



深圳振华富电子有限公司

SHENZHEN ZHENHUA FU ELECTRONICS CO., LTD

# 规格承认书

## SPECIFICATION FOR APPROVAL

客户名称

CUSTOMER NAME:

\_\_\_\_\_

产品型号：

DESCRIPTION:

NR Series Power Inductors

\_\_\_\_\_

客户料号

CUSTOMER PART NO.:

\_\_\_\_\_

振华富料号

Z. H. F. PART NO.:

\_\_\_\_\_

拟制 <b>PAEPARED</b>	审核 <b>CHECKED</b>	批准 <b>APPROVED</b>
日期 <b>DATE:</b> 年   月   日		

客 户 承 认 <b>CUSTOMER APPROVE</b>
日期 <b>DATE:</b> 年   月   日

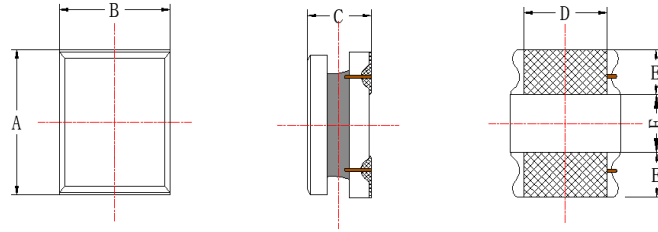
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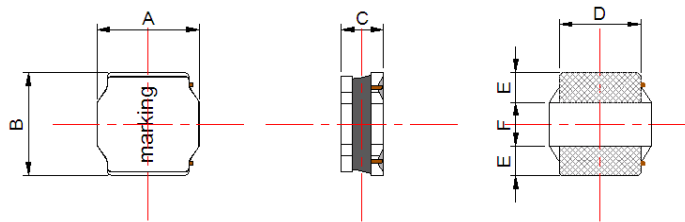
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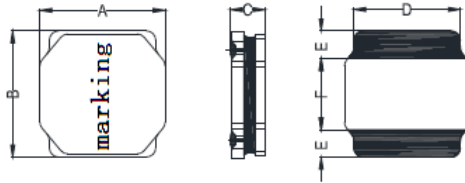
## 1、外型尺寸 DIMENSIONS:



a) 结构一



b) 结构二



c) 结构一

图 1 外形结构

表 1 外形尺寸

单位为 mm

型号规格	<i>A</i>	<i>B</i>	<i>C<sub>max</sub></i>	<i>D</i>	<i>E</i>	<i>F</i>	外形结构
NR201610	2.0±0.2	1.6±0.2	1.0	1.60±0.20	0.60±0.20	0.80±0.20	图 1a)
NR201610H	2.0±0.2	1.6±0.2	1.0	1.60±0.20	0.60±0.20	0.80±0.20	图 1a)
NR252012	2.5±0.2	2.0±0.2	1.2	2.00±0.20	0.80±0.20	0.80±0.20	图 1a)
NR252012H	2.5±0.2	2.0±0.2	1.2	2.00±0.20	0.80±0.20	0.80±0.20	图 1a)
NR3012	3.0±0.2	3.0±0.2	1.2	2.5±0.2	0.80±0.20	1.35±0.25	图 1b)
NR3015	3.0±0.2	3.0±0.2	1.5	2.5±0.2	0.75±0.20	1.5±0.2	图 1b)
NR4012	4.0±0.3	4.0±0.3	1.2	3.3±0.3	1.05±0.3	1.9±0.3	图 1c)
NR4018	4.0±0.3	4.0±0.3	1.8	2.6±0.3	1.05±0.3	1.9±0.3	图 1b)

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NR4020	4.0±0.3	4.0±0.3	2.0	3.2±0.3	1.3±0.3	1.7±0.3	图 1b)
NR5020	5.0±0.3	5.0±0.3	2.0	4.0±0.3	1.35±0.3	2.3±0.3	图 1b)
NR5040	5.0±0.3	5.0±0.3	4.0	4.0±0.3	1.5±0.3	2.0±0.3	图 1b)
NR6020	6.0±0.3	6.0±0.3	2.0	4.9±0.3	2.0±0.3	2.7±0.3	图 1b)
NR6045	6.0±0.3	6.0±0.3	4.5	5.7±0.3	1.7±0.3	2.9±0.3	图 1b)
NR8040	8.0±0.3	8.0±0.3	4.2	6.3±0.3	2.5±0.3	3.5±0.3	图 1b)

## 2、规格编码 SPECIFICATION NO:

NR 252010 H - 1R0 N (f)

① ② ③ ④ ⑤ ⑥

① 产品类型代号 Product symbol:

② 外形尺寸 Dimmensions:

③ 特性类别 Feature Type: H Type

④ 电感量 Inductance: R47: 0.47μH, 1R0: 1.0μH , 680: 68μH

⑤ 允许偏差 Tolerance: M=±20%, N=±30%

⑥ 表示无铅产品 Leadfree Products:

