



# Power Inductor ECD1807BF Series Product Specifications

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	1/8

## Power Inductor — ECD1807BF Series



## Parts Number Explanation

Example:

<b>ECD</b>	<b>1807B</b>	<b>F</b>	<b>R47</b>	<b>M</b>	<b>T</b>	<b>W</b>	<b>Z</b>
<b>Product Type</b>	<b>Size (mm)</b>	<b>Application</b>	<b>Inductance (uH)</b>	<b>Tolerance</b>	<b>Package</b>	<b>Internal Code</b>	<b>Optional</b>
Wire-wound Power Inductor	1807		R47 : 0.47uH R68 : 0.68uH	N : ±30% M : ±20% K : ±10%	T : Taping		Z : Default Code



## Power Inductor ECD1807BF Series Product Specifications

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	2/8

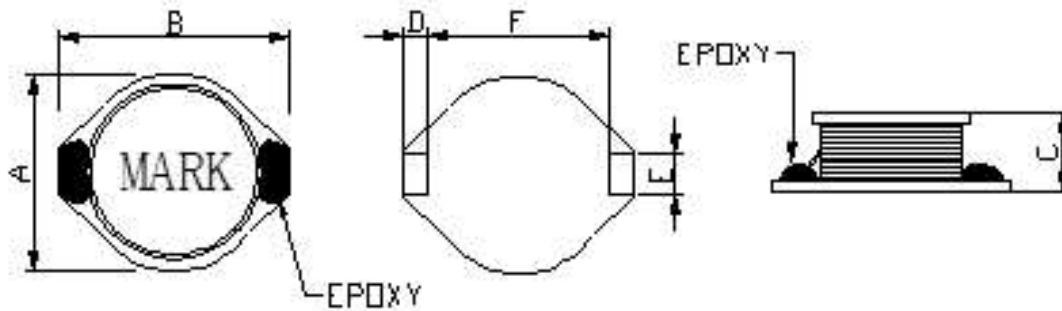
### ■ Standard Electrical Specifications

Part No.	Inductance	DCR (mΩ)		Isat (A)
	L (μH)	MAX	TYP	$\Delta L/L \leq 10\%$
ECD1807BF-1R0M-TWZ	1.0	9mΩ	7	20.0A
ECD1807BF-2R2M-TWZ	2.2	14mΩ	11	16.0A
ECD1807BF-3R3M-TWZ	3.3	15mΩ	12	14.0A
ECD1807BF-4R7M-TWZ	4.7	18mΩ	12.5	13.0A
ECD1807BF-6R8M-TWZ	6.8	22mΩ	18	11.0A
ECD1807BF-7R8M-TWZ	7.8	24mΩ	17	11.0A
ECD1807BF-100M-TWZ	10.0	26mΩ	20	9.6A
ECD1807BF-150M-TWZ	15.0	36mΩ	30	8.0A
ECD1807BF-220M-TWZ	22.0	47mΩ	40	7.0A
ECD1807BF-330M-TWZ	33.0	66mΩ	58	5.5A
ECD1807BF-470M-TWZ	47.0	86mΩ	72	4.5A
ECD1807BF-680M-TWZ	68.0	130mΩ	98	3.5A
ECD1807BF-101M-TWZ	100	190mΩ	140	3.0A
ECD1807BF-151M-TWZ	150	250mΩ	220	2.6A
ECD1807BF-221M-TWZ	220	380mΩ	298	2.4A
ECD1807BF-331M-TWZ	330	560mΩ	425	1.9A
ECD1807BF-471M-TWZ	470	850mΩ	780	1.4A
ECD1807BF-681M-TWZ	680	1.4Ω	0.98Ω	1.2A
ECD1807BF-821M-TWZ	820	1.7Ω	1.26Ω	1.1A
ECD1807BF-102M-TWZ	1000	2.05Ω	1.48Ω	1.0A
ECD1807BF-182M-TWZ	1800	3.4Ω	2.62Ω	0.8A

#### Notes :

1. Test Frequency : 100KHZ/0.25V
2. Tolerance : N: ±30% ; M: ±20%; K: ±10%

## ■ Dimensions



Note : Using Ink for marking

Unit: mm

Type	A	B	C	D	E	F
ECD1807BF	15.5 max.	18.5 max.	7.10 max.	2.54 typ.	2.54 typ.	12.95 typ.

## ■ Marking

- The inductor is marked with a 3-digit code

Nominal Inductance	
Example	Nominal Value
1R0	1.0 $\mu$ H
100	10 $\mu$ H
101	100 $\mu$ H



**Power Inductor ECD1807BF Series  
Product Specifications**

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	4/8

● **Reliability test and requirement**

Mechanical		
Item	Specification and Requirement	Test Method
Substrate bending	$\Delta L/L_0 \leq \pm 5\%$ There shall be no mechanical damage or electrical damage.	<p>The sample shall be soldered onto the printed circuit board in figure 1 and a load applied until the figure in the arrow direction is made approximately 3 mm. (keep time 30 seconds).</p> <p style="text-align: center;">F(Pressurization)</p> <p style="text-align: center;">PRESSURE ROD figure-1</p>
Vibration	$\Delta L/L_0 \leq \pm 5\%$ There shall be no mechanical damage.	<p>The sample shall be soldered onto the printed circuit board and when a vibration having an amplitude of 1.52mm and a frequency of from 10 to 55Hz/1 minute repeated. Should be applied to the 3 directions (X, Y, Z) for 2 hours each. (A total of 6 hours)</p>
Solderability	New solder More than 90%.	<p>Flux (rosin, isopropyl alcohol {JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130~150°C and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2°C.</p> <p>More than 90% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath.</p>



