ROHS REACH HF compliance

承 認 書

SPECIFICATION FOR APPROVAL

Customer Name: 2144

Description Part No.:

Customer Part No.:

Sample No.:

DDY Part No.: DSE453226-系列

DRAWING		
MADE	CHECKED	APPROVED
黄春笑	赵万虎	肖中华
DATE:	2024年3月5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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1. Scope

This specification applies to the DSE453226 Series of wire wound SMD power inductor.

2.PRODUCT IDENTIFICATION

DSE 453226 - 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）

K:±10% ; M: ±20%; N: ±30%

(5). Environmental status（环保状态）

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

3. Electrical Characteristics

Please refer to Item 5.

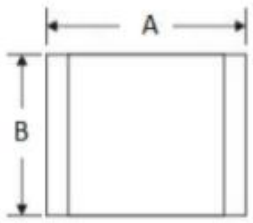
1). Operating temperature range (individual chip without packing): -40℃～+125℃.

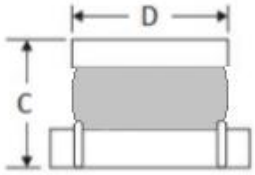
2). Storage temperature range (packaging conditions): -40℃～+85℃ and RH 70% (Max.).

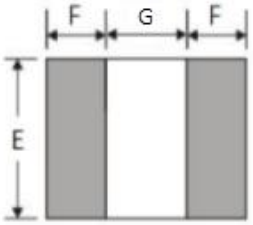
3). Rating DC current: Temperature rise(△T) is 40℃ approximately at Irms.

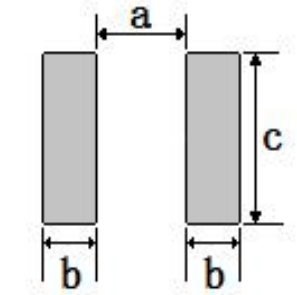
4). Saturation DC current: Inductance drop approximately 30% of L_0 at Isat.

4. Shape and Dimensions (Unit:mm)









Recommended Land Pattern

Series	A	B	C	D	E	F	G	a Typ.	b Typ.	c Typ.
DSE453226	4.5±0.3	3.2±0.3	2.6±0.3	3.7±0.3	3.2 Typ.	1.6 Typ.	1.0 Typ.	0.90	1.75	3.40

Version of Changed Record

DATE	REV	CHANGED CONTENTS	DRAFT	APPROVED
2024/3/5	A	新版发行	赵万虎	肖中华

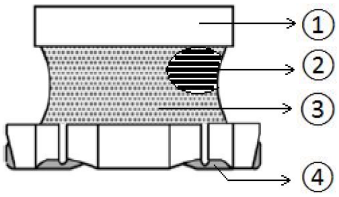
*** Special notes:**
This product is non-vehicle certified.

5. Electrical Characteristics

NO.	DDY CODE	Part Number	Inductance	SRF	DC Resistance	Isat(A)	Irms(A)	Marking
			100KHz/1.0V		Max.	Max.	Max.	
		Units	（uH）	MHz Min.	Ω	A	A	
1		□DSE453226-1R0N-HF	1.0±30%	100	0.045	2.50	2.10	N/A
2		□DSE453226-1R5N-HF	1.5±30%	85	0.053	2.40	2.00	N/A
3		□DSE453226-2R2M-HF	2.2±20%	60	0.068	2.40	1.80	N/A
4		□DSE453226-3R3M-HF	3.3±20%	47	0.090	2.10	1.80	N/A
5		□DSE453226-4R7M-HF	4.7±20%	35	0.126	1.80	1.50	N/A
6		□DSE453226-6R8M-HF	6.8±20%	30	0.155	1.50	1.20	N/A
7		□DSE453226-100K-HF	10.0±10%	23	0.270	1.20	1.10	N/A
8		□DSE453226-150K-HF	15.0±10%	20	0.320	0.90	0.90	N/A
9		□DSE453226-220K-HF	22.0±10%	15	0.475	0.80	0.70	N/A
10		□DSE453226-330K-HF	33.0±10%	12	0.686	0.60	0.60	N/A
11		□DSE453226-470K-HF	47.0±10%	10	0.996	0.50	0.50	N/A
12		□DSE453226-680K-HF	68.0±10%	8.4	1.260	0.40	0.30	N/A
13		□DSE453226-101K-HF	100±10%	6.8	1.920	0.40	0.30	N/A
14		□DSE453226-151K-HF	150±10%	5.5	2.860	0.35	0.30	N/A
15		□DSE453226-221K-HF	220±10%	4.5	4.000	0.25	0.25	N/A
16		□DSE453226-331K-HF	330±10%	3.6	6.800	0.20	0.20	N/A
17		□DSE453226-471K-HF	470±10%	3.0	8.500	0.20	0.20	N/A

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

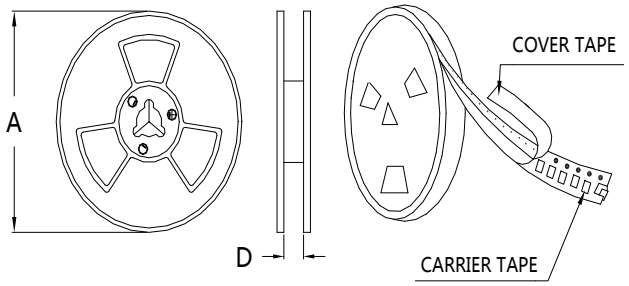
6. Structure (The structure of product.)



