ROHS REACH HF Compliance

承 認 書

SPECIFICATION FOR APPROVAL

Customer Name: 2144

Description Part No.:

Customer Part No.:

Sample No.:

DDY Part No.: SFE252012S-

DRAWING		
MADE	CHECKED	APPROVED
王海玲	赵万虎	肖中华
DATE:	2023年4月22日	

CUSTOMER APPROVE

惠 州 市 德 立 电 子 有 限 公 司

HUI ZHOU DE LI ELECTRONICS CO., LTD

廣東省博羅縣洲際工業園梅園三路

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Version of Changed Record

DATE	REV	CHANGED CONTENTS	DRAFT	APPROVED
2023/4/22	A	新版发行	王海玲	肖中华

*** Special notes:**
This product is non-vehicle certified.

1. Scope

This specification applies to the SFE252012 Series of wire wound SMD power inductor.

2.PRODUCT IDENTIFICATION

SFE 252012S - 1R5 □ - □

(1) (2) (3) (4) (5)

（1）.Series name （产品品名）

（2）.Dimensions （产品尺寸）

（3）.Inductance value （电感值）

1R5: 1.5μH 221：220μH

（4）.Tolerance（误差值）

M: ±20%; N: ±30%

（6）.Environmental status（环保状态）

LF- Lead free; HF-Halogen free.

FP-Free red phosphor.

3. Electrical Characteristics

Please refer to Item 5.

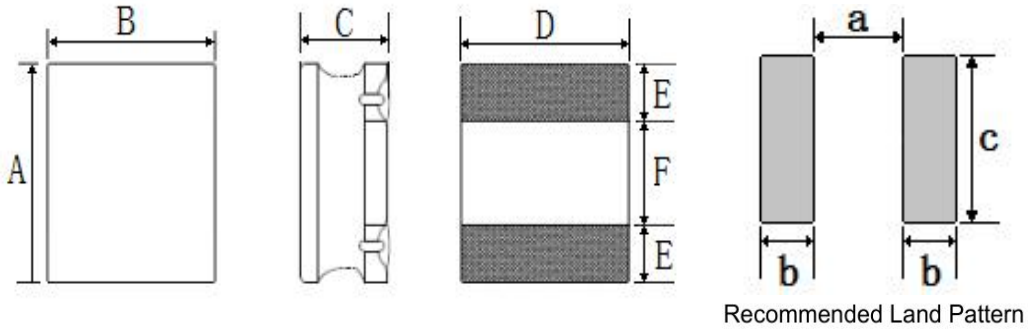
1). Operating temperature range (individual chip without packing): -40℃～+125℃.

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)



Recommended Land Pattern

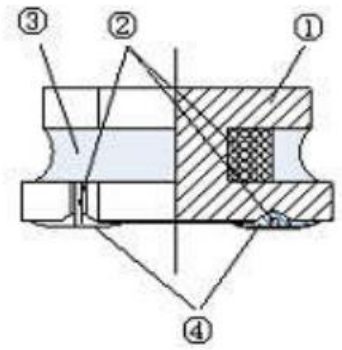
Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
SFE252012S	2.5±0.3	2.0±0.3	1.2 Max.	2.0±0.2	0.75 Typ.	1.0 Typ.	0.80	0.90	2.2