**Power Inductor ECD1807BF Series  
Product Specifications**

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	5/8

Mechanical		
Item	Specification and Requirement	Test Method
Resistance to soldering heat. (reflow soldering)	There shall be no damage or problems.	<p>Temperature profile of reflow soldering</p> <p>The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.</p>
ELECTRICAL		
Item	Specification and Requirement	Test Method
Insulation resistance	There shall be no other damage or problems.	DC 100V voltage shall be applied across this sample of top surface and the terminal. The insulation resistance shall be more than $1 \times 10^8 \Omega$ .
Dielectric withstand voltage	There shall be no other damage or problems.	AC 100V voltage shall be applied for 1minute across set the top surface and the terminal of this sample.
Temperature characteristics	$\Delta L / L 20^\circ C \leq \pm 10\%$ $0 \sim 2000 \text{ ppm}/^\circ C$	The test shall be performed after the sample has stabilized in an ambient temperature of - 40 to + 125°C, and the value calculated based on the value applicable in a normal temperature and normal humidity shall be $\Delta L / L 20^\circ C \leq \pm 10\%$ .



## Power Inductor ECD1807BF Series Product Specifications

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	6/8

### ENVIROMENT CHARACTERISTICS

Item	Specification and Requirement	Test Method															
High temperature storage.	$\Delta L/Lo \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 500 hours in an atmosphere with a temperature of $125 \pm 2^\circ\text{C}$ and a normal humidity. Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.															
Low temperature storage.	$\Delta L/Lo \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 500 hours in an atmosphere with a temperature of $-40 \pm 3^\circ\text{C}$ . Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.															
Change of temperature.	$\Delta L/Lo \leq \pm 5\%$ There shall be no other damage of problems.	The sample shall be subject to 5 continuous cycles, such as shown in the table 2 below and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made.  <div style="text-align: center;">Table 2</div> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 20%;">Temperature</th> <th style="width: 75%;">Duration</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;"><math>-40 \pm 3^\circ\text{C}</math> (Thermostat No.1)</td> <td style="text-align: center;">10 min.</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Standard atmospheric</td> <td style="text-align: center;">5 sec. or less No.1→No.2</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;"><math>125 \pm 2^\circ\text{C}</math> (Thermostat No.2)</td> <td style="text-align: center;">30 min.</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Standard atmospheric</td> <td style="text-align: center;">5 sec. or less No.2→No.1</td> </tr> </tbody> </table>		Temperature	Duration	1	$-40 \pm 3^\circ\text{C}$ (Thermostat No.1)	10 min.	2	Standard atmospheric	5 sec. or less No.1→No.2	3	$125 \pm 2^\circ\text{C}$ (Thermostat No.2)	30 min.	4	Standard atmospheric	5 sec. or less No.2→No.1
	Temperature	Duration															
1	$-40 \pm 3^\circ\text{C}$ (Thermostat No.1)	10 min.															
2	Standard atmospheric	5 sec. or less No.1→No.2															
3	$125 \pm 2^\circ\text{C}$ (Thermostat No.2)	30 min.															
4	Standard atmospheric	5 sec. or less No.2→No.1															
Moisture storage.	$\Delta L/Lo \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 500 hours in a temperature of $40 \pm 2^\circ\text{C}$ and a humidity(RH) of 90~95%.  Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 1 hour.															

Test conditions :

The sample shall be reflow soldered onto the printed circuit board in every test.

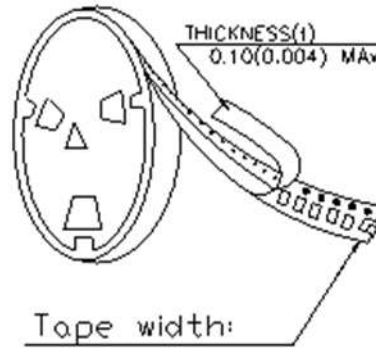
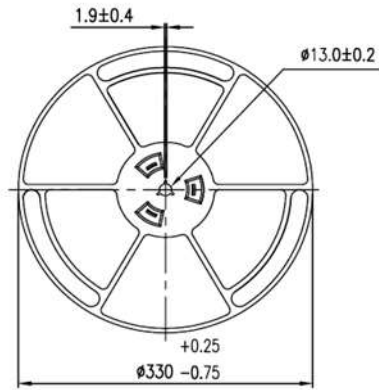




**Power Inductor ECD1807BF Series  
Product Specifications**

Document No.	S-10-12-127-01
Revision Date	2022/ 08 / 04
Page No.	8/8

**(3) REEL DIMENSIONS (Unit : mm)**



**Tape Width : 32mm**

**(4) Quantity (PCS)**

**400 pcs / Reel**