承　　认　　书

SPECIFICATION FOR APPROVAL

CUSTOMER			
CUSTOMER'S P/N			
DATE	27/Mar/2025	REVISION NO.	A
PART NO.	CKNRS4020Z		Series
DRAWN NO.			
DESCRIPTION.	SMD POWER INDUCTOR		
Customer's Signature			

Approved by	Checked by	Drawn by
黄大燕	黄大燕	赵龙宇
27/Mar/2025	27/Mar/2025	27/Mar/2025

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GUANG DONG CHK ELECTRONIC TECH Co., Ltd

广东省佛山市顺德区北滘万洋科创园二区3栋

Building 3, District 2, Beijiao Wanyang Science and Technology Innovation Park, Shunde District, Foshan City, Guangdong

www.gzchk.com

RoHS Compliance

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GUANG DONG CHK ELECTRONIC TECH Co., Ltd

ECN HISTORY LIST

REV	DATE	DESCRIPTION	CHECK	APPROVED
A	2025/3/27	新规作成	赵龙宇	黄大燕

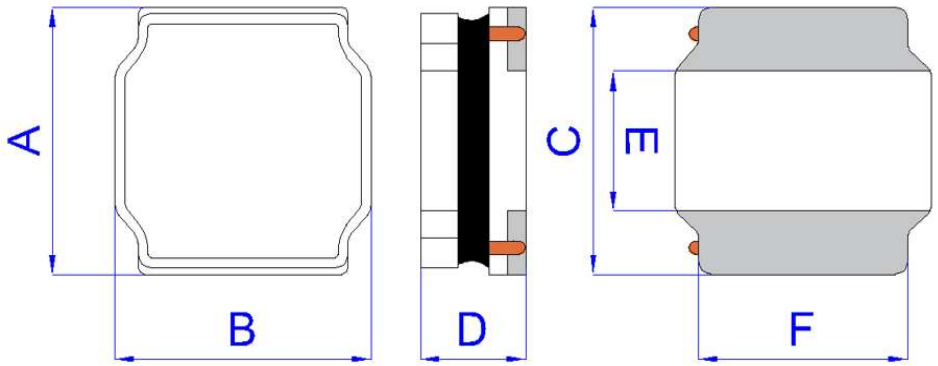
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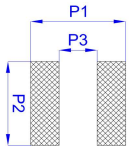
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PART NO.	CKNRS4020Z	DATE	2025/3/27

1.SHAPE & DIMENSION

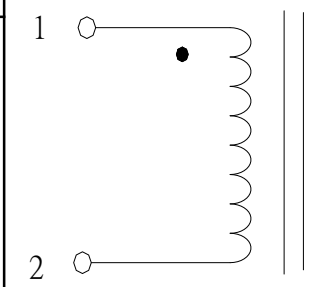
UNIT: mm



Recommended Pad



SCHEMATICS



MARKING COLOR

NA

A	B	C	D	E	P1	P2	P3
4.0	4.0	4.0	2.0	2.1	4.1	3.7	1.9
±0.2	±0.2	±0.2	Max	±0.2	Typ.	Typ.	Typ.

PART NUMBERING SYSTEM

CK	NRS	4020	Z	-	2R2	M	N	C
1	2	3	4		5	6	7	8

1 CHK PRODUCTION (今凯制造)

2 PRODUCT CATEGORY （产品种类） NR-镍锌 NRS-合金

3 DIMENSIONS （尺寸规格）

4 MAERTIAL TYPE （材料类型）

5 INDUCTANCE （电感量）

6 TOLERANCE （公差） M:±20% N:±25% Y:±30%

7 NONE MARKING（无印字）

8 PACKAGING （包装方式） C - 编带盘装 B - 盒装

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2.SERIES SPECIFICATION

◆ CKNRS4020Z Series Specification:

Part Number	Inductance (μH)	Test Freq	DCR(mΩ) Max	DCR(mΩ) Typ	Saturation Current (A) MAX	Saturation Current (A) Typ	Temp.Rise Current (A) MAX	Temp.Rise Current (A) Typ
CKNRS4020Z-R22MNC	0.22	1MHz/1V	13	11	18.70	22.00	8.20	9.50
CKNRS4020Z-R47MNC	0.47		22	18	11.00	12.00	5.90	6.80
CKNRS4020Z-R68MNC	0.68		22	18	9.00	11.50	5.80	6.70
CKNRS4020Z-1R0MNC	1.0		28	22	8.70	11.00	5.80	6.70
CKNRS4020Z-1R5MNC	1.5		38	33	7.70	9.60	5.20	6.00
CKNRS4020Z-2R2MNC	2.2		56	46	6.00	7.50	4.00	4.80
CKNRS4020Z-3R3MNC	3.3		88	73	4.70	5.90	3.40	4.00
CKNRS4020Z-4R7MNC	4.7		115	95	4.00	4.90	2.85	3.30
CKNRS4020Z-6R8MNC	6.8		160	130	3.00	4.20	2.40	2.80
CKNRS4020Z-8R2MNC	8.2		220	175	2.90	3.80	2.10	2.40
CKNRS4020Z-100MNC	10		220	190	2.80	3.50	2.00	2.35
CKNRS4020Z-150MNC	15		400	305	2.10	2.80	1.00	1.20
CKNRS4020Z-220MNC	22		545	415	1.30	1.50	0.95	1.10
CKNRS4020Z-330MNC	33		850	650	1.20	1.40	0.70	0.86
CKNRS4020Z-470MNC	47		1200	950	1.10	1.30	0.56	0.66

*The operating temperature is 25℃

*Isat: For Inductance drop 30% from its value without current

*Irms: The value of D.C current when the temperature rise is △T≦40℃.(Ta=25℃)

*For CKNRS4020Z size inductors,absolute maximum voltage: DC 40 V.

※此物料仅用于消费电子领域，若用于车载，航天，军事领域引起的一切品质和责任问题，我司既不承担※

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黄大燕	黄大燕	赵龙宇

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3.MATERIAL LIST & GENERAL SPECIFICATION

材料名称	型号及规格	制造商	环保要求	备注
ITEM	Materials	Manufacturer	EN.QU	Note
磁芯1（Drum Core)	合金（Alloy）	DJ/XB/BY	RoHS	
铜线（Wire）	Polyester Wire or equlvalent	ELEKTRISOLA	RoHS	
胶水（Glue)	Phenolic epoxy resin	DAJOO	RoHS	
锡（Solder)	Lead-Free Solder Bar	QD	RoHS	

GENERAL SPECIFICATION	
Electrical specifications ：	at 20~25℃
Operation Temperature：	-40~+125℃
Storage Temperature：	-40~+125℃

◆TEST CONDITION

ITEM	TEST CONDITION	TEST INSTRUMENTS
L	1MHz/1V	Microtest 6377
Isat		TH1773+Microtest 6377
Irms		
DCR	25±5℃	TH2512B

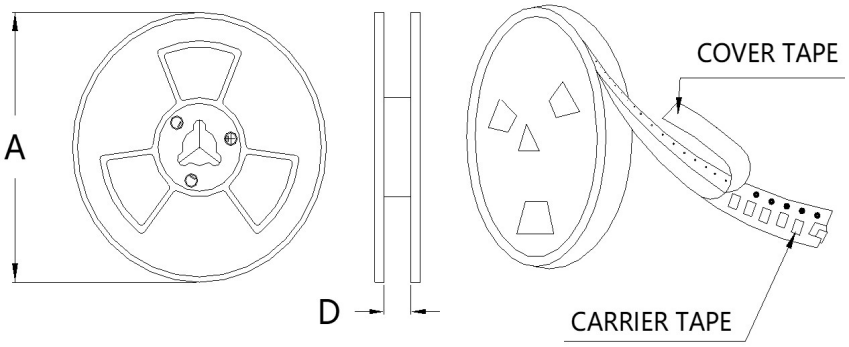
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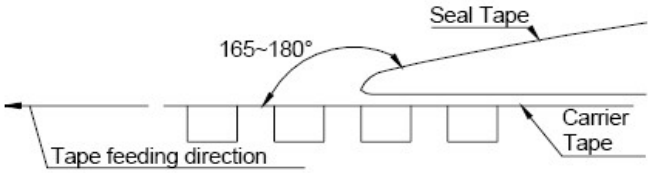
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4.PACKAGING(unit: mm)