## 3、电气特性 ELECTRICAL CHARACTERISTIC:

### NR201610 系列

型号规格	电感量 μH	L 值 测试条件	$R_{DC}$ (±30%) Ω	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR201610-R47N	0.47	100kHz/1V	0.040	2100	2000
NR201610-R68N	0.68	100kHz/1V	0.060	1900	1850
NR201610-1R0M	1.0	100kHz/1V	0.090	1550	1400
NR201610-2R2M	2.2	100kHz/1V	0.175	1100	800
NR201610-3R3M	3.3	100kHz/1V	0.316	800	650
NR201610-4R7M	4.7	100kHz/1V	0.340	600	450

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NR201610-6R8M	6.8	100kHz/1V	0.550	550	400
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## NR201610H 系列

型号规格	电感量 $\mu\text{H}$	L 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR201610H-R24M	0.24	1MHz/1V	0.033	3700	2900
NR201610H-R33M	0.33	1MHz/1V	0.033	2500	2900
NR201610H-R47M	0.47	1MHz/1V	0.050	2300	2350
NR201610H-R68M	0.68	1MHz/1V	0.063	1950	2050
NR201610H-1R0M	1.0	1MHz/1V	0.095	1650	1450
NR201610H-1R5M	1.5	1MHz/1V	0.145	1350	1250
NR201610H-2R2M	2.2	1MHz/1V	0.220	1200	1100
NR201610H-3R3M	3.3	1MHz/1V	0.280	900	880
NR201610H-4R7M	4.7	1MHz/1V	0.400	700	740

## NR252012 系列

型号规格	电感量 $\mu\text{H}$	L 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR252012-R47N	0.47	100kHz/1V	0.047	3800	2150
NR252012-R68N	0.68	100kHz/1V	0.057	3200	1950
NR252012-1R0N	1.0	100kHz/1V	0.070	2590	1930
NR252012-1R2N	1.2	100kHz/1V	0.100	2380	1460
NR252012-1R5N	1.5	100kHz/1V	0.113	2240	1400
NR252012-2R2N	2.2	100kHz/1V	0.166	1850	1150
NR252012-2R7N	2.7	100kHz/1V	0.184	1720	1090
NR252012-3R3M	3.3	100kHz/1V	0.203	1600	1040
NR252012-4R7M	4.7	100kHz/1V	0.290	1120	870
NR252012-5R6M	5.6	100kHz/1V	0.415	1110	730
NR252012-6R8M	6.8	100kHz/1V	0.445	900	690
NR252012-8R2M	8.2	100kHz/1V	0.505	980	650

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NR252012-100M	10	100kHz/1V	0.535	790	620
NR252012-120M	12	100kHz/1V	0.825	780	510
NR252012-150M	15	100kHz/1V	1.000	680	420

## NR252012H 系列

型号规格	电感量 $\mu\text{H}$	L 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR252012H-R24M	0.24	1MHz/1V	0.018	4700	4050
NR252012H-R33M	0.33	1MHz/1V	0.024	3500	3300
NR252012H-R47M	0.47	1MHz/1V	0.030	3500	3000
NR252012H-R68M	0.68	1MHz/1V	0.038	2950	2500
NR252012H-1R0M	1.0	1MHz/1V	0.050	2700	2100
NR252012H-1R2M	1.2	1MHz/1V	0.065	2000	1950
NR252012H-1R5M	1.5	1MHz/1V	0.075	1800	1700
NR252012H-2R2M	2.2	1MHz/1V	0.080	1800	1500
NR252012H-3R3M	3.3	1MHz/1V	0.120	1500	1250
NR252012H-4R7M	4.7	1MHz/1V	0.175	1250	1100
NR252012H-6R8M	6.8	1MHz/1V	0.300	900	600
NR252012H-100M	10	1MHz/1V	0.435	650	550
NR252012H-150M	15	1MHz/1V	0.820	570	500

## NR3012 系列

型号规格	电感量 $\mu\text{H}$	L 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR3012-R33N	0.33	100kHz/1V	0.021	3000	2900
NR3012-R47N	0.47	100kHz/1V	0.033	2200	2200
NR3012-R82N	0.82	100kHz/1V	0.040	2050	2100
NR3012-1R0N	1.0	100kHz/1V	0.048	1900	2000
NR3012-1R5N	1.5	100kHz/1V	0.055	1620	1850

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NR3012-1R8N	1.8	100kHz/1V	0.068	1500	1700
NR3012-2R2M	2.2	100kHz/1V	0.075	1200	1550
NR3012-3R3M	3.3	100kHz/1V	0.100	1050	1350
NR3012-4R7M	4.7	100kHz/1V	0.120	900	1250
NR3012-5R6M	5.6	100kHz/1V	0.160	800	1100
NR3012-6R8M	6.8	100kHz/1V	0.190	750	1000
NR3012-100M	10	100kHz/1V	0.265	600	890
NR3012-150M	15	100kHz/1V	0.430	450	720
NR3012-220M	22	100kHz/1V	0.630	420	550
NR3012-270M	27	100kHz/1V	0.800	350	450
NR3012-330M	33	100kHz/1V	0.875	360	460
NR3012-470M	47	100kHz/1V	1.450	270	350