5. Electrical Characteristics

NO	DDY CODE	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		☐ SFE252012S-R24N-HF	0.24±30%	0.023	0.019	4.10	4.80	4.10	4.50	N/A
2		☐ SFE252012S-R33N-HF	0.33±30%	0.031	0.026	4.00	4.70	3.35	3.70	N/A
3		☐ SFE252012S-R47N-HF	0.47±30%	0.036	0.031	3.80	4.50	3.00	3.30	N/A
4		☐ SFE252012S-R68N-HF	0.68±30%	0.047	0.038	3.00	3.30	2.30	2.50	N/A
5		☐ SFE252012S-1R0N-HF	1.0±30%	0.060	0.050	2.25	2.50	2.30	2.60	N/A
6		☐ SFE252012S-1R2N-HF	1.2±30%	0.078	0.065	2.20	2.50	2.00	2.20	N/A
7		☐ SFE252012S-1R5N-HF	1.5±30%	0.090	0.075	2.00	2.35	1.80	2.00	N/A
8		☐ SFE252012S-1R8N-HF	1.8±30%	0.108	0.093	1.95	2.20	1.75	1.90	N/A
9		☐ SFE252012S-2R2M-HF	2.2±20%	0.108	0.093	1.75	1.90	1.75	1.90	N/A
10		☐ SFE252012S-2R7M-HF	2.7±20%	0.156	0.130	1.30	1.60	1.40	1.50	N/A
11		☐ SFE252012S-3R3M-HF	3.3±20%	0.156	0.130	1.20	1.35	1.40	1.50	N/A
12		☐ SFE252012S-4R7M-HF	4.7±20%	0.228	0.190	1.10	1.20	1.10	1.20	N/A
13		☐ SFE252012S-5R6M-HF	5.6±20%	0.330	0.255	1.00	1.10	1.00	1.15	N/A
14		☐ SFE252012S-6R8M-HF	6.8±20%	0.360	0.300	0.90	1.10	0.95	1.05	N/A
15		☐ SFE252012S-8R2M-HF	8.2±20%	0.522	0.435	0.80	0.92	0.80	0.90	N/A
16		☐ SFE252012S-100M-HF	10±20%	0.522	0.435	0.70	0.85	0.78	0.86	N/A
17		☐ SFE252012S-150M-HF	15±20%	1.000	0.700	0.60	0.70	0.50	0.60	N/A
18		☐ SFE252012S-220M-HF	22±20%	1.290	1.000	0.45	0.55	0.48	0.55	N/A
19		☐ SFE252012S-330M-HF	33±20%	1.840	1.410	0.35	0.40	0.35	0.40	N/A
20		☐ SFE252012S-470M-HF	47±20%	2.250	1.776	0.30	0.37	0.20	0.28	N/A

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

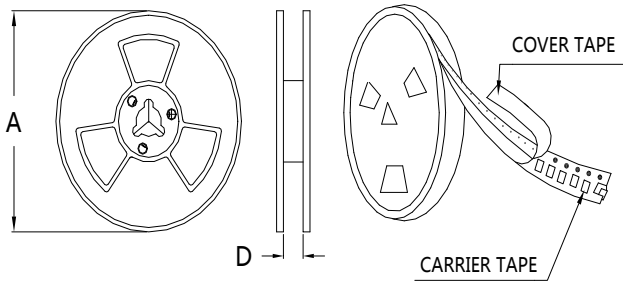
6. Structure (The structure of product.)



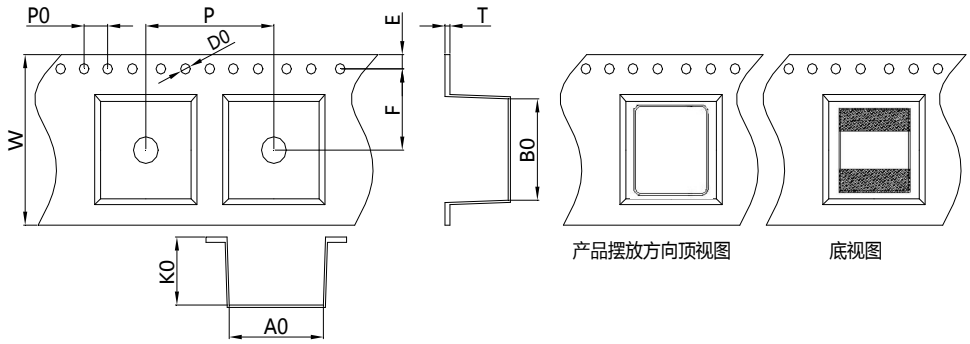
NO	Components	Material
①	Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating	AgNiSn or FeNiCu + Sn Alloy

