湧德電子股份有限公司 UDE Corp.

Specification for Approval

客戶 ：

日期 ： 2021/11/11

UDE P/N: SPT331-301A-BT

CUSTOMER P/N:

DESCRIPTION: SMD Pulse Transformer (1G Base-T for 1 Channel)

QUANTITY: pcs

Customer Approval Feedback		

APPROVED	CHECKED	DRAWN
JMing	Sam	Max

Revision： D

1. Part Number

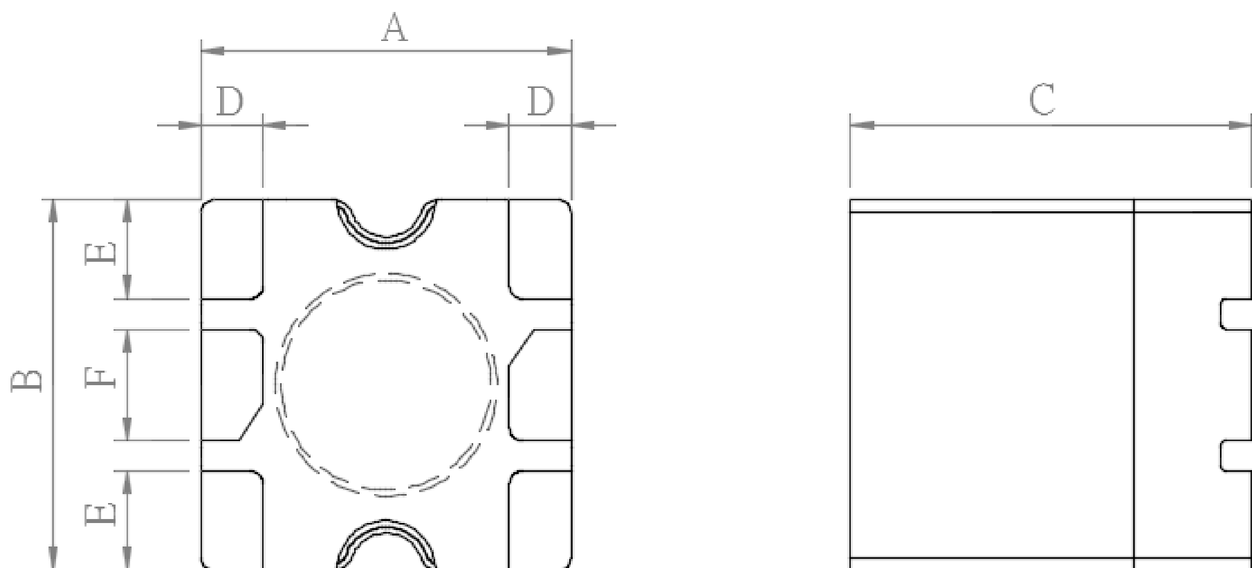
SPT	33	1	-	301	A	-	B	T
A	B	C		D	E		F	G

A. Series name
B. Dimensions
C. Product internal code
D. Inductance (at 100KHz) 301 = 300uH
E. Internal code
F. Rated Current 0=None , A=350mA , B=600mA , C=1A
G. Packaging T = Taping