## NR3015 系列

型号规格	电感量 μH	L 值 测试条件	$R_{DC}$ (±30%) Ω	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR3015-R68N	0.68	100kHz/1V	0.030	3300	2400
NR3015-1R0N	1.0	100kHz/1V	0.036	2320	2300
NR3015-1R2N	1.2	100kHz/1V	0.040	2210	1950
NR3015-1R5N	1.5	100kHz/1V	0.050	2300	1700
NR3015-1R8N	1.8	100kHz/1V	0.050	1750	1700
NR3015-2R2N	2.2	100kHz/1V	0.060	1600	1600
NR3015-2R7N	2.7	100kHz/1V	0.075	1520	1430
NR3015-3R3M	3.3	100kHz/1V	0.080	1320	1300
NR3015-3R6M	3.6	100kHz/1V	0.105	1280	1200
NR3015-3R9M	3.9	100kHz/1V	0.105	1200	1200
NR3015-4R3M	4.3	100kHz/1V	0.115	1200	1140
NR3015-4R7M	4.7	100kHz/1V	0.125	1100	1090
NR3015-5R1M	5.1	100kHz/1V	0.133	1000	1000

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NR3015-6R2M	6.2	100kHz/1V	0.195	1000	860
NR3015-6R8M	6.8	100kHz/1V	0.200	850	850
NR3015-100M	10	100kHz/1V	0.250	720	700
NR3015-120M	12	100kHz/1V	0.320	700	680
NR3015-150M	15	100kHz/1V	0.350	660	650
NR3015-180M	18	100kHz/1V	0.430	560	560
NR3015-220M	22	100kHz/1V	0.460	520	520
NR3015-270M	27	100kHz/1V	0.730	480	450
NR3015-330M	33	100kHz/1V	0.820	440	430
NR3015-390M	39	100kHz/1V	0.995	410	390
NR3015-430M	43	100kHz/1V	1.060	370	370
NR3015-470M	47	100kHz/1V	1.250	350	350
NR3015-560M	56	100kHz/1V	1.280	330	330

## NR4012 系列

型号规格	电感量 $\mu\text{H}$	$L$ 值 测试条件	$R_{DC}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR4012-R24N	0.24	100kHz/1V	0.020	4800	2900
NR4012-1R0N	1.0	100kHz/1V	0.042	2800	2000
NR4012-1R5N	1.5	100kHz/1V	0.051	2200	1800
NR4012-2R2M	2.2	100kHz/1V	0.075	1760	1320
NR4012-3R3M	3.3	100kHz/1V	0.075	1350	1320
NR4012-4R7M	4.7	100kHz/1V	0.125	1150	1000
NR4012-5R6M	5.6	100kHz/1V	0.150	1000	1000
NR4012-6R8M	6.8	100kHz/1V	0.175	1150	850
NR4012-100M	10	100kHz/1V	0.180	850	800
NR4012-150M	15	100kHz/1V	0.310	680	650
NR4012-180M	18	100kHz/1V	0.430	600	550
NR4012-220M	22	100kHz/1V	0.530	500	490
NR4012-330M	33	100kHz/1V	0.780	500	420

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NR4012-470M	47	100kHz/1V	1.100	350	370
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## NR4018 系列

型号规格	电感量 $\mu\text{H}$	$L$ 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR4018-R47N	0.47	100kHz/1V	0.018	4300	4000
NR4018-R68N	0.68	100kHz/1V	0.028	4900	3300
NR4018-1R0N	1.0	100kHz/1V	0.025	4800	2000
NR4018-1R5N	1.5	100kHz/1V	0.030	3350	1800
NR4018-1R8N	1.8	100kHz/1V	0.044	3000	2000
NR4018-2R2M	2.2	100kHz/1V	0.045	2700	1650
NR4018-3R3M	3.3	100kHz/1V	0.070	2450	1230
NR4018-4R7M	4.7	100kHz/1V	0.090	1700	1200
NR4018-6R8M	6.8	100kHz/1V	0.110	1450	1300
NR4018-100M	10	100kHz/1V	0.180	1300	840
NR4018-150M	15	100kHz/1V	0.250	940	650
NR4018-220M	22	100kHz/1V	0.360	800	590
NR4018-330M	33	100kHz/1V	0.530	560	490
NR4018-470M	47	100kHz/1V	0.650	570	420
NR4018-680M	68	100kHz/1V	1.000	470	320
NR4018-101M	100	100kHz/1V	1.750	400	250

## NR4020 系列

型号规格	电感量 $\mu\text{H}$	$L$ 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR4020-1R0N	1.0	100kHz/1V	0.029	4.78	2.15
NR4020-1R5N	1.5	100kHz/1V	0.035	4.45	1.98
NR4020-2R2N	2.2	100kHz/1V	0.040	3.40	1.85
NR4020-3R3M	3.3	100kHz/1V	0.070	3.20	1.40

