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
※*4: Irms: DC current that causes the temperature rise (△T =40°C) from 20°C ambient.

Structure (The structure of product.)



NO	Components	Material
①	Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating	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 ㄱY 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. 

We have suggested the storage period of lead-free product should not over 6 months.

SOLDERING CONDITIONS

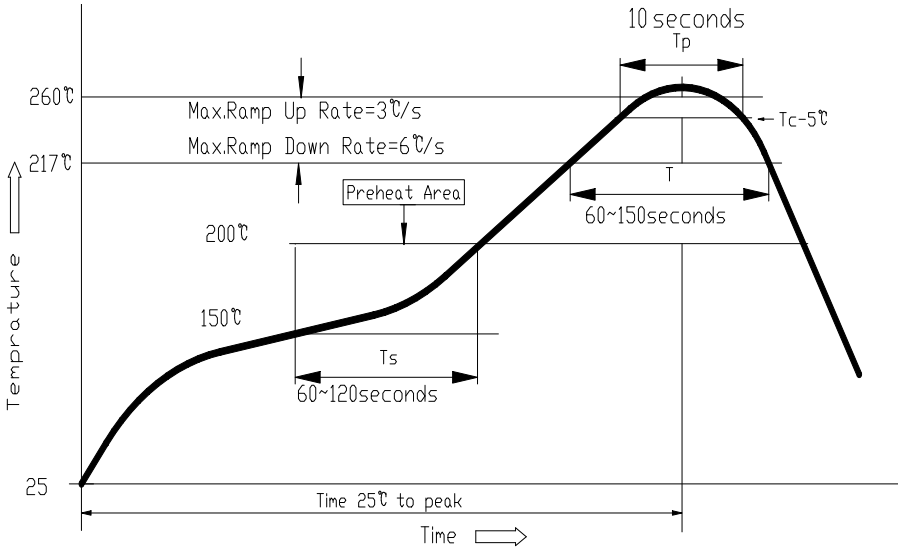
Applicable soldering process to the products is refl.

1 Soldering Materials

(1) Solder:Sn-3.0Ag-0.5Cu

(2) Flux:Use rosin-based flux,but not strongly acidic flux (with xhlorine exceeding 0.2wt%).Do not use water-soluble flux.

2 Reflow Soldering Profile



3 Soldering Iron

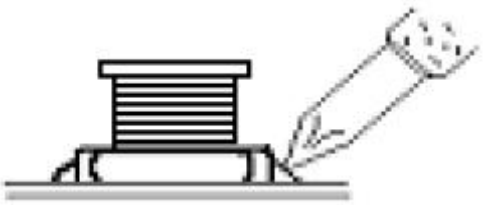
Reworking with electric solding iron must preheating at 150℃ for 1 minute is required,and do not directly touch the core with the tip of the soldering iron.The reworking soldering conditions are as follows.

①Temperature of soldering iron tip:350℃；

② Soldering iron power output:≤30W；

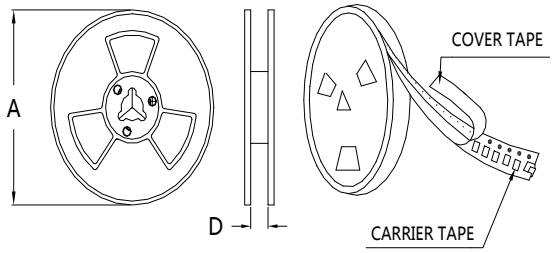
③ Diameter of soldering iron end:≤1.0mm；

④Soldering time:＜3 s

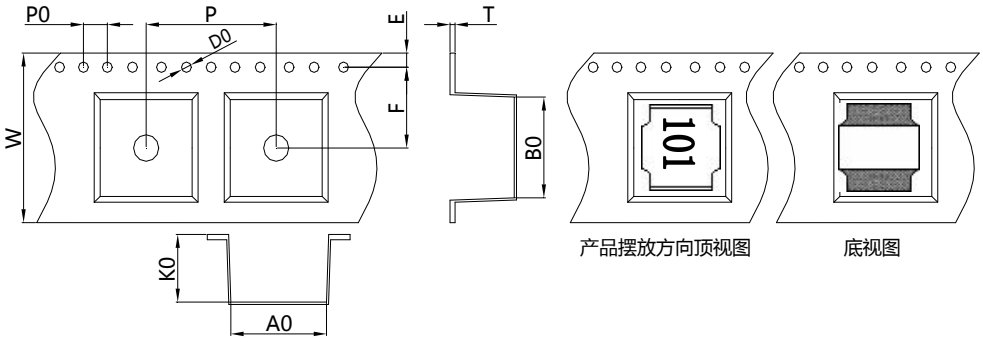


PACKAGING(unit: mm)

☑ 13″ 盘　　☐ 7″ 盘



	13″ 盘	7″ 盘
A	Φ330±2.0	Φ178±2.0
D	12.5	



Size	Item	W	A0	B0	K0	P	T	E	F	D0	P0
4018	(mm)	12.0±0.3	4.4±0.2	4.4±0.2	2.0±0.2	8.0±0.3	0.3±0.1	1.75±0.1	5.5±0.2	1.5±0.1	4.0±0.2

Quantity：3000PCS/Reel