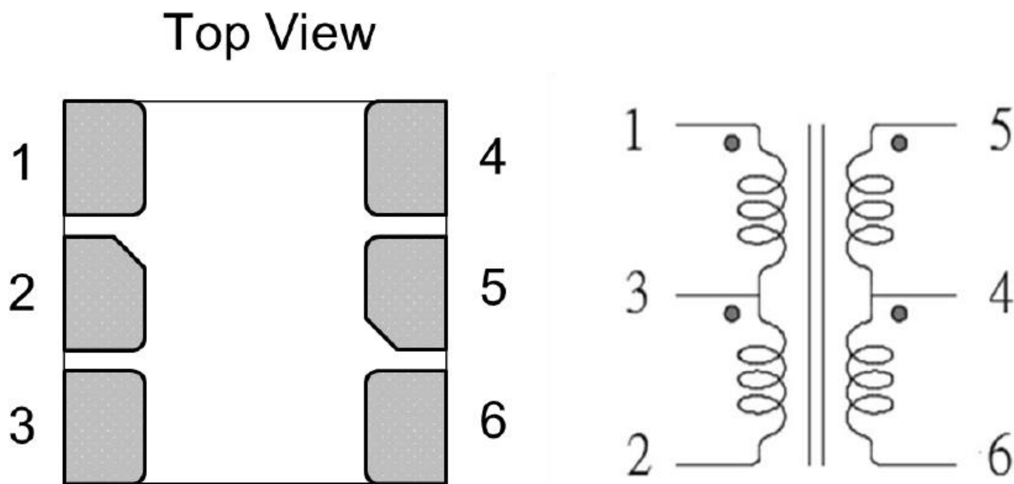
2. Configuration and Dimensions

● **Dimensions**

Series	Dimensions (mm)					
	A	B	C	D	E	F
SPT33	3.0 ±0.2	3.0 ±0.2	3.8 Max	0.5 ±0.05	0.7±0.05	0.8±0.05

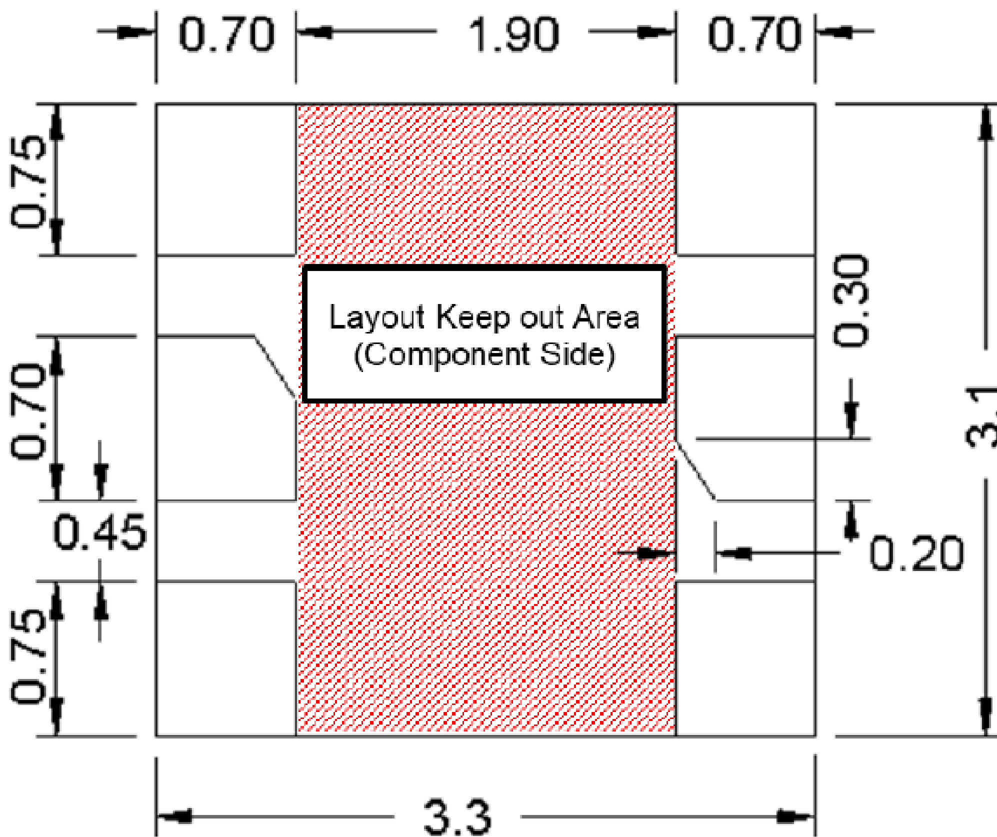


- **Measuring Circuit**



There is no directivity

- **Recommended PC Board Pattern**



SPT33

3. Electrical Characteristics

Part No.	Inductance (µH)min. [DC Bias 8mA,100KHz] (1 to 2 or 5 to 6)	Turns ratio (1 to 2) : (5 to 6)	Inter-winding stray capacitance (pF)max. [100KHz]
SPT331-301A-BT	300	1 : 1	35

