SPECIFICATION

CUSTOMER	**SF-129**
PRODUCT DESCRIPTION	**CHOKE**
Sunlord P/N	**DT140004-129**
CUSTOMER P/N	

[☒New Released, □Revised] **SPEC No.:A0**

【This SPEC is total 10 pages.】
【ROHS, Compliant Parts】

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【For Customer approval Only】 Date:_____

Qualification Status: Full Restricted Rejected

Approved By	Verified By	Re-checked By	Checked By

Comments:

【Version change history】

Rev.	Effective Date	Changed Contents	Change reasons	Approved By
A0	19-Mar-25	New released	/	Jacky Looh

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 equipment2．Aerospace equipment3．Undersea equipment4．Nuclear control equipment5．Military equipment6．Power plant equipment7．Medical equipment8．Transportation equipment (automobiles, trains, ships, etc.)9．Traffic signal equipment10．Disaster prevention / crime prevention equipment11．Data-processing equipment12．Applications of similar complexity or with reliability requirements comparable to the applications listed in the above

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

1. Scope

This specification is applied to the POE applications transformer DT140004-129

2. Product Description and Identification (Part Number)

a) Description: DT140004-129 Transformer.

b) Product Identification (Part Number)

D T 14 0004 129

① ② ③ ④ ⑤

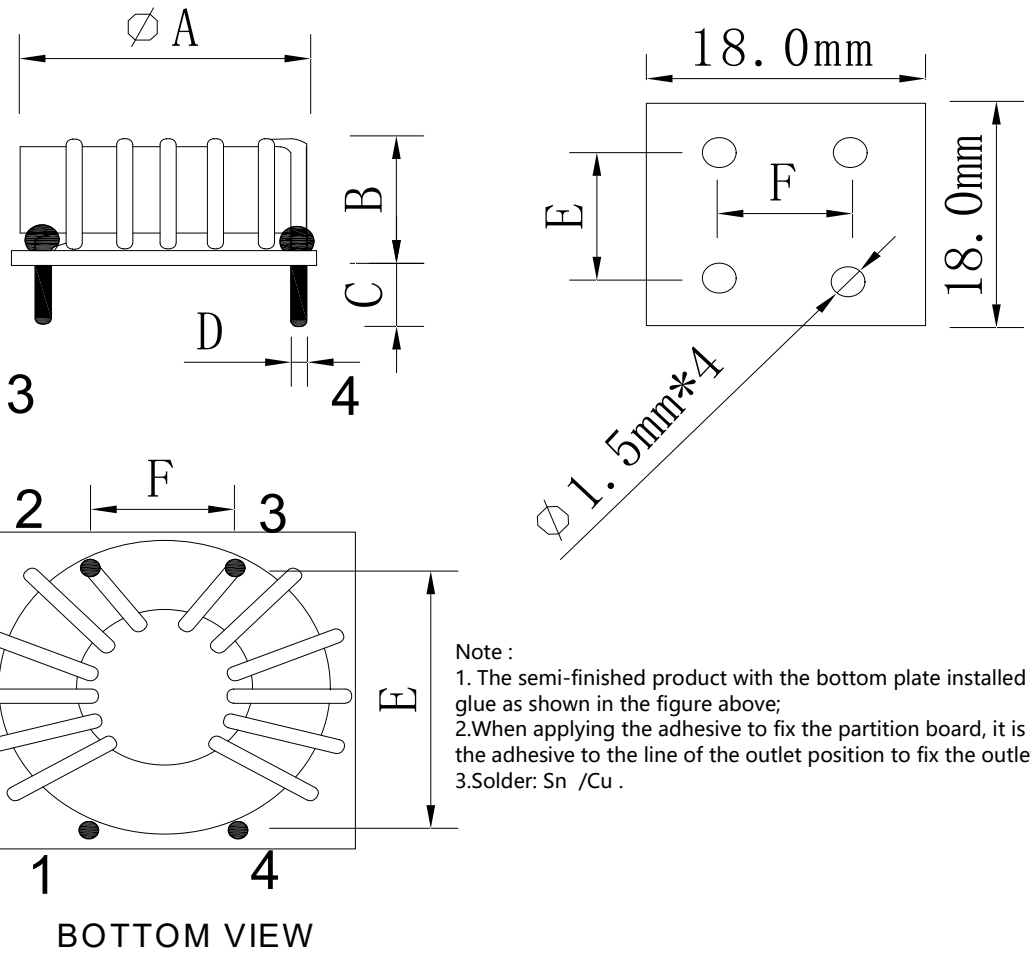
Named notes:

① Customized products ② CORE SHAPE

③ CORE SIZE ④ Serial number ⑤ Customer Code

3. Shape and Dimensions

3.1 Shape



BOTTOM VIEW

Note :
1. The semi-finished product with the bottom plate installed is dotted with four black glue as shown in the figure above;
2.When applying the adhesive to fix the partition board, it is also necessary to apply the adhesive to the line of the outlet position to fix the outlet line;
3.Solder: Sn /Cu .

