



SPECIFICATION

CUSTOMER	SF129
PRODUCT DESCRIPTION	EP13 Transformer
Sunlord P/N	DEP130016-129
CUSTOMER P/N	

New Released, Revised]

SPEC No.:A0

【This SPEC is total 8 pages.】

【ROHS, Compliant Parts】

Approved By	Checked By	Issued By
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【For Customer approval Only】

Date: _____

Qualification Status: Full Restricted Rejected

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Comments:

【Version change history】



Caution

All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

1. Aircraft equipment
2. Aerospace equipment
3. Undersea equipment
4. Nuclear control equipment
5. Military equipment
6. Power plant equipment
7. Medical equipment
8. Transportation equipment (automobiles, trains, ships, etc.)
9. Traffic signal equipment
10. Disaster prevention / crime prevention equipment
11. Data-processing equipment
12. Applications of similar complexity or with reliability requirements comparable to the applications listed in the above

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1. Scope

This specification is applied to the POE applications transformer DEP130016-129

2. Product Description and Identification (Part Number)

a) Description: DEP130016 Transformer.

b) Product Identification (Part Number)

D EP 13 0016

① ② ③ ④

Named notes:

① Customized products

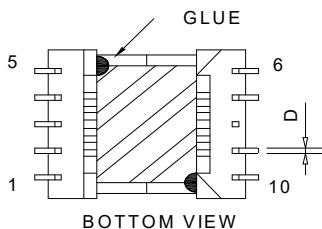
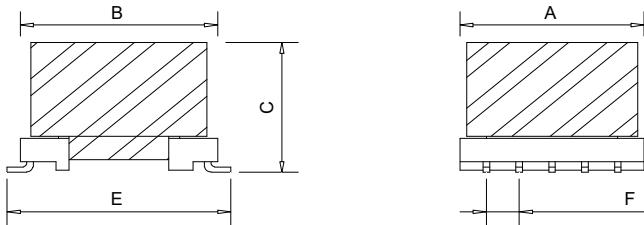
② CORE SHAPE

③ CORE SIZE

④ Serial number

3. Shape and Dimensions

3.1 Shape



Note :

- 1.PIN8 cut off
- 2.Gap core on the pin1-5side.
- 3.Solder: Sn /Cu0.7.
- 4.Marking on the top of the product, the words facing the PIN1-5 side, Black point on the pin1-5 top.
- 5.Fix the core with High temperature tape 7.5mm 2ts.
- 6.Pin can't be loosened and pin pull force is 1kg min.
- 7.The product need to be immersion oil.
- 8.Pin foot flatness is less than or equal to 0.13mm.

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3.2 Dimensions (Unit: mm)

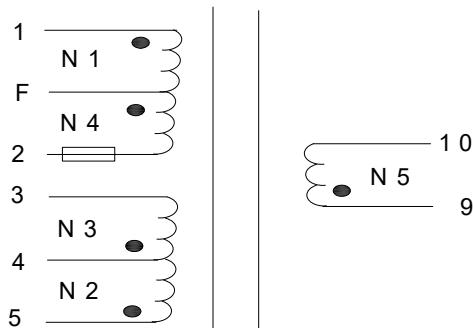
ITEM	A	B	C	D	E	F						
Unit(mm)	14.5	16.0	13.5	SQ0.5	17.0	2.5						
TOLERANCE	MAX	MAX	MAX	± 0.1	± 0.5	± 0.5						

3.3 Appearance

There is not the visual track and other mechanical damage on the product surface. Marking must be clearly and stable.

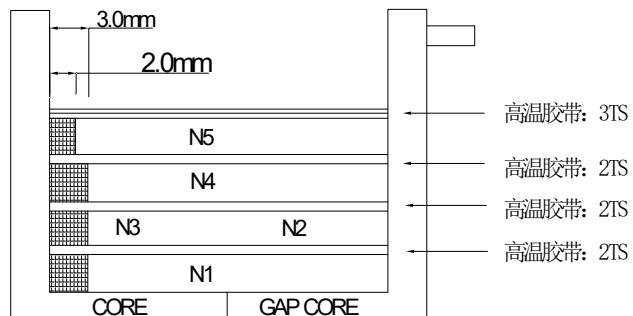
Core and other parts assembly stably. mounting dimensions and the location of the terminals should be in accord with standard.

