

## SMD Power Inductor NR - 4012-Series (Ferrite)



### Features & Application

2020/1/1

- Mounting on the surface of NR inductors has high power current sensing.
- NR inductors are small in size and are miniaturized products, but the chip inductors have high quality, huge storage capacity and low resistance characteristics
- Surface mount high power inductors.
- Reel packaging is available for automatic surface mounting.
- It has the characteristics of high Q value and low impedance

Low magnetic leakage, low direct resistance, high current resistance and a series of features.

It is widely used in notebook computers, desktop computers, servers, plug-ins,

TVs, smart homes, LED lighting, automotive products, wireless remote control systems,

low-voltage power supply modules and other electronic equipment.

★ When ordering, please check part number



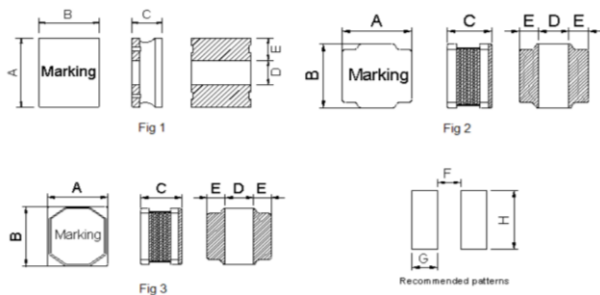
Part Number	Inductance @1MHz,0.25V (uH)	DCR (Max) (Ω)	Isat (Max.) (A)	Irms (Max.) (A)	SRF MHz (min)
FNR4012-R82N3.02A	0.82±30%	0.05	3.02	1.65	150
FNR4012-1R0N2.61A	1.0±30%	0.05	2.61	1.65	120
FNR4012-1R5N2.1A	1.5±30%	0.065	2.1	1.46	90
FNR4012-1R8N2.12A	1.8±30%	0.08	2.12	1.32	88
FNR4012-2R2N1.76A	2.2±30%	0.08	1.76	1.32	74
FNR4012-3R3N1.72A	3.3±30%	0.11	1.72	1.12	60
FNR4012-4R7N1.15A	4.7±30%	0.125	1.15	1.05	50
FNR4012-6R8M0.85A	6.8±20%	0.198	0.85	0.84	40
FNR4012-100M0.8A	10±20%	0.265	0.8	0.77	33
FNR4012-120M0.66A	12±20%	0.29	0.66	0.7	32
FNR4012-150M0.56A	15±20%	0.34	0.56	0.64	25
FNR4012-180M0.47A	18±20%	0.47	0.55	0.55	23
FNR4012-220M0.46A	22±20%	0.587	0.46	0.49	20
FNR4012-330M0.42A	33±20%	0.81	0.42	0.42	17
FNR4012-470M0.35A	47±20%	1.1	0.35	0.37	12
FNR4012-560M0.33A	56±20%	1.25	0.33	0.33	11
FNR4012-680M0.38A	68±20%	1.95	0.38	0.27	11
FNR4012-820M0.28A	82±20%	2.14	0.28	0.26	11
FNR4012-101M0.25A	100±20%	2.21	0.25	0.25	9.4

1. Isat: DC current at which the inductance drops approximate 30% from its value without current;

2. Irms: DC current that causes the temperature rise ( $\Delta T = 40^{\circ}\text{C}$ ) from  $25^{\circ}\text{C}$  ambient;

3. Operating Temperature:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ ;

4. Absolute maximum voltage: DC 25V



Dimensions	
A	4.00±0.20
B	4.00±0.20
C	1.20 max
D	1.60±0.3
E	1.60±0.3
F	1.40 typ
G	1.30 typ
H	3.70 typ
Fig 3	
unit : mm	

Impedance/Inductance/Q/ LCR Angilent E4991A

Resistance DC Chroma 16502

Current per winding that causes a  $20^{\circ}\text{C}$  rise from  $25^{\circ}\text{C}$  ambient

Electrical specifications at  $25^{\circ}\text{C}$

Weight 58 – 78 mg.

Packaging 4000/13 // reel; Plastic tape: 12 mm wide.

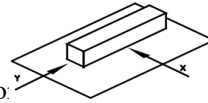
Packaging will different, according to the various chip size.

Contact Us	
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Japan	sales-jp@bing-ri.com.tw

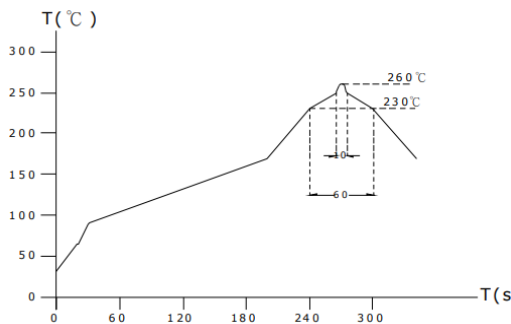
Official Website :	
<a href="https://www.bing-ri.com.tw/">https://www.bing-ri.com.tw/</a>	

## GENERAL CHARACTERISTICS

1. Operating temperature range:  $-40$  TO  $+125^{\circ}\text{C}$  (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y withstanding at below conditions.  
Terminal should not peel off. (refer to figure at right) 0.5kg Min —4012
4. Insulating resistance: Over  $100\text{M}\Omega$  at  $100\text{V D.C.}$  between coil and core.
5. Dielectric strength: No dielectric breakdown at  $100\text{V D.C.}$  for 1 minute between coil and core
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/(^{\circ}\text{C } -25\sim +80)$ .  $^{\circ}\text{C}$  , inductance deviation within  $\pm 5.0\%$ , after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in  $90\sim 95\%$  relative humidity at  $40 \pm 2$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration ( $10\sim 55\sim 10\text{ Hz}$ ) with  $1.5\text{mm P-P}$  amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with  $981\text{m/s}^2$  ( $100\text{G}$ ) shock attitude upon a rubber block method shock testing machine, in three different
10. Resistance to Soldering Heat: 260 , 10 seconds(See attached recommend reflow)
11. Storage environment: Storage condition: Temperature Range:  $10 \sim 35$  (Generally:  $21 \sim 31$  ) , Humidity Range:  $50\% \sim 80\% \text{ RH}$  (Generally:  $65\% \sim 75\%$  ) ; Transportation condition: Temperature Range:  $-35 \sim 85$  , Humidity Range:  $50\% \sim 95\% \text{ RH}$
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:



Lead-free heat en duran ce test



Lead-free the recommended reflow condition

