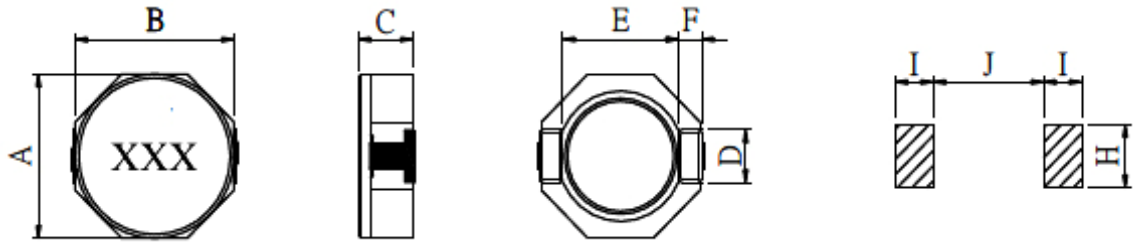
1. External Dimensions (Unit:m/m)



Type	A	B	C	D	E	F	H	I	J	Q'TY/Reel
APD08845	8.3Max	9.3Max	4.5Max	2.5Ref	6.3Ref	1.2Ref	2.8Ref	2.0Ref	6.1Ref	1000

2. Part Number Code

APD	08	8	45	M	100
A	B	C	D	E	F

A:	Series Name	Power Inductors
B:	Dimensions(mm)	08：8.3x9.3 Max
C:	Materials	8=8type
D:	Thickness(mm)	45：4.5 Max
E:	Tolerance	M：±20%
F:	Inductance	100=10uH

3. Electrical Characteristics

Part Number	Inductance (uH)	Test Frequency (KHz)	DC Resistance (mΩ)Max.	Rated DC Current (A)Max.
APD08845M100	10.0	100KHz/0.25V	57.0	3.1

Notes:

a. All test data is referenced to 25℃ ambient.

b. Operating Temperature Range-40℃ to +125℃.

c. DC current(A) that will cause an approximate△T of 40℃.

d. DC current(A) that will cause Lo to drop approximately 35%.

e. The part temperature(ambient + temp rise)should not exceed 125℃ under worst case operating conditions. Circuit design,component placement, PWB trace size and thickness,airflow and other cooling provisions all affect the part temperature，Part temperature should be verified in the end application.

4. Test Data

ELECTRICAL CHARCTERISTIC				MECHANICAL DIMENSIONS				
SPEC / TOL	L(uH)	DCR(mΩ)	IDC(uH)	A(mm)	B(mm)	C(mm)	D(mm)	
	10.0	57.0	3.1A	8.3	9.3	4.5	2.5	
NO	±20%	Max	(L0A-L3.1A) /L0A≤35%	Max	Max	Max	Ref	
1	8.93	33.2	8.16	8.03	9.06	4.23	OK	
2	8.96	33.1	8.15	8.05	9.05	4.25	OK	
3	8.99	32.6	8.14	8.02	9.07	4.22	OK	
4	9.02	32.9	8.12	8.04	9.08	4.26	OK	
5	9.03	32.8	8.13	8.03	9.02	4.24	OK	
6	8.99	33.6	8.15	8.01	9.06	4.23	OK	
7	9.04	33.2	8.14	8.06	9.04	4.24	OK	
8	8.97	32.8	8.10	8.05	9.08	4.22	OK	
9	9.03	32.5	8.09	8.02	9.09	4.25	OK	
10	9.13	33.6	8.13	8.04	9.07	4.24	OK	
Test Equipmets: IM3536,VR126,VR7210,Calipers								

5. Test and Measurement Procedures

5.1 Test Conditions

5.1.1 Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

a. Ambient Temperature: 20±15℃
b. Relative Humidity: 65%±20%
c. Air Pressure: 86KPa to 106KPa

5.1.2 If any doubt on the results, measurements/tests should be made within the following limits:

a. Ambient Temperature: 20±2℃
b. Relative Humidity: 65%±5%
c. Air Pressure: 86KPa to 106Kpa

5.2 Visual Examination

a. Inspection Equipment: 10X magnifier

5.3 Electrical Test

5.3.1 Inductance (L)

a. Refer to Appendix A.
b. Test equipment: IM3536 LCR meter or equivalent.
c. Test Frequency and Voltage: refers to Appendix A

5.3.2 Direct Current Resistance (DCR)

a. Refer to Appendix A
b. Test equipment: VR126 or equivalent.