4. Circuit diagram & Winding construct:



● : Start of winding.
□ : Clear teflon tube

Pin 6-10 side



5. Winding Specification

NO.	MARGIN TAPE WIDTH		START & FINISH TERMINAL				WIRE SPECIFICATION	WINDING TURN	METHOD	TAPE TURN	NOTE
	PIN 1-5SIDE	PIN6-10 SIDE	START	TUBE	FINISH	TUBE					
N1		3mm	1		F		2UEW-F Φ 0.27mm*1P	12	COLSE	2TS	
N2		3mm	5		4		2UEW-F Φ 0.27mm*1P	4	COLSE		
N3		3mm	4		3		2UEW-F Φ 0.27mm*1P	7	COLSE	2TS	continue N2
N4		3mm	F		28mm/L		2UEW-F Φ 0.27mm*1P	12	COLSE	2TS	
N5		2mm	9		10		TIW-B Φ 0.2mm*1P	12	COLSE	3TS	

NOTE: 1. Continue winding without cutting between N1 and N4 winding.

2. pin2 add thickened teflon tube, with a length of 8 mm and a min of 3 mm extending into the wire package, which is isolated from pin 1 outgoing line.

3. pin1-5 winding outward

4. pin4 is pasted with high temperature adhesive tape to isolate the winding.

5. N3 winding outgoing line uses tape to isolate winding; pin2 outgoing line into pin2-3 slot.

6. 180 high temperature adhesive tape for interlayer insulation.

6. Electrical Test

ITEM	TEST TERMINAL	TEST SPECIFICATION	TEST CONDITION	TESTER
INDUCTANCE	Pin(1-2)	120 uH \pm 10%	10kHz, 0.1V(internal resistance 100 Ω)	TH2829 OR Equivalent
LEAKAGE INDUCTANCE	Pin(1-2), shorted other pins	1.25 uH Max.	10kHz, 0.1V(internal resistance 100 Ω)	TH2829 OR Equivalent
HI-POT	P ---- S	No breakdown	AC3750V/5mA/5Sec	TH9320 OR Equivalent
	P,S ---- CORE	No breakdown	AC1500V/5mA/5Sec	
	PIN2-PIN3	No breakdown	AC500V/5mA/5Sec	
Insulation Resistance				TH9320 OR Equivalent

Test Condition: T=25 \pm 5°C, RH=65% \pm 20% Operating Temperature: -40°C to 125 °C (Excluding self-temperature rise)



7. Material List

Item	Description	Material	Temp.Grade	UL No.	Manufacturer
1	Bobbin EP13	PM9630 UL94V-0	150	E41429	SUMITOMO BAKELITE CO LTD
2	Ferrite Core EP13	BP40	NA	NA	Jiangsu Baidikai Magnetic Material Co. LTD
		HE44			Ruyuan Dongyangguang Magnetic Materials Co., Ltd
		DMR40			Hengdian Group Dmego Magnetics Co.,Ltd
		NH2C			Haining Lianfeng Magnetic Industry Co. LTD
3	WIRE	xUEWN/155, QA/X-x/155	155	E227047	NINGBO JINTIAN NEW MATERIAL CO LTD
		*UEW,QA-*155,MW79-C	155	E194410	SHANDONG SAINT ELECTRIC CO LTD
4	Triple insulated wire	TIW-B	130	E332529	SUZHOU YUSHENG ELECTRONIC CO LTD
		TIW-B	130	E357240	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD
5	Tape	WF/PF	130/180	E165111	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD
6	TUBE	PTEF WF(T)	200	E203950	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD
7	Solder	Sn Cu0.7	NA	NA	Norfil Electronic Technology (Suzhou) Co., LTD
		Sn Cu0.7	NA	NA	Suzhou Wanshan Tin Industry Co. LTD
8	Glue	3300	90	E253983	SUZHOU EATTO ELECTRONIC MATERIALS CO LTD
9	Varnish	T-4260(a)	130	E228439	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD

8. Packaging Information: (Unit :mm)

8.1 Storage and Manufacturer :

8.1.1 Storage : Recommended keeping conditions: **-40°C~85°C, 5~95%RH (Max.)**

Service life : Within the limits of twelve month from being produced.

