NR4030 Series

FEATURES

- Magnetically shielded structure that ensures the high-density mounting configurations.
- Closed magnetic circuit design reduces leakage 4、Small and low profile inductor.tal material for large current and low loss.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.
- 30% higher current rating than conventional inductors of equal size.

APPLICATIONS

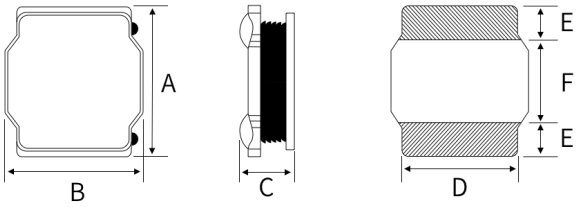
- Smart phone.
- Smart TV
- LED lighting
- Flat-screen TVs, blue-ray disc recorders,set top boxes.
- Notebooks, desktop computers, servers,graphic cards.

PRODUCT IDENTIFICATION

NR	4030	1R0	M
1	2	3	4

1. Series Name : Wire Wound SMD Power Inductor
2. Size Code : Dimensions (unit:mm)
3. Nominal Inductance Value : R33=0.33μH, 1R0=1.0μH, 100=10μH
4. Inductance Tolerance : N=±30%, M=±20%, K=±10%

DIMENSIONS



Using Ink for marking

Series	A	B	C(MAX)	D	E	F
NR4030	4.00±0.2	4.00±0.2	3.00	3.20	0.95	2.1

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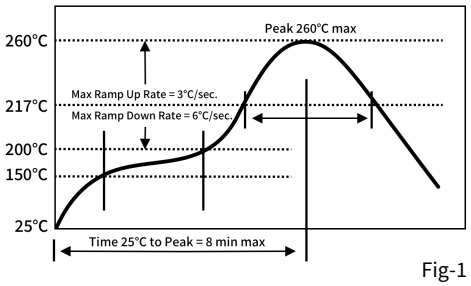
APPLICATIONS

Part NO.	Inductance L0 (μH)	Test Condition	Tolerance (%)	DCR (mΩ) Max.	DCR (mΩ) Typ.	Isat (A) △L/L0≦30%	Irms (A) ΔT≦40°C
▪ NR4030 Series							
NR4030-1R0N	1.00	100kHz/0.25V	±30	18	14	5.26	4.15
NR4030-1R5M	1.50	100kHz/0.25V	±20	26	20	4.84	3.34
NR4030-2R2M	2.20	100kHz/0.25V	±20	39	30	4.90	2.95
NR4030-3R3M	3.30	100kHz/0.25V	±20	52	40	3.30	2.40
NR4030-3R9M	3.90	100kHz/0.25V	±20	74	57	3.00	2.10
NR4030-4R7M	4.70	100kHz/0.25V	±20	78	60	2.90	2.00
NR4030-6R8M	6.80	100kHz/0.25V	±20	117	90	2.75	1.60
NR4030-100M	10.0	100kHz/0.25V	±20	130	100	1.95	1.50
NR4030-150M	15.0	100kHz/0.25V	±20	247	190	1.65	1.11
NR4030-220M	22.0	100kHz/0.25V	±20	293	225	1.30	1.00
NR4030-330M	33.0	100kHz/0.25V	±20	429	330	1.10	0.84
NR4030-470M	47.0	100kHz/0.25V	±20	579	445	0.95	0.72
NR4030-510M	51.0	100kHz/0.25V	±20	611	470	0.90	0.70
NR4030-680M	68.0	100kHz/0.25V	±20	1128	868	0.72	0.52
NR4030-121M	120	100kHz/0.25V	±20	1755	1350	0.55	0.42
NR4030-471M	470	100kHz/0.25V	±20	9360	7200	0.30	0.20

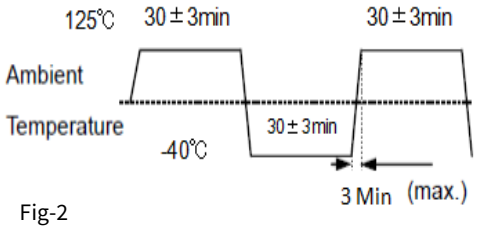
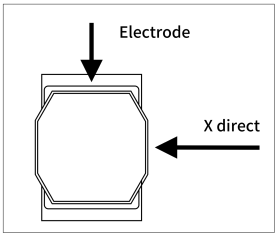
Notes

1. All test data is referenced to 25 °C ambient .
2. Isat：DC current（A）that will cause L0 to drop approximately 30% TYP .
3. Irms：DC current（A）that will cause an temperature rise △T approximate to 40°C .
4 Operating temperature range - 40 °C to + 125 °C(Including self - temperature rise) .
5. Storage temperature and humidity range (product with tapping):-10°C~+40°C,RH70% Max