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NR4020-4R7M	4.7	100kHz/1V	0.075	2.35	1.34
NR4020-5R6M	5.6	100kHz/1V	0.090	2.20	1.22
NR4020-6R8M	6.8	100kHz/1V	0.125	2.20	1.04
NR4020-100M	10	100kHz/1V	0.165	1.60	0.90
NR4020-120M	12	100kHz/1V	0.175	1.50	0.88
NR4020-220M	22	100kHz/1V	0.350	1.05	0.62
NR4020-330M	33	100kHz/1V	0.550	0.85	0.49
NR4020-470M	47	100kHz/1V	0.710	0.74	0.44
NR4020-680M	68	100kHz/1V	1.060	0.61	0.36
NR4020-820M	82	100kHz/1V	1.170	0.50	0.34
NR4020-101M	100	100kHz/1V	1.550	0.48	0.31

## NR5020 系列

型号规格	电感量 μH	L 值 测试条件	$R_{DC}$ (±30%) Ω	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR5020-R22N	0.22	100kHz/1V	0.011	9000	4800
NR5020-R24N	0.24	100kHz/1V	0.011	8000	4800
NR5020-R47N	0.47	100kHz/1V	0.013	6150	4600
NR5020-R68N	0.68	100kHz/1V	0.017	6000	4000
NR5020-R75N	0.75	100kHz/1V	0.017	5500	4000
NR5020-1R0N	1.0	100kHz/1V	0.020	4100	3800
NR5020-1R2N	1.2	100kHz/1V	0.022	4100	3200
NR5020-1R5N	1.5	100kHz/1V	0.026	4100	3200
NR5020-2R2N	2.2	100kHz/1V	0.032	3200	2900
NR5020-2R7N	2.7	100kHz/1V	0.038	2900	2700
NR5020-3R0N	3.0	100kHz/1V	0.038	2550	2700
NR5020-3R3N	3.3	100kHz/1V	0.043	2550	2500
NR5020-3R6N	3.6	100kHz/1V	0.043	2800	2500
NR5020-3R9N	3.9	100kHz/1V	0.043	2300	2500

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NR5020-4R3M	4.3	100kHz/1V	0.057	2500	2200
NR5020-4R7M	4.7	100kHz/1V	0.057	2500	2200
NR5020-5R1M	5.1	100kHz/1V	0.064	2250	2050
NR5020-5R6M	5.6	100kHz/1V	0.064	2300	2050
NR5020-6R8M	6.8	100kHz/1V	0.083	2050	1800
NR5020-7R5M	7.5	100kHz/1V	0.090	1850	1750
NR5020-8R2M	8.2	100kHz/1V	0.098	1850	1650
NR5020-9R1M	9.1	100kHz/1V	0.110	1700	1550
NR5020-100M	10	100kHz/1V	0.110	1700	1550
NR5020-120M	12	100kHz/1V	0.140	1500	1400
NR5020-150M	15	100kHz/1V	0.165	1350	1250
NR5020-180M	18	100kHz/1V	0.200	1250	1150
NR5020-220M	22	100kHz/1V	0.226	1150	1100
NR5020-330M	33	100kHz/1V	0.390	920	900
NR5020-470M	47	100kHz/1V	0.523	770	770
NR5020-560M	56	100kHz/1V	0.630	770	700
NR5020-680M	68	100kHz/1V	0.740	650	640
NR5020-101M	100	100kHz/1V	1.100	530	500

## NR5040 系列

型号规格	电感量 μH	L 值 测试条件	$R_{DC}$ (±30%) Ω	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR5040-R47N	0.47	100kHz/1V	0.010	8000	6000
NR5040-R68N	0.68	100kHz/1V	0.011	7600	5400
NR5040-1R0N	1.0	100kHz/1V	0.012	7350	4900
NR5040-1R2N	1.2	100kHz/1V	0.016	6500	4150
NR5040-1R5N	1.5	100kHz/1V	0.015	6300	4300
NR5040-1R8N	1.8	100kHz/1V	0.016	5500	4150
NR5040-2R2M	2.2	100kHz/1V	0.019	4900	3800

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NR5040-2R7M	2.7	100kHz/1V	0.022	4300	3600
NR5040-3R0M	3.0	100kHz/1V	0.022	4150	3600
NR5040-3R3M	3.3	100kHz/1V	0.024	3950	3400
NR5040-3R9M	3.9	100kHz/1V	0.027	3550	3200
NR5040-4R7M	4.7	100kHz/1V	0.030	3500	3000
NR5040-5R6M	5.6	100kHz/1V	0.046	3000	2800
NR5040-6R8M	6.8	100kHz/1V	0.043	2900	2500
NR5040-8R2M	8.2	100kHz/1V	0.048	2700	2300
NR5040-100M	10	100kHz/1V	0.064	2350	2100
NR5040-150M	15	100kHz/1V	0.086	2000	2000
NR5040-220M	22	100kHz/1V	0.129	1600	1500
NR5040-330M	33	100kHz/1V	0.188	1300	1200
NR5040-470M	47	100kHz/1V	0.272	1100	1000
NR5040-680M	68	100kHz/1V	0.400	900	800
NR5040-101M	100	100kHz/1V	0.560	750	700
NR5040-151M	150	100kHz/1V	0.750	650	600
NR5040-331M	330	100kHz/1V	1.700	300	200