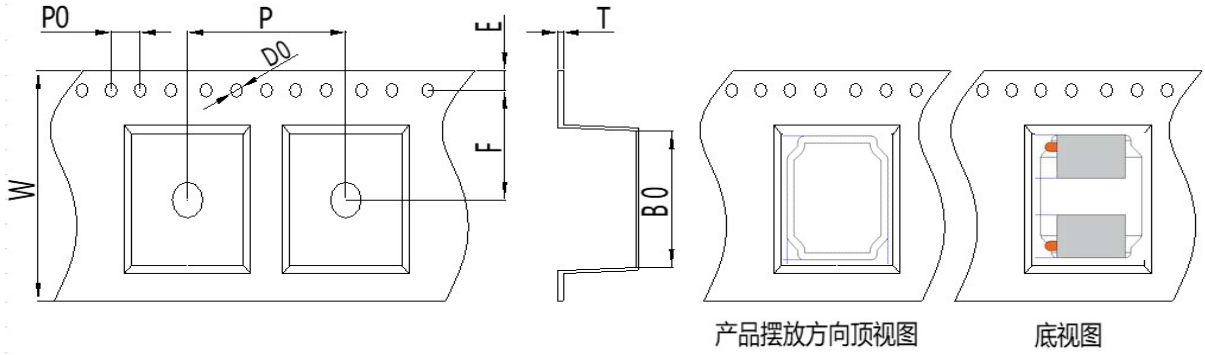
1.包装类型 **2.包装尺寸** ■ 13″ 盘 □ 7″ 盘



	13″ 盘	7″ 盘
A	Φ330±2.0	Φ178±2.0
D	12.4	



Peel-off strength:10～100gf.
Peel-off angle:165°-180°
Peel-off speed:300mm/min.



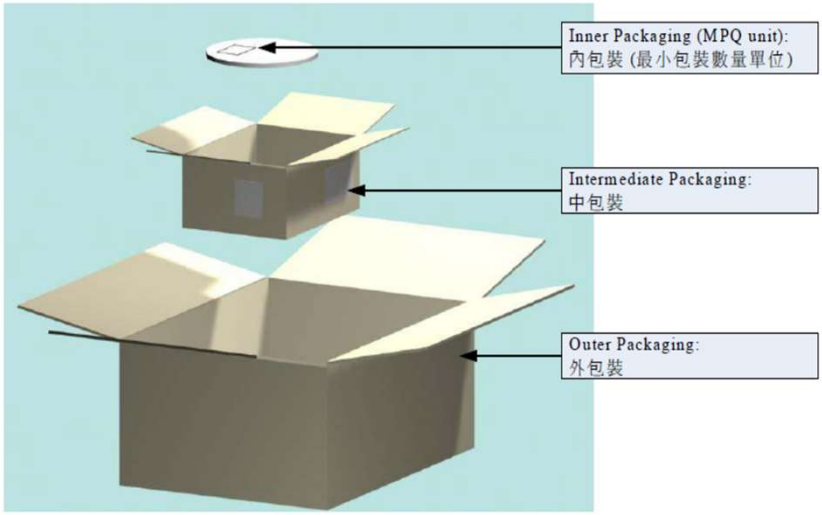
Item	W	B0	P	T	E	F	D0	P0		
DIM(mm)	12.0 ±0.3	4.3± 0.1	8.0± 0.1	0.3± 0.05	1.75 ±0.1	5.5± 0.1	1.5± 0.1	4.0± 0.1		

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5. CARTON



1.1 外箱: 36*36*23 cm 一箱装 2內箱
1.2 內箱: 33.5*33.5*9 cm 一箱装5卷制品
1.3 外箱材質: A三A
1.4 內箱材質: A=A
1.5 每一卷制品用一只静电袋包装
1.6 每一静电袋內放一只袋干燥剂
1.7 每一卷上面依标签样式的要求贴上标签明细
1.8 出货內外箱贴上该箱內实际內容明细
1.9 出货标签规格如下: 尺寸=长度:90mm　宽度:50mm
(如: 客户有特殊要求时，则依客户要求实施.)

