ROHS REACH HF

承　認　書

SPECIFICATION FOR APPROVAL

Customer Name: 2144

Description Part No.:

Customer Part No.:

Sample No.:

DDY Part No.: SFE3015A-

DRAWING		
MADE	CHECKED	APPROVED
王海玲	赵万虎	肖中华
DATE:	2022年8月23日	

CUSTOMER APPROVE

惠 州 市 德 立 电 子 有 限 公 司

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Version of Changed Record

DATE	REV	CHANGED CONTENTS	DRAFT	APPROVED
2022/8/23	A	新版发行	王海玲	肖中华

*** Special notes:**

This material does not involve the application of automobile or related products, otherwise, we will not bear all the quality and responsibility problems caused by this.

1. Scope

This specification applies to the SFE3015 Series of wire wound SMD power inductor.

2.PRODUCT IDENTIFICATION

SFE 3015 □ - 1R5 □ - □ - □

(1) (2) (3) (4) (5) (6) (7)

（1）.Series name （产品品名）

（2）.Dimensions （产品尺寸）

（3）.Appearance shape （产品形状）

A：dodecagon（十二边形）: B: octagon（八边形）

（4）.Inductance value （电感值）

1R5: 1.5μH 221：220μH

（5）Tolerance（误差值）

M: ±20%; N: ±30%

（6）.Packaging style （包装类型）

T-编带盘装；B –散装

（7）.Environmental status（环保状态）

LF- Lead free; HF-Halogen free; FP-Free red phosphor.

3. Electrical Characteristics

Please refer to Item 5.

1). Operating temperature range (individual chip without packing): -40℃～+125℃.

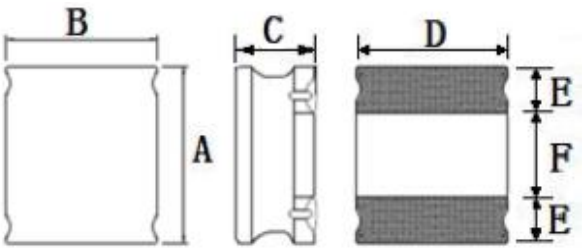
2). Storage temperature range (packaging conditions): -40℃～+85℃ and RH 70% (Max.).

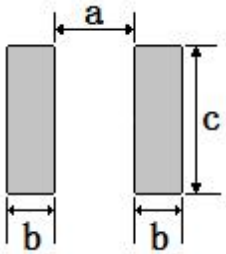
3). Rating DC current: Temperature rise(△T) is 40℃ approximately at Irms.

4). Saturation DC current: Inductance drop approximately 30% of L_0 at Isat.

4. Shape and Dimensions (Unit:mm)

shape：A





Recommended Land Pattern

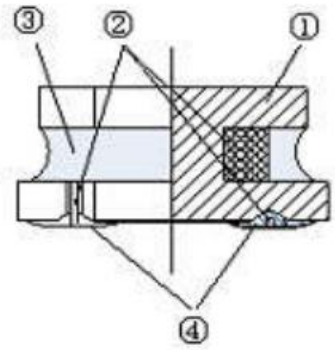
Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
SFE3015A	3.0±0.2	3.0±0.2	1.5 Max.	2.5±0.2	0.9 Typ.	1.2 Typ.	1.00	1.10	2.7

5. Electrical Characteristics

NO.	Part Number	Inductance	DC Resistance		Isat(A)		Irms(A)		Marking
		100KHz/1.0V	Max.	Typ.	Max.	Typ.	Max.	Typ.	
	Units	（uH）	Ω	Ω	A	A	A	A	
1	☐ SFE3015A-1R5N-F-HF	1.5±30%	0.065	0.050	2.30	2.70	1.70	2.20	1R5
2	☐ SFE3015A-2R2M-F-HF	2.2±20%	0.078	0.064	1.60	2.00	1.60	2.00	2R2
3	☐ SFE3015A-4R7M-F-HF	4.7±20%	0.163	0.108	1.10	1.30	1.10	1.20	4R7
4	☐ SFE3015A-100M-F-HF	10.0±20%	0.325	0.270	0.77	0.92	0.77	0.80	100

※Design as Customer's Requested Specifications. (可按顾客的特殊需求设计)

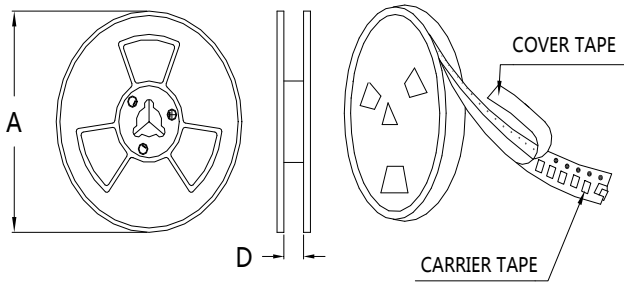
6. Structure (The structure of product.)