Insertion loss (dB)min.	Return loss (dB)max.				
1 to 100MHz	1 MHz	30MHz	60MHz	80MHz	100MHz
-1.2	-20	-20	-14	-12	-10

Rated Current(mA)	Hi-POT @1mA
600	2250 Vdc 1min

4. Operation and Storage Temperature Range

Operating Temperature(℃)	Storage Temperature(℃)
-40 to +85	-40 to +85

5. Reliability and Test Condition

5.1 Mechanical Performance Test

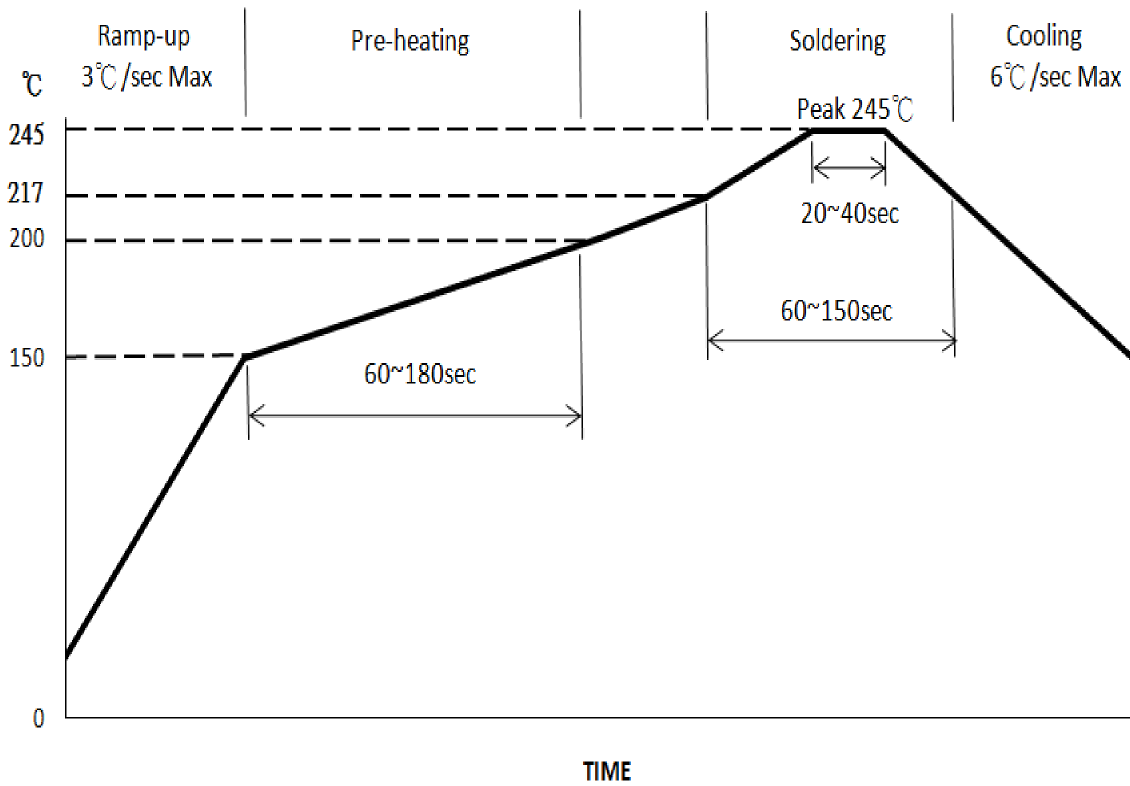
Item	Specification	Test Condition
Solder Heat Resistance	Cosmetic inspection : OK	1. The device should be reflow soldered on PCB (peak 260℃±5℃ for 10 seconds). 2. Solder Composition:Sn/Ag3.0/Cu0.5
Solder ability	More than 95% of electrodes should be covered with solder.	1. Dip pads in rosin flux. 2. Pre-Heating: 150℃,1min. 3. Dip in solder pot(Sn/Ag3.0/Cu0.5). 4. Solder Temperature: 245±5℃ 5. Immersion Time: 5±1 sec
Commponent Adhesion (Push Test)	The terminal electrode and the ferrite must not be damaged.	1. The device should be reflow soldered on PCB (245±5℃ for 10 seconds). 2. Solder Composition:Sn/Ag3.0/Cu0.5 3. Apply a load 1.2kg to the side of the component.