卷轴包装数量		
每卷	3000	PCS

外箱包装数量				
每箱	10	卷,共	30000	PCS

储存条件及期限：
温度：20-25℃
湿度：≦70%
时间：六个月

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6. RELIABILITY TEST

Test Items		Test Conditions	Criteria
1	Low temperature storage	Placed at -40℃ for 500 hours, then measured at room ambient temperature after placing 24hours	Inductance shall be within ± 10% of the initial value.
2	High temperature storage	Placed at +125℃ for 500 hours, then measured at room ambient temperature after placing 24 hours	Inductance shall be within ± 10% of the initial value.
3	Thermal shock	Condition for 1 cycle: -40℃,30min.~+125℃,30min Number of cycles:5	Inductance shall be within ± 10% of the initial value.
4	Humidity resistance	Placed at 90 to 95%RH,+50℃ for 500 hours, then measured at room ambient temperature after placing 24 hours.	Inductance shall be within ± 10% of the initial value. Insulation resistance > 100MΩ at DC
5	Drop	Drop specimen three times on concrete floor from a height of 1 meter which mounted on test board	Inductance shall be within ± 10% of the initial value.
6	Vibration	Frequency::10~55~10Hz Amplitude:1.5mm or 10G Sweep time: 1 oct/min Test Directions: X,Y,Z Test Time: 2 hours each direction	Inductance shall be within ± 10% of the initial value.
7	Terminal strength	Add static load 4.9N(500gf) to inductor through hole of test board for 10±2 sec.	No detachment of terminal pin and no breakage of wire
8	Soldering heat resistance	Dip Inductor's terminal in solder bath of following conditions: 1) 260±5℃, 10±1 sec, 2) 350±10℃, 3.5±0.5 sec	Inductance shall be within ± 10% of the initial value. Apperance: No damage

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7. SOLDERING CONDITIONS

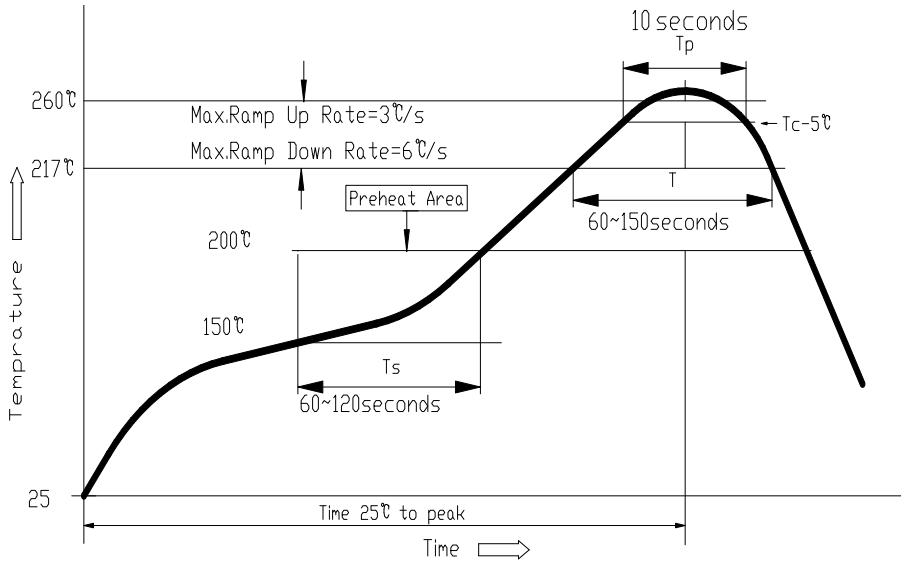
Applicable soldering process to the products is refl.

9.1 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.

9.2 Reflow Soldering Profile



9.3 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

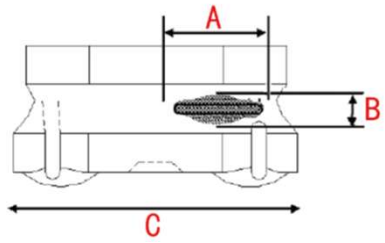


APPROVED BY	CHECKED BY	DRAFT
黄大燕	黄大燕	赵龙宇

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8.Appearance of the standard

1.Void appearance tolerance limit



Size of voids occurring to coating resin is specified below.

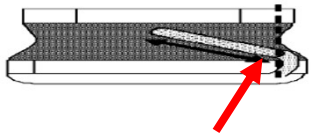
①Width direction(dimension A): Acceptable when A<=C/2

Nonconforming when B>=C/2

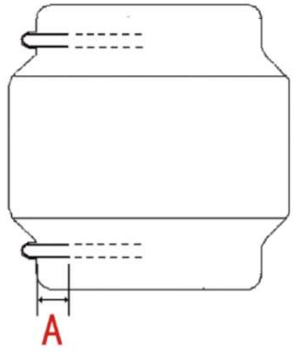
②Length direction(dimension B):Dimension b is not specified

③When total area of voids (including one exposing coil) occurring to each sides is not greater than 50% of coating resin area,that is acceptable.

2.External appearance criterion for exposed wire



Exposed end of the winding wire at the secondary side should be 3.0mm and below.



①Acceptable when A<=0.8mm

②Nonconforming when A>0.8mm

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