

### Feature

1. High current and inductance capacity.
2. Specially designed for surface mounting equipment, good for high density application.
3. Low profile very effective in space-conscious applications.
4. Low resistance and high-energy storage.

### Application

Power supply for VTR, OA equipment, LCD TV,  
Notebook PC, DC/DC Converter, DC/AC Inverter.

### Product Identification

<u>ALDB</u>	<u>1305</u>	<u>2R2</u>	<u>M</u>
A	B	C	D

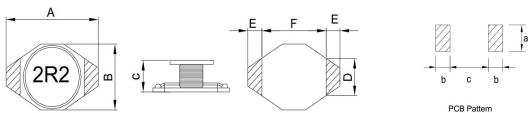
A: Product code

B: Dimensions: L x H

C: Inductance. ( for example 2R2= 2.2uH )

D: Inductance Tolerance. ( for example M:±20%,N:±30% )

## SMD Power Inductors-ALDB Series

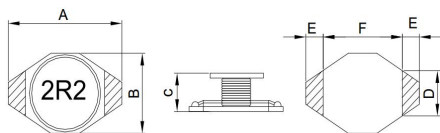


P/N	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	a (mm)	b (mm)	c (mm)
ALDB0603	6.6 Max.	4.45 Max.	2.92 Max.	1.27 ± 0.2	1.02 ± 0.2	4.32 ± 0.3	3.56	1.40	4.06
ALDB1305	13.0 ± 0.2	10.0 ± 0.2	5.0 ± 0.3	2.2 ± 0.2	2.4 ± 0.2	7.6 ± 0.3	2.80	3.00	7.30
ALDB1311	13.0 ± 0.2	10.0 ± 0.2	11.0 ± 0.5	2.2 ± 0.2	2.4 ± 0.2	7.6 ± 0.3	2.80	3.00	7.30
ALDB1807	18.6 ± 0.3	15.0 ± 0.3	7.0 ± 0.5	2.2 ± 0.2	2.4 ± 0.2	13.3 ± 0.3	2.80	3.00	12.70

P/N	Characteristic Range (μH) 100KHz 1.0V				I-sat (Amps)	I-rms (Amps)	DCR (mΩ)
	10	100	500	1000			
ALDB0603	1			1000	0.1~2.9	0.07~2.9	50~13800
ALDB1305	1			1000	0.3~9	0.3~6.8	9~3000
ALDB1311	10			1000	0.7~7	0.5~3.5	40~2000
ALDB1807	1			1000	1~20	0.56~8.6	9~1300

### 1. Mechanical & Dimensions

(UNIT: mm)



A	6.6 Max.
B	4.45 Max.
C	2.92 Max.
D	1.27 ± 0.2
E	1.02 ± 0.2
F	4.32 ± 0.3
a	3.56
b	1.4
C	4.06

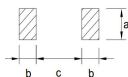
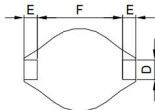
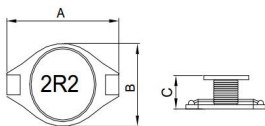
### 2. Electrical characteristics

Part Number	L (uH) 100KHZ/0.1V	DCR (mΩ) MAX	I-rms (A) ΔT ≤ 40°C	I-sat (A) ≥80%L0
ALDB0603-1R0M	1.0 ± 20%	50.0	2.90	2.90
ALDB0603-1R5M	1.5 ± 20%	50.0	2.80	2.60
ALDB0603-2R2M	2.2 ± 20%	70.0	2.40	2.30
ALDB0603-3R3M	3.3 ± 20%	80.0	2.00	2.00
ALDB0603-4R7M	4.7 ± 20%	90.0	1.50	1.50
ALDB0603-6R8M	6.8 ± 20%	130.0	1.40	1.20
ALDB0603-100M	10.0 ± 20%	160.0	1.10	1.10
ALDB0603-150M	15.0 ± 20%	230.0	1.00	0.90
ALDB0603-220M	22.0 ± 20%	270.0	0.80	0.70
ALDB0603-330M	33.0 ± 20%	510.0	0.60	0.58
ALDB0603-470M	47.0 ± 20%	640.0	0.50	0.50
ALDB0603-680M	68.0 ± 20%	860.0	0.40	0.50
ALDB0603-101M	100.0 ± 20%	1270.0	0.30	0.31
ALDB0603-151M	150.0 ± 20%	2000.0	0.25	0.27
ALDB0603-221M	220.0 ± 20%	3110.0	0.20	0.22
ALDB0603-331M	330.0 ± 20%	3800.0	0.16	0.18
ALDB0603-471M	470.0 ± 20%	5060.0	0.15	0.16
ALDB0603-681M	680.0 ± 20%	9200.0	0.12	0.14
ALDB0603-102M	1000.0 ± 20%	13800.0	0.07	0.10