5.3.3 Rated Current

a. Refer to Appendix A .
b. Test equipment (see Fig.5.3.3-1): Electric Power, Electric current meter, Thermometer.

c. Measurement method (see Fig. 5.3.3-1):

1. Set test current to be 0 mA.
2. Measure initial temperature of chip surface.
3. Gradually increase voltage and measure chip temperature for corresponding current.

d. Definition of Rated Current (Ir): Ir is direct electric current as chip surface temperature rose just 20℃ against chip initial surface temperature (Ta) (see Fig. 5.3.3-2).

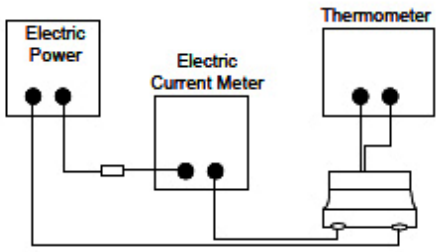


Fig.5.3.3-1

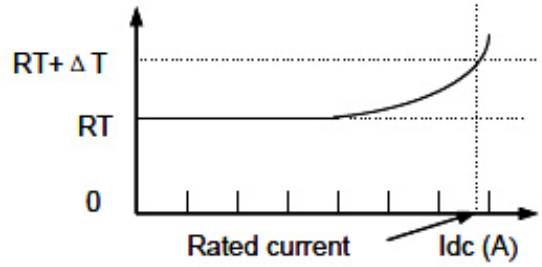
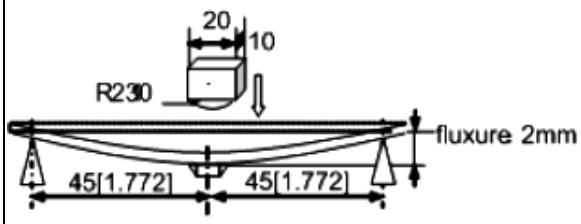
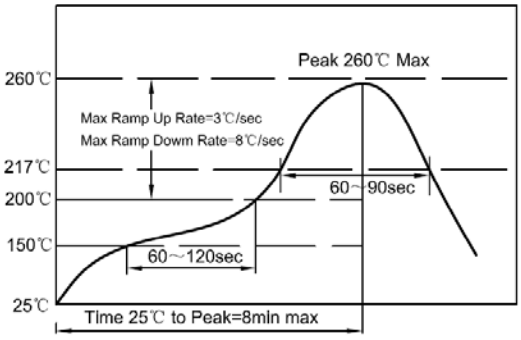
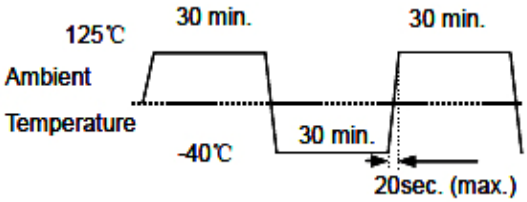


Fig.5.3.3-2

5.4 Reliability Test

Items	Requirements	Test Methods and Remarks
5.4.1 Terminal Strength	No removal or split of the termination or other defects shall occur.	Reflow 2 times,17.7N,60(+1)s
5.4.2 Resistance to Flexure	No visible mechanical damage.  Fig.5.4.2-1.	① Solder the chip to the test jig (glass epoxy board) using eutectic solder. Then apply a force in the direction shown as Fig.5.4.2-1. ② Flexure: 2mm ③ Pressurizing Speed: 0.5mm/sec ④ Keep time: 30±1s ⑤ Test board size: 100X40X1.0 ⑥ Land dimension:
5.4.3 Vibration	① No visible mechanical damage. ② Inductance change: Within ±10%	①Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder. ②Thechip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, 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 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3mutually perpendicular directions (total of 6 hours).
5.4.4 Temperature coefficient	Inductance change: Within ±20%	①Temperature: -40℃~+125℃ ②With a reference value of +20℃, change rate shall be calculated