## NR6020 系列

型号规格	电感量 μH	L 值 测试条件	$R_{DC}$ (±30%) Ω	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR6020-R68N	0.68	100kHz/1V	0.017	6550	3800
NR6020-1R0N	1.0	100kHz/1V	0.020	4150	3500
NR6020-1R5N	1.5	100kHz/1V	0.022	4250	3200
NR6020-2R2N	2.2	100kHz/1V	0.028	3750	2750
NR6020-3R3N	3.3	100kHz/1V	0.035	3150	2600
NR6020-4R7N	4.7	100kHz/1V	0.058	3000	2000
NR6020-5R6N	5.6	100kHz/1V	0.058	2400	1900
NR6020-6R8N	6.8	100kHz/1V	0.079	2200	1800

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NR6020-100M	10	100kHz/1V	0.105	1750	1400
NR6020-150M	15	100kHz/1V	0.145	1200	1200
NR6020-220M	22	100kHz/1V	0.204	1050	1000
NR6020-330M	33	100kHz/1V	0.300	950	840
NR6020-470M	47	100kHz/1V	0.430	700	800
NR6020-680M	68	100kHz/1V	0.738	680	630
NR6020-101M	100	100kHz/1V	1.115	500	420
NR6020-331M	330	100kHz/1V	2.630	270	330

## NR6045 系列

型号规格	电感量 $\mu\text{H}$	$L$ 值 测试条件	$R_{\text{DC}}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{\text{sat}}$ mA	温升电流 $I_{\Delta T}$ mA
NR6045-R68N	0.68	100kHz/1V	0.006	11000	5700
NR6045-1R0N	1.0	100kHz/1V	0.011	9850	5140
NR6045-1R5N	1.5	100kHz/1V	0.012	8800	4950
NR6045-2R2N	2.2	100kHz/1V	0.014	6750	4600
NR6045-3R3N	3.3	100kHz/1V	0.021	5900	3700
NR6045-3R6N	3.6	100kHz/1V	0.021	5250	3700
NR6045-4R2M	4.2	100kHz/1V	0.023	4450	3500
NR6045-4R7M	4.7	100kHz/1V	0.026	4970	3300
NR6045-5R6M	5.6	100kHz/1V	0.029	4150	3150
NR6045-6R0M	6.0	100kHz/1V	0.031	4430	3000
NR6045-6R3M	6.3	100kHz/1V	0.031	4430	3000
NR6045-6R8M	6.8	100kHz/1V	0.031	3900	3000
NR6045-7R5M	7.5	100kHz/1V	0.034	3500	2900
NR6045-8R2M	8.2	100kHz/1V	0.043	3900	2600
NR6045-100M	10	100kHz/1V	0.048	3200	2450
NR6045-120M	12	100kHz/1V	0.058	2800	2200
NR6045-150M	15	100kHz/1V	0.068	2500	2050
NR6045-180M	18	100kHz/1V	0.081	2200	1850

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NR6045-220M	22	100kHz/1V	0.089	2050	1800
NR6045-270M	27	100kHz/1V	0.102	1900	1650
NR6045-330M	33	100kHz/1V	0.137	1650	1450
NR6045-470M	47	100kHz/1V	0.200	1400	1200
NR6045-560M	56	100kHz/1V	0.221	1300	1100
NR6045-680M	68	100kHz/1V	0.289	1200	1000
NR6045-820M	82	100kHz/1V	0.341	1050	900
NR6045-910M	91	100kHz/1V	0.359	1000	850
NR6045-101M	100	100kHz/1V	0.433	950	800
NR6045-151M	150	100kHz/1V	0.580	800	700
NR6045-221M	220	100kHz/1V	0.834	700	590

## NR8040 系列

型号规格	电感量 $\mu\text{H}$	$L$ 值 测试条件	$R_{DC}$ ( $\pm 30\%$ ) $\Omega$	饱和电流 $I_{sat}$ mA	温升电流 $I_{\Delta T}$ mA
NR8040-1R0N	1.0	100kHz/1V	0.008	9850	6300
NR8040-1R5N	1.5	100kHz/1V	0.010	8150	5650
NR8040-2R2N	2.2	100kHz/1V	0.012	7100	5150
NR8040-3R3N	3.3	100kHz/1V	0.017	6500	4400
NR8040-3R6N	3.6	100kHz/1V	0.017	7520	4350
NR8040-3R9N	3.9	100kHz/1V	0.017	5750	4350
NR8040-4R7M	4.7	100kHz/1V	0.019	5900	4100
NR8040-5R6M	5.6	100kHz/1V	0.021	6000	3850
NR8040-6R8M	6.8	100kHz/1V	0.024	4550	3600
NR8040-8R2M	8.2	100kHz/1V	0.026	4200	3450
NR8040-100M	10	100kHz/1V	0.029	3600	3300
NR8040-120M	12	100kHz/1V	0.041	3500	2800
NR8040-150M	15	100kHz/1V	0.047	2950	2600
NR8040-180M	18	100kHz/1V	0.053	2700	2400
NR8040-220M	22	100kHz/1V	0.069	2400	2100

