

FEATURES 特征

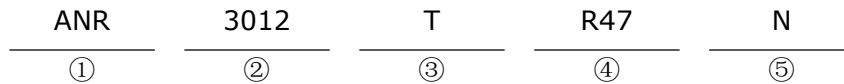
- Magnetic-resin shielded Construction reduces buzz noise to ultra-low levels.
磁性胶水涂敷结构极大减少了蜂鸣声
- Metallization on ferrite core results in excellent shock resistance and damage-free durability.
在磁芯上金属化电极，抗跌落冲击强，经久耐用
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI).
闭合磁路结构设计，漏磁少，抗EMI能力强
- 30% higher current rating than conventional inductors of equal size.
电流特性较同等尺寸传统电感高出30%以上
- Takes up less PCB real estate and save more power.
省空间，更省电
- Operating Temp : -45°C~+125°C(Including self heating).
工作温度范围:-45°C~+125°C(包括自身温度上升)



APPLICATIONS 用途

- Smart phone, smart TV, set top box, notebook, VR,AR, LED lighting.
智能手机、智能电视、机顶盒、笔记本电脑、虚拟现实、增强现实、LED照明
- Car navigation systems, telecomm base stations.
车载导航影音、通讯设备

PART NUMBERING 产品型号



① Series Name	
ANR	Wire Wound SMD Power Inductors

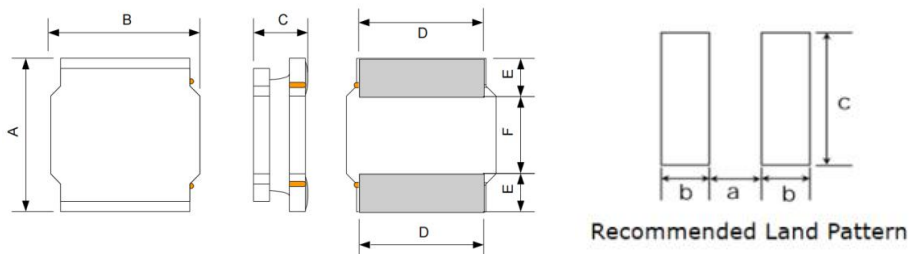
② External Dimensions[LxWxH mm]	
3012	3.0×3.0×1.2

③ Feature Type	
T	Standard

④ Nominal Inductance	
Code (example)	Nominal Inductance [μH]
R47	0.47

⑤ Inductance Tolerance	
N	±30%

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘



Unit: mm

Dimensions							Recommended Land Pattern		
Series	A	B	C Max.	D Typ.	E Typ.	F Typ.	a Typ.	b Typ.	c Typ.
ANR3012	3.0±0.2	3.0±0.2	1.2	2.5	0.75	1.5	1.5	0.8	2.7

ELECTRICAL CHARACTERISTICS 特性规格表

● ANR3012 Series

Part Number	Inductance @100kHz,1V	Inductance Tolerance N=±30%	DC Resistance Ω	Heat Rating Current A		Saturation Current A	
				Max.	Typ.	Max.	Typ.
Units	μH			A		A	
Symbol	L		DCR	Irms		Isat	
ANR3012TR47N	0.47	N	0.039	2.80	3.10	2.80	3.10

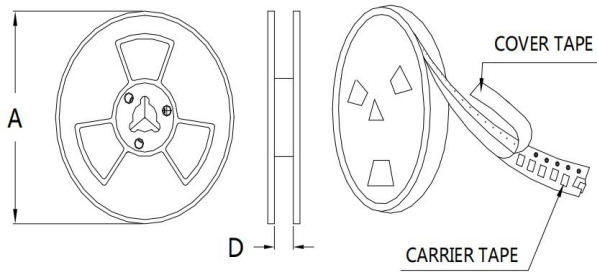
- All test data is referenced to 20°C ambient.
- Rated current: Isat or Irms, whichever is smaller.
- Isat: DC current at which the inductance drops approximate 30% from its value without current.
- Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ\text{C}$) from 20°C ambient.
- Storage temperature range (packaging conditions): $-40^\circ\text{C} \sim +85^\circ\text{C}$ and RH 70% (Max.).