7. PACKAGING(unit: mm)

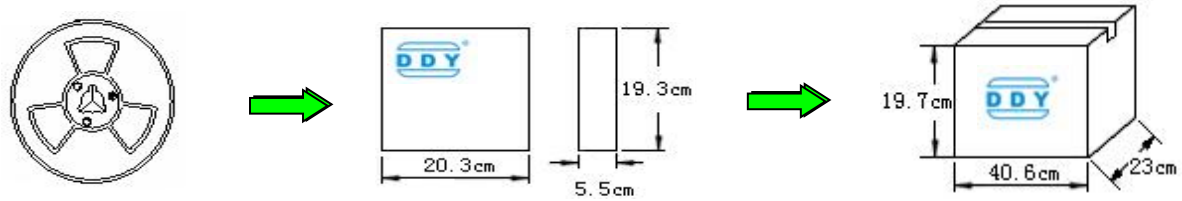
1.包装类型：编带装　　2.包装尺寸：　　☐ 13″ 盘　　☑ 7″ 盘



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



Size	Item	W	A0	B0	K0	P	T	E	F	D0	P0
252012	(mm)	8.00±0.3	2.35±0.2	2.65±0.2	1.40±0.1	4.00±0.1	0.25±0.1	1.75±0.1	3.50±0.1	1.50±0.1	4.00±0.2

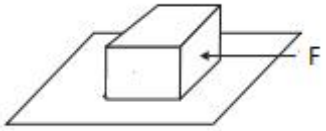


每卷	2000	Pcs

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

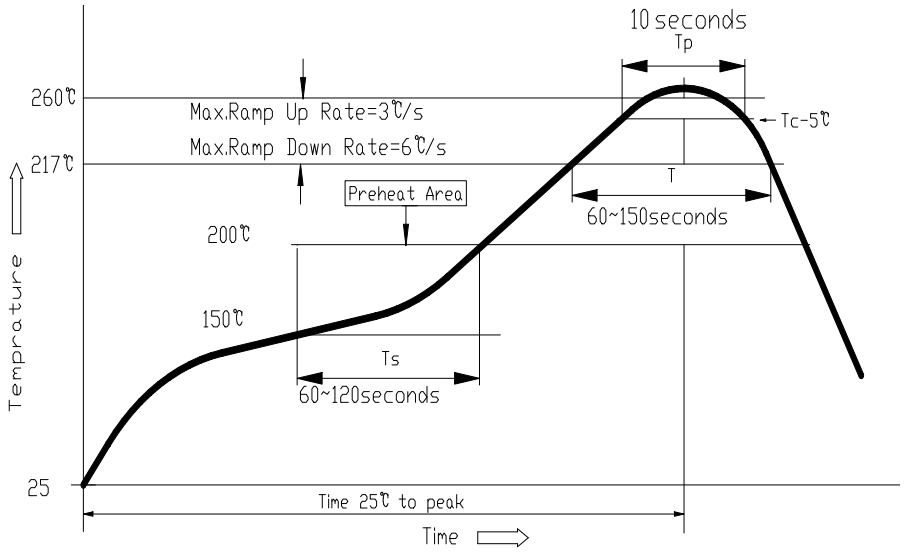
Applicable soldering process to the products is refl.

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

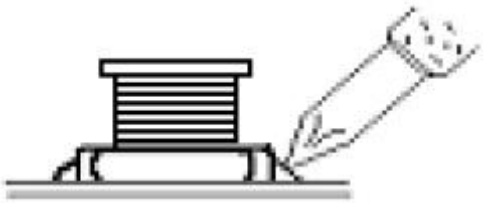
Reworking with electric solding iron must preheating at 150℃ for 1 minute is required,and do not directly touch the core with the tip of the soldering iron.The reworking soldering conditions are as follows.

①Temperature of soldering iron tip:350℃；

② Soldering iron power output:≤30W；

③ Diameter of soldering iron end:≤1.0mm；

④Soldering time:＜3 s



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