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NR8040-270M	27	100kHz/1V	0.078	2150	2000
NR8040-330M	33	100kHz/1V	0.097	2050	1800
NR8040-390M	39	100kHz/1V	0.107	1950	1700
NR8040-470M	47	100kHz/1V	0.136	1750	1550
NR8040-510M	51	100kHz/1V	0.142	1700	1500
NR8040-680M	68	100kHz/1V	0.196	1450	1250
NR8040-750M	75	100kHz/1V	0.211	1350	1200
NR8040-820M	82	100kHz/1V	0.225	1300	1150
NR8040-101M	100	100kHz/1V	0.290	1150	1000
NR8040-121M	120	100kHz/1V	0.334	1050	950
NR8040-151M	150	100kHz/1V	0.410	1100	850
NR8040-181M	180	100kHz/1V	0.520	950	830

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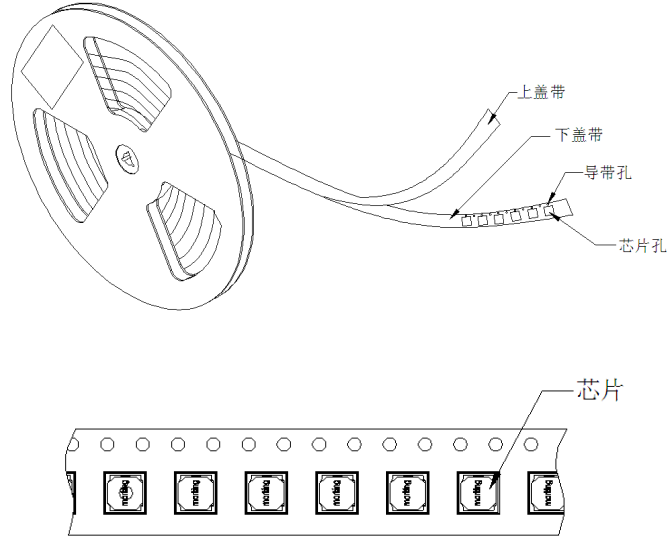


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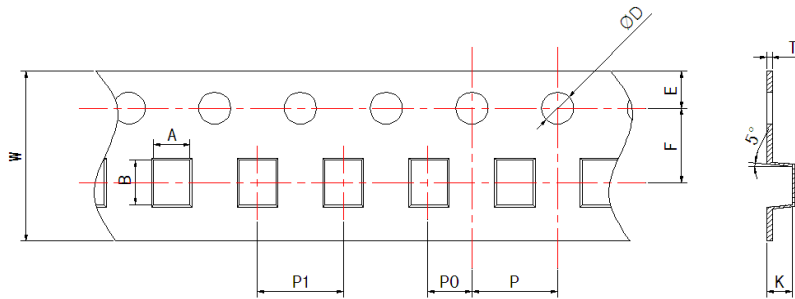
## 4、包装 Package Specification

### 4.1 包装材料 Taping Material



### 4.2 下载带尺寸 Carrier Dimensions

#### 4.2.1 NR201610、252012、3012 和 3015 系列



单位: mm

规格型号	W	A	B	ΦD	P	P0	P1	E	F	T	K	数量(只/卷)
NR201610	8.0	1.9	2.3	1.5	4.0	2.0	4.0	1.75	3.50	0.25	1.2	2000
NR252012	8.0	2.3	2.8	1.5	4.0	2.0	4.0	1.75	3.50	0.25	1.4	2000
NR3012	8.0	3.3	3.3	1.5	4.0	2.0	4.0	1.75	3.50	0.25	1.6	2000
NR3015	8.0	3.3	3.3	1.5	4.0	2.0	4.0	1.75	3.50	0.25	1.7	2000

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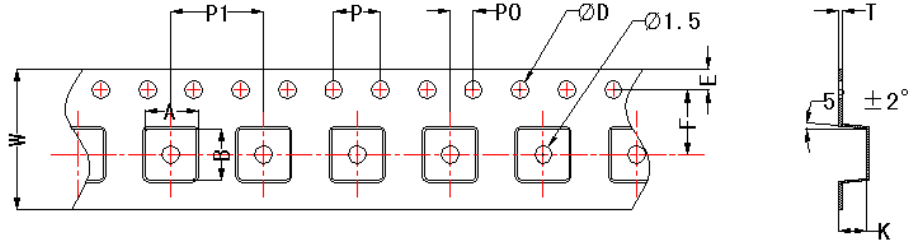
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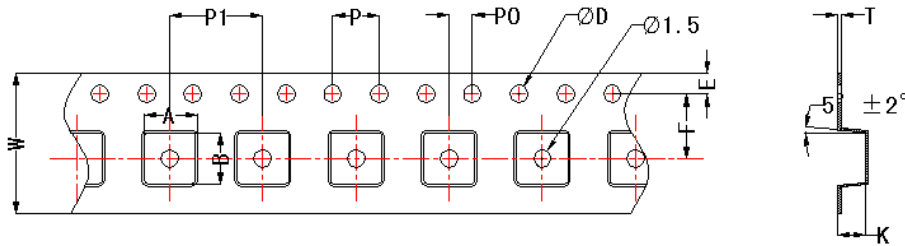
## 4.2.2 NR4012、4018、5020 和 5040 系列