3.2 Dimensions (Unit: mm)

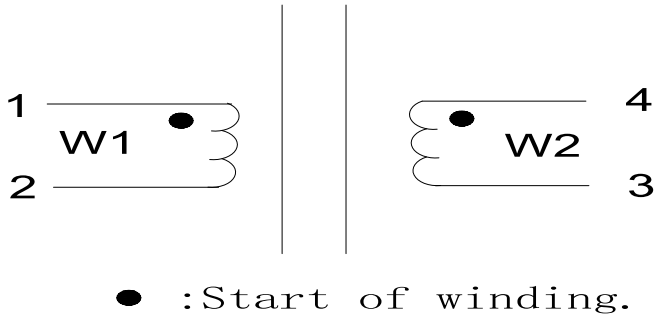
ITEM	A	B	C	D	E	F							
Unit(mm)	19.0	13.5	3.5	φ1.3	12.2	9.5							
TOLERANCE	MAX	MAX	±0.5	±0.05	±0.7	±0.5							

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:



5. Winding Specification

NO.	MARGIN TAPE WIDTH		START & FINISH TERMINAL				WIRE SPECIFICATION	WINGDING TURN	METHOD	TAPE TURN	NOTE
	PIN SIDE	TOP SIDE	START	TUBE	FINISH	TUBE					
W1			1		2		2UEWF-NY φ1.3*1P	6Ts	DENSE		
W2			4		3		2UEWF-NY φ1.3*1P	6Ts	DENSE		

NOTE: 1.Copper wire can not break the skin when winding.
2.The minimum interval between the two windings is 1mm after winding

6. Electrical Test

ITEM	TEST TERMINAL	TEST SPECIFICATION	TEST CONDITION	TESTER
INDUCTANCE	Pin(1-2)=(4-3)	20uH±25%	100KHz/0.1V(internal resistance 100Ω)	TH2829 OR Equivalent
LEAKAGE INDUCTANCE				TH2829 OR Equivalent
DCR	Pin(1-2)	5mΩ MAX	@25℃	TH2512B OR Equivalent
	Pin(4-3)	5mΩ MAX	@25℃	TH2512B OR Equivalent
HI-POT	COIL---COIL	No breakdown	AC1000V/5mA/5Sec	TH9320 OR Equivalent
Insulation Resistance				TH9320 OR Equivalent

Test Condition: T=25±5℃, RH=65%±20% Operating Temperature: -40℃ to 85 ℃ (Excluding self-temperature rise)

7. Material List

Item	Description	Material	Temp.Grade	UL No.	For sample	Manufacturer
1	PCB	FR-4	130℃	E123995	√	KINGBOARD
2	Core T14*9*7C （Paint green）	TN100B	NA	NA	√	TDG
		N122P	NA	NA		CHUANGYI
		FN12	NA	NA		KEFENG
3	Wire 2UEWF-NY	*UEW N/155,Q(A/X)-*/155,MW80-C	155℃	E194410		SAINT
		xUEWN/155, QA/X-x/155	155℃	E227047	√	JinTian
		QPN/155, *UEW/NY/155	155℃	E508179		DARUN
4	Solder	Sn Cu0.7	NA	NA		Noble Flower
		Sn Cu0.7	NA	NA	√	WanShan
5	Epoxy	3300	130℃	E253983	√	EATTO
Remarks: All materials conform to Class B						

8. Packaging Information: (Unit :mm)

8.1 Storage and Manufacturer :

8.1.1 Storage : Recommended keeping conditions: **-40℃~85℃, 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.

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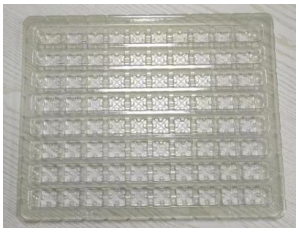
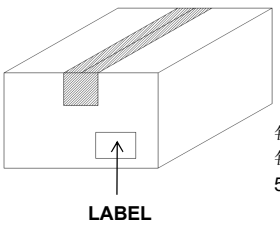
TEL：0086-0512-58910890 FAX：0086-0512-58910863