### 3. Operating -40°C ~ +125°C ( Including self-temperature rise)

### 1. Mechanical & Dimensions

(UNIT: mm)



PCB Pattern

<b>A</b>	<b>13.0 ± 0.2</b>
<b>B</b>	<b>10.0 ± 0.2</b>
<b>C</b>	<b>5.0 ± 0.3</b>
<b>D</b>	<b>2.2 ± 0.2</b>
<b>E</b>	<b>2.4 ± 0.2</b>
<b>F</b>	<b>7.6 ± 0.3</b>
<b>a</b>	<b>2.8</b>
<b>b</b>	<b>3</b>
<b>C</b>	<b>7.3</b>

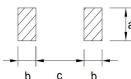
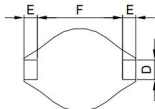
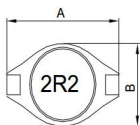
### 2. Electrical characteristics

Part Number	L(uH)	DCR (mΩ)	I-rms (A)	I-sat (A)
	100KHZ/0.1V	MAX	ΔT ≤ 40℃	≥80%L0
ALDB1305-1R0M	1.0 ± 20%	9.0	6.80	9.00
ALDB1305-1R5M	1.5 ± 20%	10.0	6.40	8.00
ALDB1305-2R2M	2.2 ± 20%	12.0	6.10	7.00
ALDB1305-3R3M	3.3 ± 20%	15.0	5.40	5.80
ALDB1305-4R7M	4.7 ± 20%	18.0	4.80	5.20
ALDB1305-6R8M	6.8 ± 20%	27.0	4.40	4.30
ALDB1305-100M	10.0 ± 20%	38.0	3.90	3.40
ALDB1305-150M	15.0 ± 20%	46.0	3.10	3.00
ALDB1305-220M	22.0 ± 20%	85.0	2.70	2.50
ALDB1305-330M	33.0 ± 20%	100.0	2.10	2.00
ALDB1305-470M	47.0 ± 20%	140.0	1.80	1.80
ALDB1305-680M	68.0 ± 20%	200.0	1.50	1.40
ALDB1305-101M	100.0 ± 20%	280.0	1.30	1.10
ALDB1305-151M	150.0 ± 20%	400.0	1.00	0.90
ALDB1305-221M	220.0 ± 20%	610.0	0.80	0.80
ALDB1305-331M	330.0 ± 20%	1020.0	0.60	0.60
ALDB1305-471M	470.0 ± 20%	1270.0	0.50	0.50
ALDB1305-681M	680.0 ± 20%	2020.0	0.40	0.40
ALDB1305-102M	1000.0 ± 20%	3000.0	0.30	0.30

### 3. Operating -40℃ ~ +125℃ ( Including self-temperature rise)

### 1. Mechanical & Dimensions

(UNIT: mm)



PCB Pattern

<b>A</b>	<b>13.0 ± 0.2</b>
<b>B</b>	<b>10.0 ± 0.2</b>
<b>C</b>	<b>11.0 ± 0.5</b>
<b>D</b>	<b>2.2 ± 0.2</b>
<b>E</b>	<b>2.4 ± 0.2</b>
<b>F</b>	<b>7.6 ± 0.3</b>
<b>a</b>	<b>2.8</b>
<b>b</b>	<b>3</b>
<b>C</b>	<b>7.3</b>

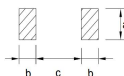
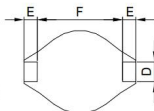
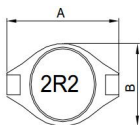
### 2. Electrical characteristics

Part Number	L(uH)	DCR (mΩ)	I-rms (A)	I-sat (A)
	100KHZ/0.1V	MAX	ΔT ≤ 40℃	≥80%L0
ALDB1311-100M	10.0 ± 20%	40.0	3.50	7.00
ALDB1311-150M	15.0 ± 20%	50.0	3.20	5.80
ALDB1311-220M	22.0 ± 20%	66.0	2.90	4.80
ALDB1311-330M	33.0 ± 20%	80.0	2.35	3.80
ALDB1311-470M	47.0 ± 20%	110.0	2.10	3.40
ALDB1311-680M	68.0 ± 20%	170.0	1.90	2.70
ALDB1311-101M	100.0 ± 20%	220.0	1.55	2.20
ALDB1311-151M	150.0 ± 20%	340.0	1.35	1.90
ALDB1311-221M	220.0 ± 20%	440.0	1.00	1.50
ALDB1311-331M	330.0 ± 20%	700.0	0.90	1.30
ALDB1311-471M	470.0 ± 20%	950.0	0.75	1.00
ALDB1311-681M	680.0 ± 20%	1200.0	0.55	0.90
ALDB1311-102M	1000.0 ± 20%	2000.0	0.50	0.70