单位: mm

规格型号	W	A	B	ΦD	P	P0	P1	E	F	T	K	数量(只/卷)
NR4012	12.0	4.3	4.3	1.5	4.0	2.0	8.0	1.75	5.50	0.30	1.6	4500
NR4018	12.0	4.3	4.3	1.5	4.0	2.0	8.0	1.75	5.50	0.30	2.0	3000
NR5020	12.0	5.4	5.4	1.5	4.0	2.0	8.0	1.75	5.50	0.30	2.2	2500
NR5040	12.0	5.4	5.4	1.5	4.0	2.0	8.0	1.75	5.50	0.40	4.3	1500

## 4.2.3 NR4020、6020、6045 和 8040 系列



单位: mm

规格型号	W	A	B	ΦD	P	P0	P1	E	F	T	K	数量(只/卷)
NR4020	12.0	4.3	4.3	1.5	4.0	2.0	8.0	1.75	5.5	0.30	2.2	3000
NR6020	12.0	6.3	6.3	1.5	4.0	2.0	8.0	1.75	7.5	0.35	2.2	3000
NR6045	12.0	6.3	6.3	1.5	4.0	2.0	8.0	1.75	7.5	0.35	4.7	1500
NR8040	16.0	8.4	8.4	1.5	4.0	2.0	12.0	1.75	7.5	0.40	4.5	1000

## 4.4 上盖带 Top Tape

单位: mm

规格型号	NR201610/NR252012/ NR3012/NR3015	NR4012/NR4018/NR4020/NR5020/NR5040/ NR6020/NR6045	NR8040
上盖带尺寸	5.4 (热封带)	9.4 (热封带)	13.4 (热封带)

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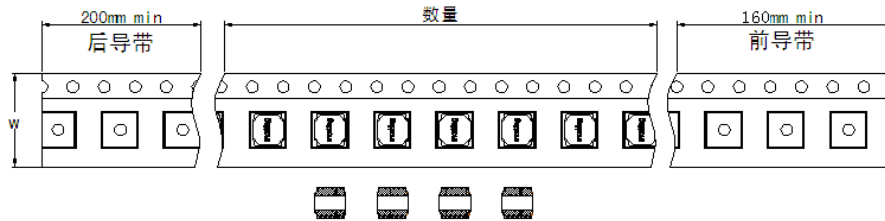
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## 4.5 卷轴尺寸 Reel Dimensions

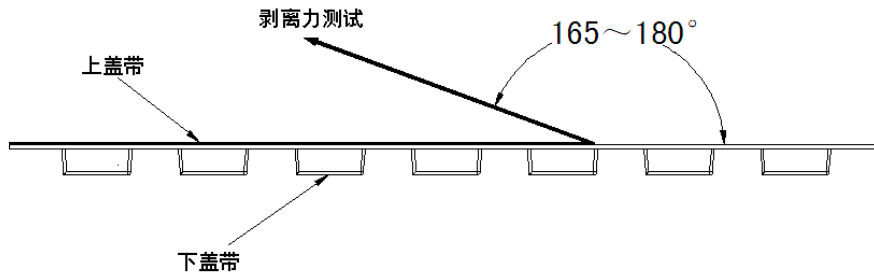
	系列型号	卷盘规格	尺寸 (单位: mm)		
			A	W	C
	NR201610/NR252012/ NR3012/NR3015	7" × 8mm	180	8.5	55
	NR4012/NR4018/NR4020/NR5020/NR5040/ NR6020/NR6045	13" × 12mm	330	12.8	100
	NR8040	13" × 16mm	330	16.5	100

## 4.6 编带 Taping



## 4.7 剥离强度要求 Peeling required

下载带宽度 8mm, 剥离力为 10g~100g; 下载带宽度 12mm 和 16mm, 剥离力为 10g~130g。



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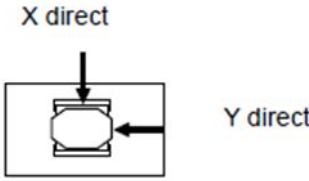
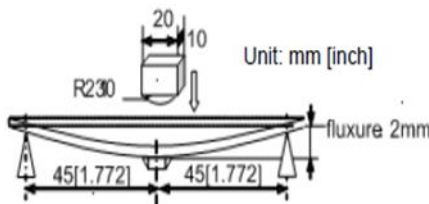
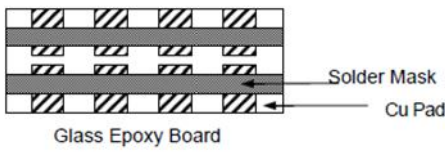
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## 5、可靠性测试 Reliability Test