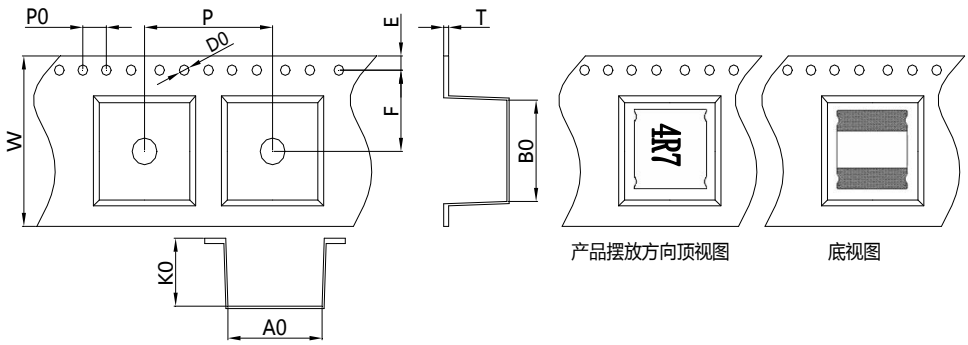
NO	Components	Material
①	Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating	AgNiSn or FeNiCu + Sn Alloy

7. PACKAGING(unit: mm)

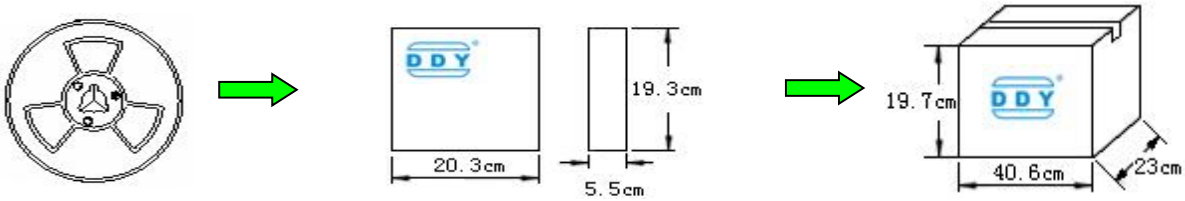
1.包装类型：编带装　　2.包装尺寸：　　☐ 13″ 盘　　☑ 7″ 盘



	13″ 盘	7″ 盘
A	Φ330±2.0	Φ178±2.0
D	8.5	



Item	W	A0	B0	K0	P	T	E	F	D0	P0
(mm)	8.0 ±0.3	3.3±0.15	3.3±0.15	2.0 ±0.1	4.0±0.1	0.3±0.1	1.75±0.1	3.5 ±0.1	1.5 ±0.1	4.0 ±0.1

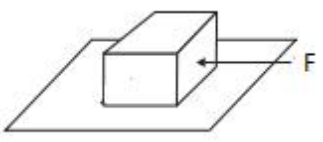


每卷	2000	Pcs

每盒	4卷,共	8000	Pcs

每箱	6盒,共	48000	Pcs

8. RELIABILITY TEST

No.	TEST ITEM	SPECIFICATION	TEST CONDITION
1	High temperature Storage test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: 125℃±5℃ (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
2	Low temperature Storage test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: -40℃±5℃ (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.
3	Humidity test	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	Temperature: 40±2℃ , Humidity: 93±3%RH Time : 96±2 hours Place the samples for one hour at room temperature and test them within two hours
4	Solderability test	Terminals must have 95% minimum solder coverage	1.Dip pads in flux then dip in solder pot at 245±5°C for 5 second. 2.Solder: lead free 3.Flux: rosin flux
5	Heat endurance of flow soldering	1. No significant defects in appearance. 2.ΔL/L≦10% 3.ΔDCR/DCR≦10%	1.Refer to the above reflow curve and go through the reflow for twice. 2.The peak temperature : 260+0/-5℃
6	Vibration test	1.No significant defects in appearance. 2.No short and no open.	Apply frequency 10~55~10Hz and amplitude 1.5mm, 1 min/cycle in X Y and Z direction for 2 hours each. (total 6 hours)
7	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 through245 ℃ reflow, apply a standard force on the side of the test samples for 10 seconds. 

9. SOLDERING CONDITIONS

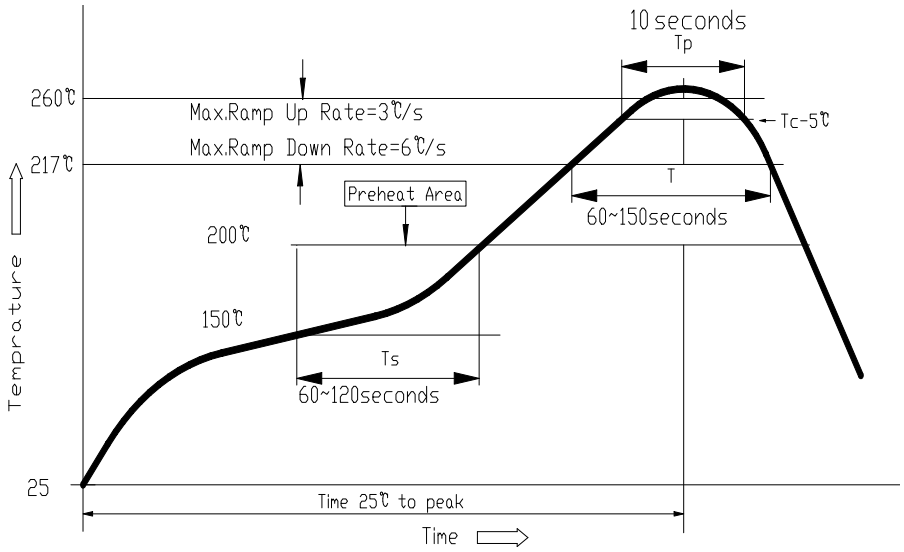
Applicable soldering process to the products is refl.

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