STRUCTURE 结构

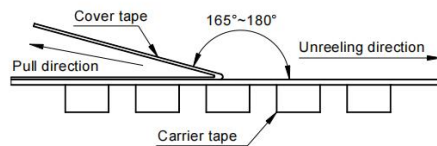
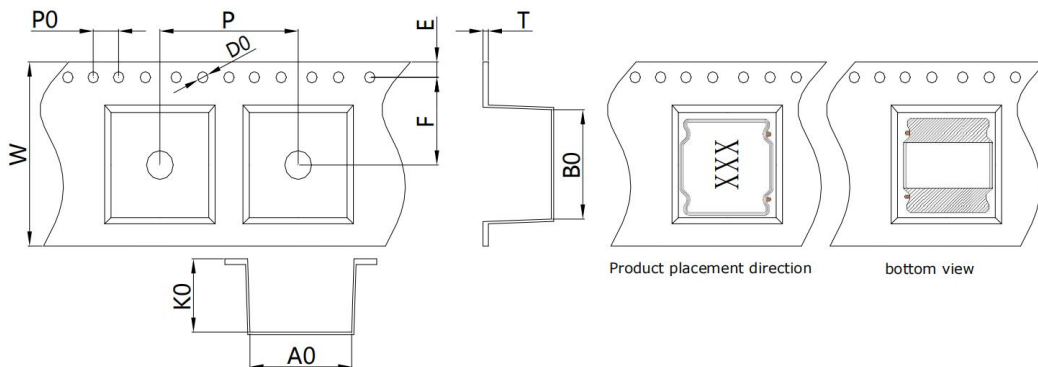
NO	Components	Material
1	Core	Ni-Zn Ferrite
2	Wire	Polyurethane system enameled copper wire
3	Magnetic Glue	Epoxy resin and magnetic powder
4	Plating	AgNiSn or Sn Alloy

PACKAGING 包装

- Packaging type: Strapping packaging.
- Packaging dimensions: □13"Plate 7"Plate
- Plate: 2000 PCS



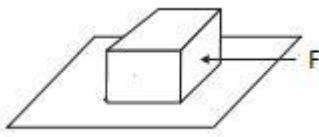
	13"Plate	7"Plate
A	$\Phi 330 \pm 2.0$	$\Phi 178 \pm 2.0$
D	8.5	



- Peel-off strength: 10~100gf.
- Peel-off angle: 165° -180°
- 3Peel-off speed: 300mm/min.

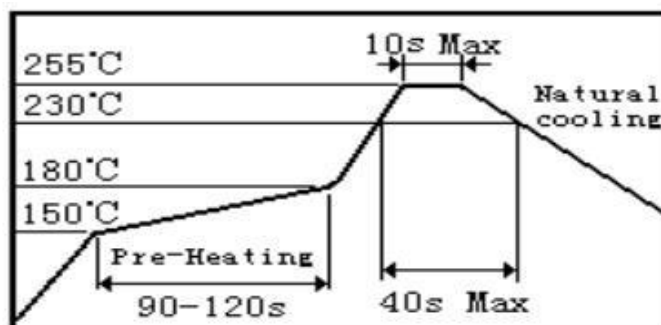
Item	W	A0	B0	K0	P
DIM(mm)	8.0±0.3	3.2±0.15	3.2±0.15	1.32±0.1	4.0±0.1
Item	T	E	F	D0	P0
DIM(mm)	0.3±0.1	1.75±0.1	3.5±0.1	1.5±0.1	4.0±0.1

RELIABILITY TEST 可靠性试验

TEST ITEM	SPECIFICATION	TEST CONDITION
High temperature Storage test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (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
Low temperature Storage test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (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.
Humidity test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $40 \pm 2^{\circ}\text{C}$, Humidity: $93 \pm 3\% \text{RH}$ Time : 96 ± 2 hours Place the samples for one hour at room temperature and test them within two hours
Solderability test	Terminals must have 95% minimum solder coverage	1. Dip pads in flux then dip in solder pot at $245 \pm 5^{\circ}\text{C}$ for 5 second. 2. Solder: lead free 3. Flux: rosin flux
Heat endurance of flow soldering	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	1. Refer to the above reflow curve and go through the reflow for twice. 2. The peak temperature : $260 + 0 / - 5^{\circ}\text{C}$
Vibration test	1. No significant defects in appearance. 2. No short and no open.	Apply frequency $10 \sim 55 \sim 10 \text{Hz}$ and amplitude 1.5mm , 1 min/cycle in X Y and Z direction for 2 hours each. (total 6 hours)
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 through 245°C reflow, apply a standard force on the side of the test samples for 10 seconds. 

RECOMMENDED SOLDERING TECHNOLOGIES 回流焊建议

- **Applicable soldering process to the products is refl.**
- ☆ 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.
- **Reflow Soldering Profile.**



■ RECOMMENDED SOLDERING TECHNOLOGIES 回流焊建议

● **Soldering Iron.**

- ☆ Reworking with electric soldering iron must preheating at 150°C 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.
 - 1. Temperature of soldering iron tip: 350°C;
 - 2. Soldering iron power output: ≤30W;
 - 3. Diameter of soldering iron end: ≤1.0mm;
 - 4. Soldering time: <3 s