### 3. Operating -40℃ ~ +125℃ ( Including self-temperature rise)

### 1. Mechanical & Dimensions

(UNIT: mm)



PCB Pattern

<b>A</b>	<b>18.6 ± 0.3</b>
<b>B</b>	<b>15.0 ± 0.3</b>
<b>C</b>	<b>7.0 ± 0.5</b>
<b>D</b>	<b>2.2 ± 0.2</b>
<b>E</b>	<b>2.4 ± 0.2</b>
<b>F</b>	<b>13.3 ± 0.3</b>
<b>a</b>	<b>2.8</b>
<b>b</b>	<b>3</b>
<b>C</b>	<b>12.7</b>

### 2. Electrical characteristics

Part Number	L(uH)	DCR (mΩ)	I-rms (A)	I-sat (A)
	100KHZ/0.1V	MAX	ΔT ≤ 40℃	≥80%L0
ALDB1807-1R0M	1.0 ± 20%	9.0	8.60	20.00
ALDB1807-1R5M	1.5 ± 20%	12.0	7.50	18.00
ALDB1807-2R2M	2.2 ± 20%	14.0	7.10	16.00
ALDB1807-3R3M	3.3 ± 20%	18.0	6.20	14.00
ALDB1807-5R6M	5.6 ± 20%	20.0	5.30	12.00
ALDB1807-100M	10.0 ± 20%	31.0	4.30	10.00
ALDB1807-150M	15.0 ± 20%	36.0	4.00	8.00
ALDB1807-220M	22.0 ± 20%	47.0	3.50	7.00
ALDB1807-330M	33.0 ± 20%	66.0	3.00	5.50
ALDB1807-470M	47.0 ± 20%	86.0	2.60	4.50
ALDB1807-680M	68.0 ± 20%	130.0	2.30	3.50
ALDB1807-101M	100.0 ± 20%	190.0	1.80	3.00
ALDB1807-151M	150.0 ± 20%	250.0	1.50	2.60
ALDB1807-221M	220.0 ± 20%	380.0	1.20	2.40
ALDB1807-331M	330.0 ± 20%	560.0	1.00	1.90
ALDB1807-471M	470.0 ± 20%	850.0	0.82	1.40
ALDB1807-681M	680.0 ± 20%	1100.0	0.72	1.20
ALDB1807-102M	1000.0 ± 20%	1300.0	0.56	1.00

### 3. Operating -40℃ ~ +125℃ ( Including self-temperature rise)

### 4. Reliability and Testing Conditions / Pin Type Power Inductors

Item	Specification	Conditions															
Operating temperature range	-40°C ~ +125°C ( Including self-temperature rise)																
Storage temperature and humidity range	-40°C ~ +125°C , 70% RH Max																
Solderability	More than 90% of the terminal electrode should be covered with solder.	<p>Unit: Second</p>															
Solder Heat Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	<p>Unit: Second</p>															
Heat resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in 85±5°C and 2 hour drying under normal condition.															
Cold resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in -40±5°C and 2 hour drying under normal condition.															
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 100 cycles of following condition. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Times (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±5°C</td> <td>30</td> </tr> <tr> <td>2</td> <td>Room Temperature</td> <td>Within 3</td> </tr> <tr> <td>3</td> <td>85±5°C</td> <td>30</td> </tr> <tr> <td>4</td> <td>Room Temperature</td> <td>Within 3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Times (min.)	1	-40±5°C	30	2	Room Temperature	Within 3	3	85±5°C	30	4	Room Temperature	Within 3
Step	Temperature (°C)	Times (min.)															
1	-40±5°C	30															
2	Room Temperature	Within 3															
3	85±5°C	30															
4	Room Temperature	Within 3															
Humidity Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in 40±2°C and 90 to 95% humidity , and 2 hour drying under normal condition.															
Vibration Test	Inductance within ±5% of initial value and appearance shall not break.	After vibration for 1hour, In each of three orientations at sweep vibration (10-55-10Hz) with 1.52mm P-P Amplitudes.															
Terminal strength	The terminal electrode and the ferrite must not be damaged	Solder a chip to test substrate, and then laterally apply a load 10N in the arrow direction, Duration : 5s															

### 5.Recommended Soldering Conditions

Figure 1. Re-flow Soldering

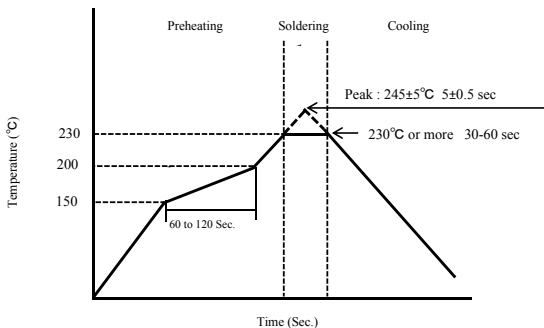


Figure 2. Hand Soldering