8.1.3 Packing :



每盘80pcs

每扎7盘
每扎560pcs
80pcs*7盘=560pcs



每箱2扎
每箱1120pcs
560pcs*2=1120pcs

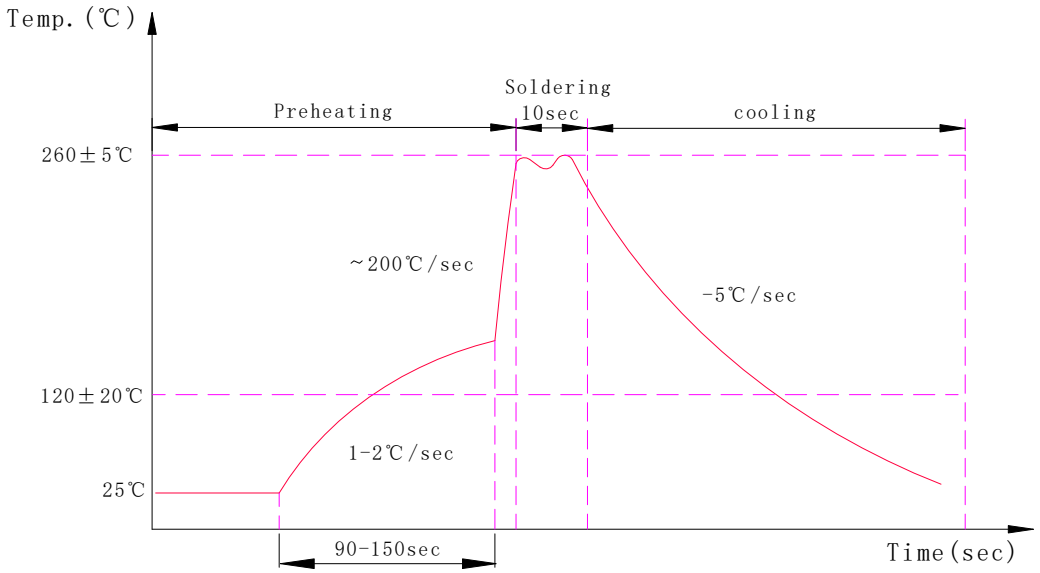
weight重量：

Single weight/PCS单重：8.0g

Gross weight/box毛重：9.5kg

Net weight/box净重：9.0kg

9. Wave soldering profile for soldering heat resistance testing



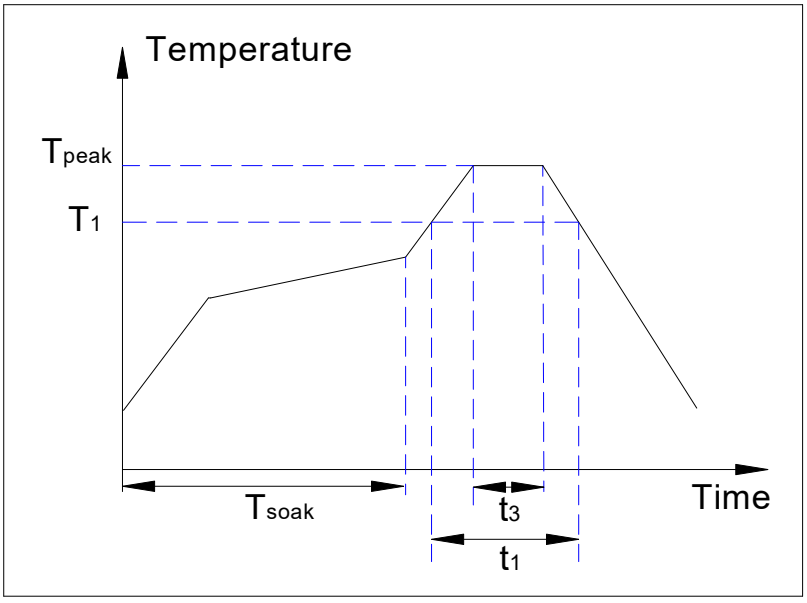
Profile feature	Time	Temperature
Preheating time	90~150 sec	
Heating rate during preheat		1~2℃ / sec
Final preheat temperature		120±20℃
Ramp-up rate		~200℃ / sec
Dip time and temperature	2.5~5 sec	260±5℃
Ramp-down rate		~5℃ / sec

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

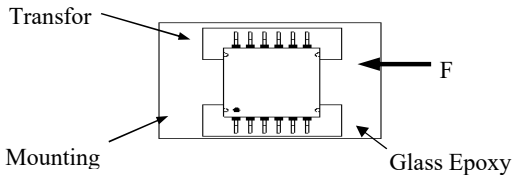
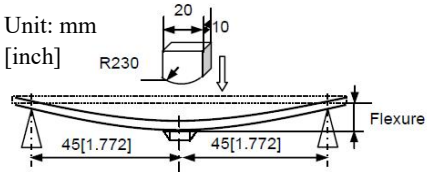
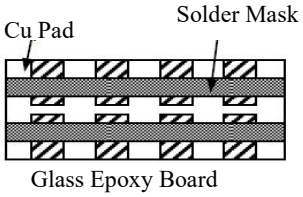
The reflow profile specified in this section describes expected maximum heat exposure of components during the reflow process of Sunlord SMD Transformer Components. Temperature is measured on top of component. All components have to tolerate at least this profile two times(2x) without affecting electrical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