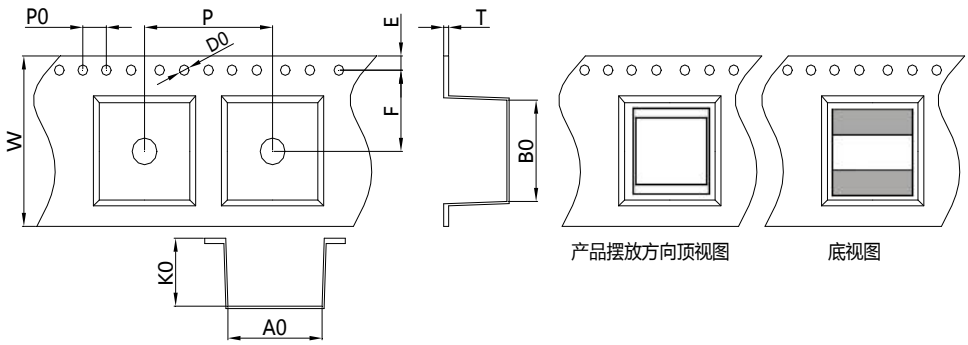
NO	Components	Material
①	Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Plating	AgNiSn or FeNiCu + Sn Alloy
④	Epoxy	Epoxy resin

7. PACKAGING(unit: mm)

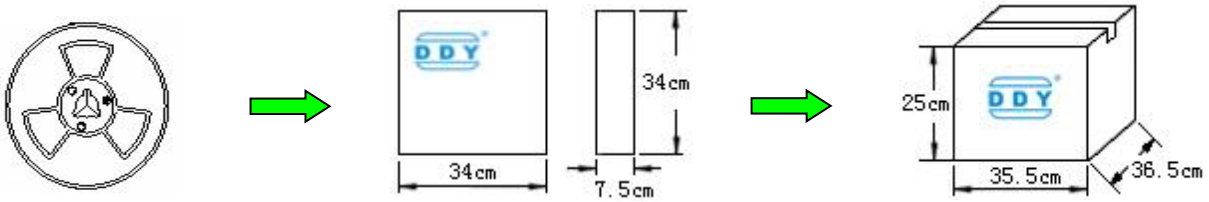
1.包装类型：编带装　　2.包装尺寸：　　☑ 13″ 盘　　☐ 7″ 盘



	13″ 盘	7″ 盘
A	Φ330±2.0	Φ178±2.0
D	12.5	



Item	W	A0	B0	K0	P	T	E	F	D0	P0
(mm)	12.0±0.3	4.50±0.3	4.50±0.3	3.10±0.2	8.00±0.3	3.50±0.1	1.75±0.1	5.50±0.2	1.50±0.1	4.00±0.2

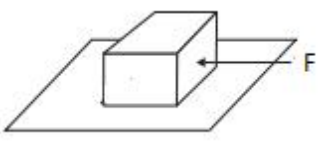


每卷	2000	Pcs

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

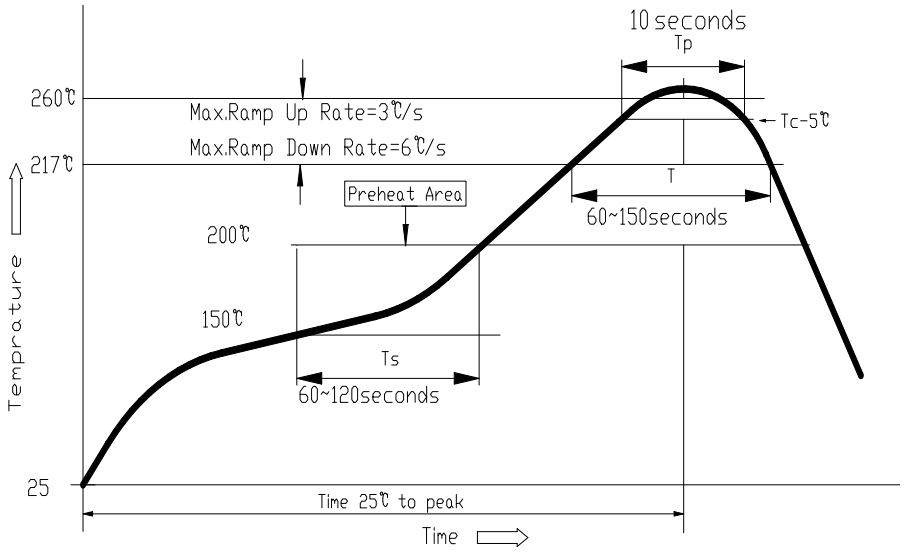
Applicable soldering process to the products is refl.

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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