5.2 Environmental Performance Test

Item	Specification	Test Condition
Temperature Cycle	Appearance: No Damage Characteristics: Meet the spec	Preconditioning: Run through IR reflow for 2 times (245±5℃ For 10 seconds). Step / Temperature (℃) / Time (min): 1 / -40±3 / 30 2 / Room Temp / 3 3 / 125±3 / 30 4 / Room Temp / 3 Condition of 1 cycle Total:5 cycles Measured after recovery under the Room condition for 48±2hrs.
Low Temperature Resistance		Temperature: -40±3℃ Time: 1000hrs Measured after recovery under the Room condition for 48±2hrs.
High Temperature & Humidity Load Life		Preconditioning: The device should be reflow soldered on PCB for 2 times (245±5℃ For 10 seconds).

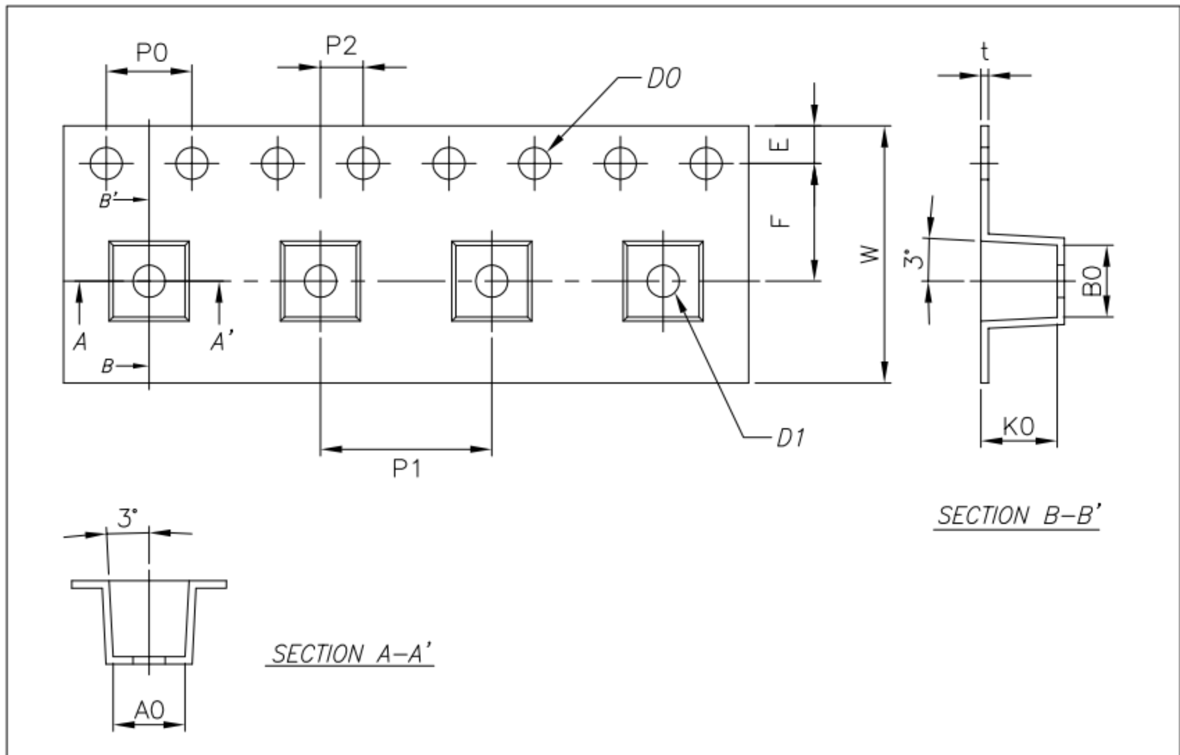
		Temperature: 85±3℃ Relative Humidity: 90~95% Applied Current: 8mA Time: 1000hrs Measured after recovery under the Room condition for 48±2hrs.