The appearance and solder ability should be check, If product is not in expiry date.

8.1.2 Manufacturer : Shenzhen Sunlord Electronics Co., Ltd.

Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China

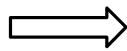
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8.1.3 Packing:



200PCS per roll, 1 box
of 3 rolls * 200=600pcs

Each box: 2 boxes *
600PCS=1200pcs

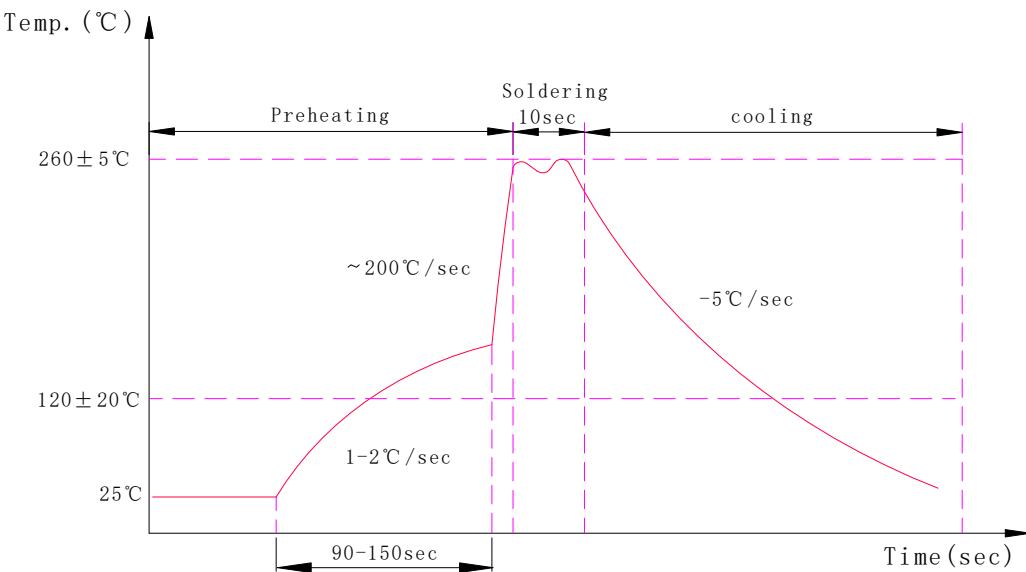
Weight:

Single weight/PCS: 6.2g

gross weight/box: 8.5Kg

net weight/box: 7.5Kg

9. Wave soldering profile for soldering heat resistance testing



Profile feature	Time	Temperature
Preheating time	90~150 sec	
Heating rate during preheat		1~2°C / sec
Final preheat temperature		120±20°C
Ramp-up rate		~200°C / sec
Dip time and temperature	2.5~5 sec	260±5°C
Ramp-down rate		~5°C / sec

9. Reflow soldering profile for soldering heat resistance testing: (IPC/JEDEC J-STD-020D)

The reflow profile specified in this section describes expected maximum heat exposure of components during the reflow process of Sunlord SMD Transformer Components. Temperature is measured on top of component. All components have to tolerate at least this profile two times(2x) without affecting electrical performance, mechanical performance or reliability.

Pb-free reflow profile requirements for soldering heat resistance		
Parameter	Reference	Specification
		Large BodyThickness $\geq 2.5\text{mm}$ and Volume $\geq 350\text{mm}^3$ Small BodyThickness $\geq 2.5\text{mm}$ and Volume $< 350\text{mm}^3$
Temperature gradient in preheating		3°C/s max.
Soak time 150°C- 200°C	Tsoak	60 -180 seconds
Time above 217°C (T1)	t1	60 - 150 seconds
Time within 5°C of actual peak	t3	20 -40 seconds
Peak temperature in reflow	Tpeak	245°C (+0/-5°C) 250°C (+0/-5°C)
Temperature gradient in cooling		6°C/second Max.
Time 25 °C to PeakTemperature		8 minutes Max.

Note: The table is defined by Sunlordinc's SMD Transformer components range, for the peak solder temperature rating of other components body, please refer to table 5-2 in IPC/JEDEC J-STD-020D.