Items	Requirements	Test Methods and Remarks
5.4.5 Solderability	90% or more of electrode area shall be Coated by new solder.	①The test samples shall be dipped in flux, and then immersed in molten solder. ②Solder temperature: 245±5℃ ③Duration: 5±1 sec. ④Solder: Sn/3.0Ag/0.5Cu ⑤Flux: 25% resin and 75% ethanol in weight ⑥Immersion depth: all sides of mounting terminal shall be immersed
5.4.6 Resistance to Soldering Heat	①No visible mechanical damage. ②Inductance change: Within ±10%	①Re-flowing Profile: Please refer to Fig. 5.4.6-1 ②Test board thickness: 1.0mm ③Test board material: glass epoxy resin ④The chip shall be stabilized at normal condition for 1~2hours before measuring  Fig. 5.4.6-1
5.4.7 Thermal Shock	① No visible mechanical damage. ②Inductance change: Within ±10% 	①Temperature and time: -40±3℃ for 30±3 min→125℃ for 30±3min ②Transforming interval: Max. 20 sec ③Tested cycle: 10 cycles ④The chip shall be stabilized at normal condition for 1~2 hours before measuring
5.4.8 Resistance to Low Temperature	①No mechanical damage. ②Inductance change: Within ±10%	①Temperature: -40±3℃ ②Duration: 1000±24 hours ③The chip shall be stabilized at normal condition for 1~2 hours before measuring
5.4.9 Resistance to High Temperature	①No mechanical damage. ②Inductance change: Within ±10%	①Temperature: 125±2℃ ②Duration: 1000±24 hours ③The chip shall be stabilized at normal condition for 1~2 hours before measuring.
5.4.10 Damp Heat	①No mechanical damage. ②Inductance change: Within ±10%	①Temperature: 85±2℃ ②Humidity: 80% to 85%RH ③Duration: 1000±24 hours ④The chip shall be stabilized at normal condition for 1~2 hours before measuring
5.4.11 Loading Under Damp Heat	①No mechanical damage. ②Inductance change: Within ±10%	①Temperature: 85±2℃ ②Humidity: 80% to 85% RH ③Applied current: Irms ④Duration: 1000±24 hours ⑤The chip shall be stabilized at normal condition for 1~2 hours before measuring

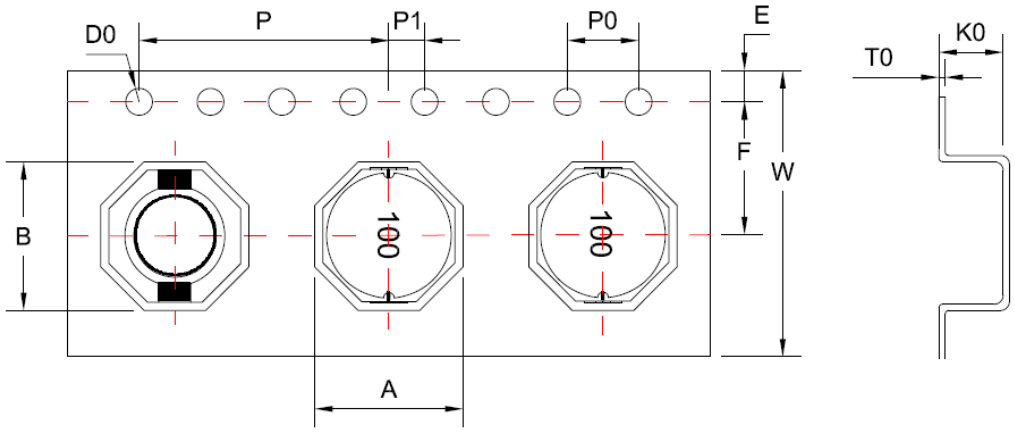
Items	Requirements	Test Methods and Remarks
5.4.12 Loading at High Temperature	①No mechanical damage. ②Inductance change: Within ±10%	①Temperature: 85±2℃ ②Applied current: Irms ③Duration: 1000±24 hours ④The chip shall be stabilized at normal condition for 1~2 hours before measuring

6. Packaging, Storage

6.1 Tape and Reel Packaging Dimensions

6.1 .1 Taping Dimensions (Unit: mm)

Please refer to Fig. 6.1.1-1



6.1.1-1

TYPE	A	B	W	E	F	P	P0	P1	D0	T	K0
APD08845	8.5±0.2	10.0±0.2	16.0±0.3	1.75±0.1	7.5±0.1	12.0±0.1	4.0±0.1	2.0±0.1	1.5±0.1	0.4±0.1	4.8±0.1

6.1.2 Reel Dimensions (Unit: mm)

Please refer to Fig. 6.1.2-1.

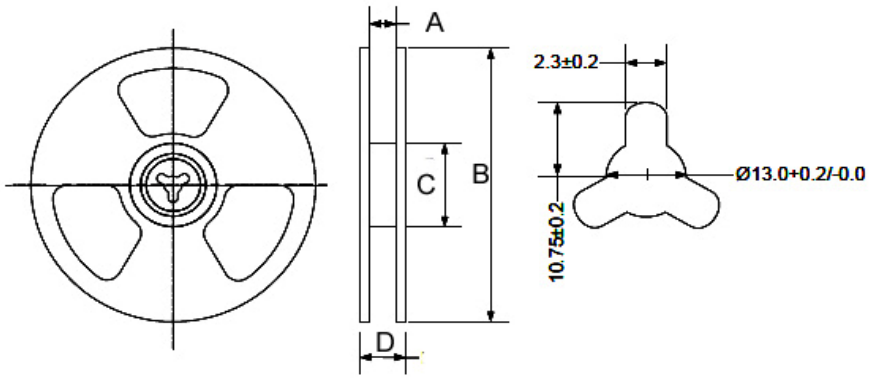


Fig. 6.1.2-1.