Items	Requirements	Test Methods and Remarks
1.Operating temperature range	-40℃ ~ +125℃	
2.Storage Temperature range	-40℃ ~ +85℃	
3.Terminal Strength	No removal or split of the termination or other defects shall occur. 	<ul style="list-style-type: none"> <li>① Solder the inductor to the testing jig (glass epoxy board shown as the left figure) using eutectic solder. Then apply a force in the direction of the arrow.</li> <li>② 10N force for all series.</li> <li>③ Keep time: 5s</li> </ul>
4.Electrode strength	No visible mechanical damage. 	<ul style="list-style-type: none"> <li>① Solder the chip to the test jig (glass epoxy board as the left figure.)</li> <li>② using eutectic solder. Then apply a force in the direction shown as the left figure.</li> <li>③ Flexure: 2mm</li> <li>④ Pressurizing Speed: 0.5mm/sec</li> <li>⑤ Keep time: 30 ± 1s</li> <li>⑥ Test board size: 100X40X1.0</li> <li>⑦ Land dimension: See the Recommended Land Patterns.</li> </ul>
5.Vibration	<ul style="list-style-type: none"> <li>① No visible mechanical damage.</li> <li>② Inductance change: Within ± 10%</li> </ul> 	<ul style="list-style-type: none"> <li>① Solder the chip to the testing jig (glass epoxy board shown as the left figure) using eutectic solder.</li> <li>② The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz.</li> <li>③ The frequency range from 10 to 55 Hz</li> </ul>

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		and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
6. Temperature coefficient	Inductance change: within $\pm 20\%$	① Temperature: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ ② with a reference value of $+20^{\circ}\text{C}$ , change rate shall be calculated
7. Solderability	90% or more of electrode area shall be coated by new solder.	① The test samples shall be dipped in flux, and then immersed in molten solder. ② Solder temperature: $245 \pm 5^{\circ}\text{C}$ ③ Duration: $5 \pm 1$ sec. ④ Solder: Sn/3.0Ag/0.5Cu ⑤ Flux: 25% resin and 75% ethanol in weight ⑥ Immersion depth: all sides of mounting terminal shall be immersed
8. Resistance to Soldering Heat	① No visible mechanical damage. ② Inductance change: Within $\pm 10\%$	① Re-flowing Profile: Please refer to Re-flowing Profile item. ② Test board thickness: 1.0mm ③ Test board material: glass epoxy resin ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring ⑤ Please reference the Re-flowing Profile in Soldering and Notice for inductors (coils)
9. Thermal Shock	① No visible mechanical damage. ② Inductance change: Within $\pm 10\%$	① Temperature and time: $-40 \pm 3^{\circ}\text{C}$ for $30 \pm 3$ min → $125^{\circ}\text{C}$ for $30 \pm 3$ min

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		<ul style="list-style-type: none"> <li>② Transforming interval: Max. 20 sec</li> <li>③ Tested cycle: 100 cycles</li> <li>④ The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ul>
<p>10. Recommended reflow condition</p>		
<p>11. Humidity test</p>	<p>Inductance deviation is within <math>\pm 5.0\%</math> after <math>96 \pm 4</math> hours test under the condition of relative humidity of 90~95% and temperature of <math>40 \pm 2^\circ\text{C}</math>, and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.</p>	
<p>12. Resistance to Low Temperature</p>	<ul style="list-style-type: none"> <li>① No mechanical damage.</li> <li>② Inductance change: Within <math>\pm 10\%</math></li> </ul>	<ul style="list-style-type: none"> <li>① Temperature: <math>-40 \pm 3^\circ\text{C}</math></li> <li>② Duration: <math>1000 \pm 24</math> hours</li> <li>③ The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ul>
<p>13. Resistance to High Temperature</p>	<ul style="list-style-type: none"> <li>① No mechanical damage.</li> <li>② Inductance change: Within <math>\pm 10\%</math></li> </ul>	<ul style="list-style-type: none"> <li>① Temperature: <math>125 \pm 2^\circ\text{C}</math></li> <li>② Duration: <math>1000 \pm 24</math> hours</li> <li>③ The chip shall be stabilized at normal condition for 1~2 hours before measuring.</li> </ul>
<p>14. Damp Heat</p>	<ul style="list-style-type: none"> <li>① No mechanical damage.</li> <li>② Inductance change: Within <math>\pm 10\%</math></li> </ul>	<ul style="list-style-type: none"> <li>① Temperature: <math>60 \pm 2^\circ\text{C}</math></li> <li>② Humidity: 90% to 95%RH</li> <li>③ Duration: <math>1000 \pm 24</math> hours</li> </ul>

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		④ The chip shall be stabilized at normal
15.Loading Under Damp Heat	① No mechanical damage. ② Inductance change: Within $\pm 10\%$	① Temperature: $60 \pm 2^\circ\text{C}$ ② Humidity: 90% to 95% RH ③ Applied current: Rated current ④ Duration: $1000 \pm 24$ hours ⑤ The chip shall be stabilized at normal condition for 1~2 hours before measuring
16.Loading at High Temperature	① No mechanical damage. ② Inductance change: Within $\pm 10\%$	① Temperature: $85 \pm 2^\circ\text{C}$ ② Applied current: Rated current ③ Duration: $1000 \pm 24$ hours ④ The chip shall be stabilized at normal condition

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