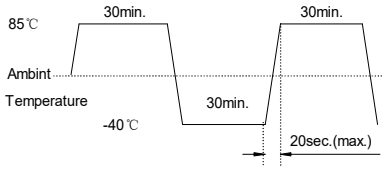
Pb-free reflow profile requirements for soldering heat resistance			
Parameter	Reference	Specification	
		Large BodyThickness ≥2.5mm and Volume≥350mm³	Small BodyThickness ≥2.5mm andVolume <350mm³
Temperature gradient inpreheating		3°C/s max.	
Soak time 150°C- 200°C	Tsoak	60 -180 seconds	
Time above 217°C (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.



10. Reliability Test

Items	Requirements	Test Methods and Remarks
10.1 Terminal Strength	No visible mechanical damage.	① Solder the transformer to the testing jig (glass epoxy board shown as the following figure) using leadfree solder. Then apply a force in the direction of the arrow.② 10N force.③ Keep time: 10s. 
10.2 Resistance to Flexure	Unit: mm No visible mechanical damage.	① Solder the transformer to the test jig (glass epoxy board) using a leadfree solder. Then apply a force in the direction shown as the following figure. ② Flexure: 2mm. ③ Pressurizing Speed: 0.5mm/sec. ④ Keep time: 30 sec. 
10.3 Vibration	①No visible mechanical damage. ②The electrical characteristics are tested and should meet the standard of 6 items.	①Solder the Transformer to the testing jig (glass epoxy board shown as the following figure) using leadfree solder. ②The Transformer shall be subjected to a simple harmonic motion having total amplitude of 1.5 mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz. ③The frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours). 
10.4 Dropping	① No abnormality in externals. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、 No arcing.	① Product was put in the carton. ② Drop the carton and let it free fall from 90mm in height. ③ An angular, Three edges, Six faces must drop one time.
10.5 Mechanical Shock	① No visible mechanical damage. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、 No arcing.	The specimens shall be subjected to shock force of 1000m/s2 (100G) for 6ms 3 times in each of three (X,Y,Z) axes. (9 times in all)
10.6 Solderability	① No visible mechanical damage. ② 95% or more of terminal area shall be coated by new solder. ③ Inductance change: Within ±5%. ④ Rdc change: Within ±5%. ⑤ Hi-Pot: No breakdown 、 No arcing.	① Terminal of the Transformer shall be immersed in flux, and then immersed in molten solder. ② Solder temperature: 245±5℃ ③ Duration: 5±1 sec. ④ Solder: Sn/3.0Ag/0.5Cu ⑤ Flux: 25% resin and 75% ethanol in weight ⑥ Immersion depth: all sides of mounting terminal shall be immersed.
10.7 Resistance to Soldering Heat	① No visible mechanical damage. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、 No arcing.	① After heating for 30±5 seconds so that it may become 100～105 degrees. ② Kept soldering iron of 390℃±10℃ on the terminal for 3～4 seconds. ③ It shall be stabilized at normal condition for 1~2 hours before measuring.

10.8 Resistance to Low Temperature	① No visible mechanical damage ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、No arcing.	① Temperature: -40±2℃. ② Duration: 96±2 hours. ③ It shall be stabilized at normal condition for 1~2 hours before measuring.
10.9 Resistance to High Temperature	① No mechanical damage. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、No arcing.	① Temperature: 85±2℃. ② Duration:96±2 hours. ③ It shall be stabilized at normal condition for 1~2 hours before measuring.
10.10 Thermal Shock	① No visible mechanical damage. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、No arcing.	① Temperature and time: -40±2℃ for 30±3 min→85℃±2℃ for 30±3min. ② Transforming interval: Max. 20 sec. ③ Tested cycle: 100 cycles. ④ It shall be stabilized at normal condition for 1~2 hours before measuring. 
10.11 Damp Heat	① No mechanical damage. ② Inductance change: Within ±5%. ③ Rdc change: Within ±5%. ④ Hi-Pot: No breakdown 、No arcing.	① Temperature: 60±2℃. ② Humidity: 90% to 95%RH. ③ Duration: 96±2 hours. ④ It shall be stabilized at normal condition for 1~2 hours before measuring.