TYPE	A	B	C	D
APD08845	16.5±2.0	330.0±2.0	100.0±2.0	20.5±2.0

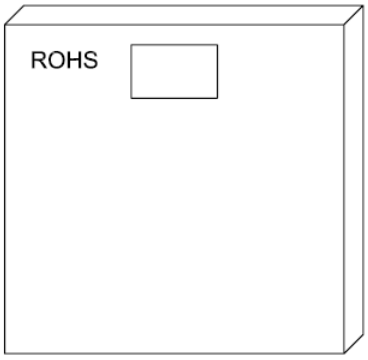
6.2 Packaging

6.2.1 The inner box specification: 350*340*40MM

Packing quantity: 2000PCS/ box

Bubble bag：37*45CM

Job description: putting the air bubble bag products placed inside the box, sealed with scotch tape.



6.2.2 The outside box specification: 370*360*255MM

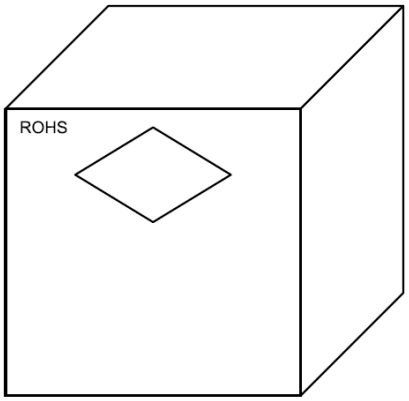
Packing quantity: 10000PCS/ box.

Job description: will be outside the box bottom sealed, inner box into the box.

a. With transparent tape sealed box at the top.

b. The specified location with a box labels in the outer box.

c. If the mantissa box under a FCL with inner box or filling full.



6.3 Storage

a.To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled.

b. Recommended conditions: -10℃~40℃, 70%RH (Max.)

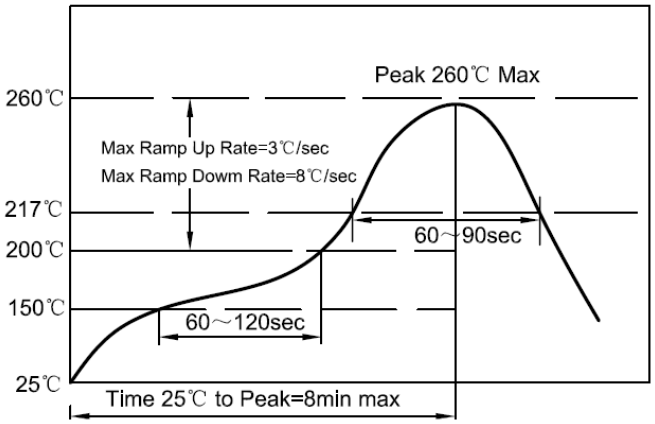
c.The ambient temperature must be kept below 30℃.Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, product should be used with one year from the time of delivery.

d. In case of storage over 6 months, solderability shall be checked before actual usage.

7. Recommended Soldering Technologies

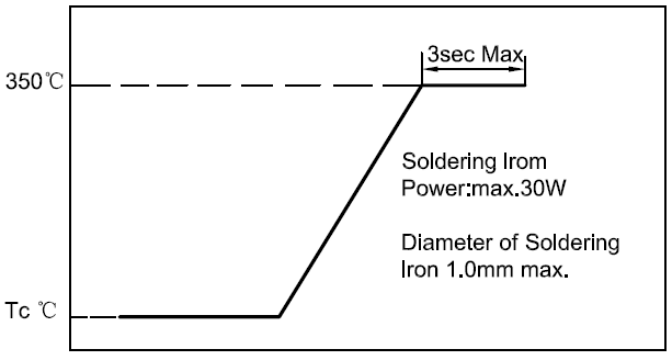
7.1 Re-flowing Profile:

△ 1~2 ℃/sec. Ramp
△ Pre-heating: 150~190℃/90±30 sec.
△ Time above 240℃: 20~40sec
△ Peak temperature: 255℃ Max./5sec;
△ Solder paste: Sn/3.0Ag/0.5Cu
△ Max.2 times for Re-flowing



7.2 Iron Soldering Profile:

△ Iron soldering power: Max.30W
△ Pre-heating: 150℃/60sec.
△ Soldering Tip temperature: 350℃Max.
△ Soldering time: 3sec Max.
△ Solder paste: Sn/3.0Ag/0.5Cu
△ Max.1 times for iron soldering
[Note: Take care not to apply the tip of the soldering iron to the]



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