RELIABILITY TEST

TEST ITEM	REQUIREMENTS	TEST METHODS AND REMARKS
Resistance to Soldering Heat	1. No visible mechanical damage 2. Inductance change: Within ±5%	1. Solder on PCB to Reflow test Peak Temp. 260±5°C 5～10 secs ,Cycles :2 times..Re-flowing Profile: Please refer to Fig-1 2. Test board thickness: 1.5mm 3. Test board material: glass epoxy resin 4. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.product showed no damage under microscope.(for microscope of Shun Yu SZM-45 20X)  Fig-1
High Temperature	1. No visible mechanical damage 2. Inductance change: Within ±10%	1. Temperature: 125±2°C 2. Duration: 1000 hours 3. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.
Steady damp-heat	1. No visible mechanical damage 2. Inductance change: Within ±10%	1. Temperature:85°C 2. Humidity: 85% RH 3. Duration:1000 hours 4. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.
Mechanical Vibration	1. No visible mechanical damage 2. Inductance change: Within ±10%	1. Frequency: 10HZ～55HZ～10HZ/Min Cycles 2. Amplitude: 1.5 mm 3. Directions: X,Y,Z 4. Time: 2 hours in each directions (total of 6 hours)

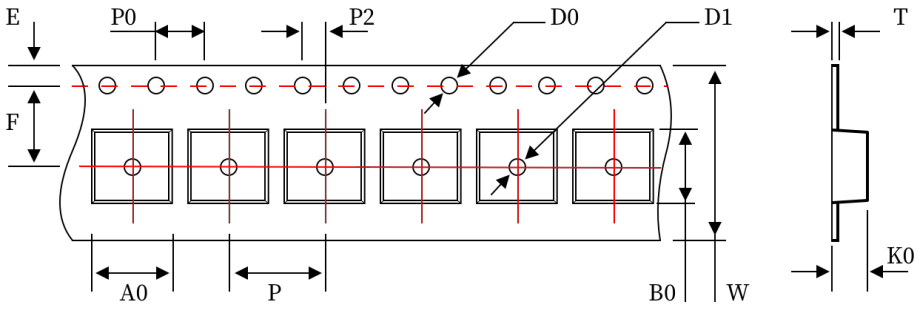
RELIABILITY TEST

TEST ITEM	REQUIREMENTS	TEST METHODS AND REMARKS
Thermal Shock	1. No visible mechanical damage 2. Inductance change: Within ±10%	1. Temperature and time: -40°C for 30±3 min→125°C for 30±3min, please refer to Fig-2 2. Transforming interval: Max. 3 Min 3. Tested cycle: 1000 cycles 4. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.  Fig-2
Salt Spray	1. No visible mechanical damage 2. Inductance change: Within ±10%	1. Salt concentration: (5 ± 1)% (mass percent) 2. pH value:6.5 - 7.2 3. Temperature: 35 ± 2 °C 4. humidity: 85% 5. time: 24 hours 6. in normal temperature and humidity for 1 ～ 2 hours, testing inductance, the inductance value change can not be more than before test ± 10%.
Terminal Strength	1. The peak thrust is greater than 10N	1. The electrode of the inductor is soldered to the PCB, to Fig-3 Then apply a force in the X direction of the arrow. 2. 10N force. 3. Keep time: 10(±1)s 4. The first three tests were OK, and the force was applied until the peak value of the product peeling. The test speed was set in the range of 3 ~ 8mm/min.  Fig-3

PACKAGING INFORMATION

REEL DIMENSION (mm)

TAPING DIMENSIONS (mm)



Type	Tape dimensions (mm)											
Series	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
NR4030	12 ±0.3	8.0 ±0.1	4.0 ±0.1	2.0 ±0.1	1.5 ±0.1	1.5 ±0.1	0.40 ±0.05	4.25 ±0.1	4.25 ±0.1	3.25 ±0.1	1.75 ±0.1	5.50 ±0.1

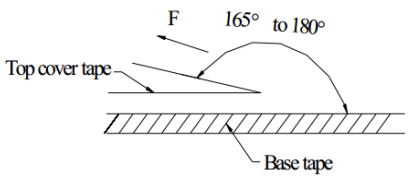
PACKAGING QUANTITY (Standard)

Type	Reel	Inner Box	Carton Box
NR4030	2000 pcs / Reel	4 Reel / Box (8000 pcs)	4 Middle boxes (32,000 pcs)

PEEL FORCE OF TOP COVER TAPE

The peel speed shall be about 300mm/minute

The peel force of top cover tape shall be between 0.1 to 1.3 N



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