6. Recommended Reflow Profile



7. Packaging Information

7.1 Tape Dimensions

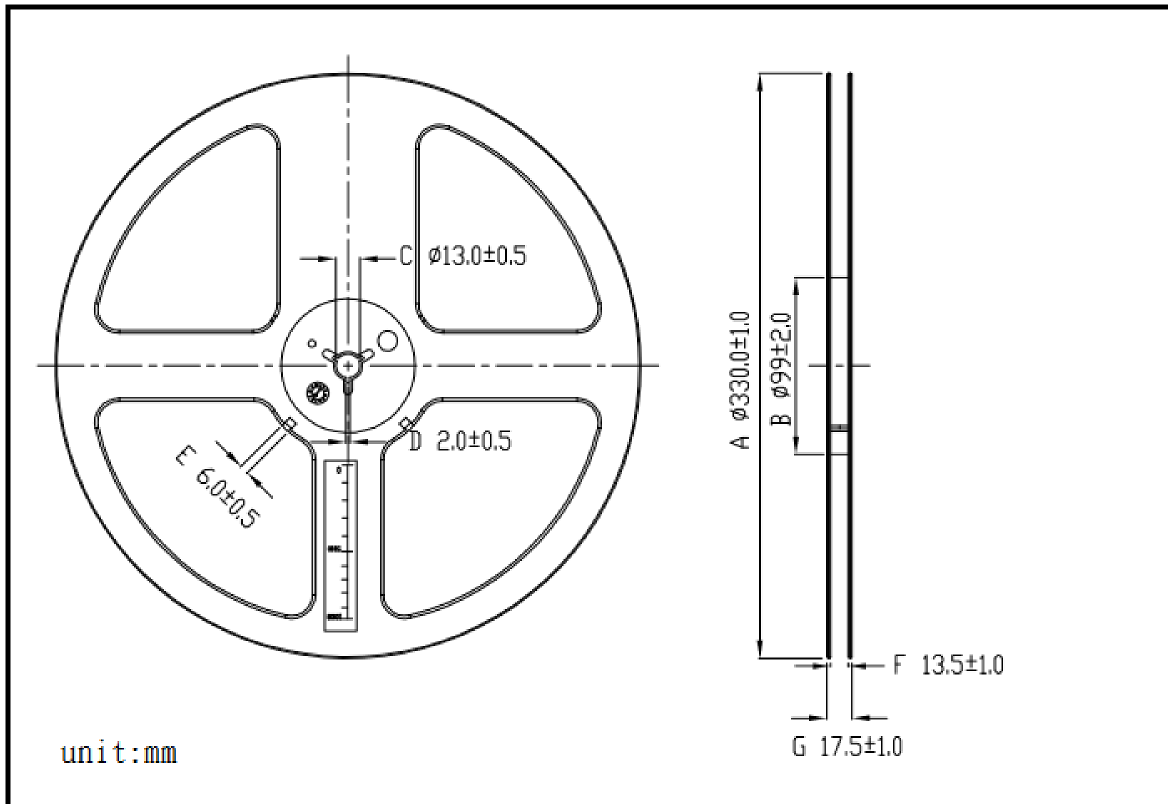


Unit:mm

Series	W	E	F	D0	D1	P0	P1	P2
SPT33	12 ±0.30	1.75 ±0.10	5.50 ±0.05	1.50 +0.10,-0	1.50 ±0.10	4.00 ±0.10	8.0 ±0.10	2.0 ±0.05

Series	t	A0	B0	K0
SPT33	0.35 ±0.05	3.2 ±0.10	3.2 ±0.10	3.85 ±0.10

7.2 Reel Dimensions



7.3 Packaging Quantity

Series	PCS/Reel	PCS/Inner Box	PCS/Outer Box
SPT33	2,000	6,000	30,000

8. Revision History

Issue Date	Revision	Comments	Operator
2018/7/12	A	Initial Release	Dino
2018/11/07	A1	新增 Layout keepout area	Ruby
2018/12/27	B	補充料號代碼 A=350 mA,修訂layout圖	Dino
2019/9/19	B1	包裝帶K0尺寸3.7±0.10 變更為→3.85±0.10	Dino
2019/11/4	C	Update Measuring Circuit & Recommended PC Board Pattern & Tape Dimensions	Faith
2021/11/11	D	Update Measuring Circuit & Electrical Characteristics & Packaging Quantity.	Max