

Inductors for Power Circuits

Wound/STD • magnetic shielded

RLF series

Type: RLF7030 (7.3x6.8 mm)
 RLF12545 (12.5x12.8 mm)
 RLF12560 (12.5x12.8 mm)

Issue date: September 2011

- All specifications are subject to change without notice.
 - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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Conformity to RoHS Directive

RLF Series RLF7030

FEATURES

- Low profile design
Mount area: 7.3×6.8mm
Height: 3.2mm max.
- Be similar series to SLF7032, but this is design exercising low loss and large current characteristic. In comparison with SLF7032, be DC resistance component 80% and rating DC current 2.5 times.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Available for automatic mounting in tape and reel package.
- The products do not contain lead and support lead-free soldering.
- It is a product conforming to RoHS directive.

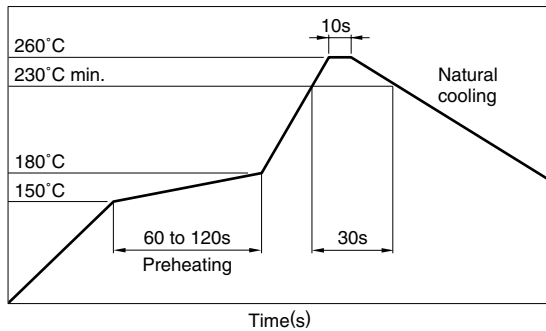
APPLICATIONS

Notebook type and mobile computers, amusement equipment, VRMs, automotive equipment, etc.

SPECIFICATIONS

Operating temperature range	-40 to +85°C [Including self-temperature rise]
Storage temperature range	-40 to +125°C[Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

RLF	7030	T	1R0	N	6R4
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

7030	7.3x6.8x3.2 (L×W×T)
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(3) Packaging style

T	Taping(reel)
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(4) Inductance value

1R0	1μH
6R8	6.8μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

6R4	6.4A
2R8	2.8A

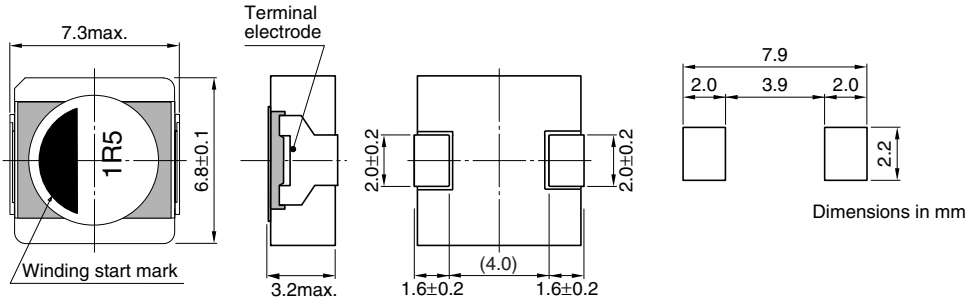
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	1000 pieces/reel

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SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



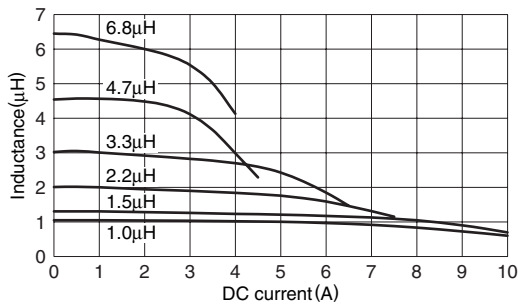
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Test frequency L (kHz)	DC resistance (mΩ)	Rated current(A)*max.		Part No.
				Based on inductance change	Based on temperature rise	
1	±30%	100	8.8 max.(7.3 typ.)	7.9	6.4	RLF7030T-1R0N6R4
1.5	±30%	100	9.6 max.(8.0 typ.)	6.5	6.1	RLF7030T-1R5N6R1
2.2	±20%	100	12 max. (10 typ.)	5.5	5.4	RLF7030T-2R2M5R4
3.3	±20%	100	20 max. (17.4 typ.)	4.4	4.1	RLF7030T-3R3M4R1
4.7	±20%	100	31 max. (26 typ.)	3.5	3.4	RLF7030T-4R7M3R4
6.8	±20%	100	45 max. (37.3 typ.)	3.0	2.8	RLF7030T-6R8M2R8

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



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RLF Series RLF12545

This inductor is designed for power circuits that require a low profile, low inductance, and large current, such as those used in notebook PCs. It measures L12.5×W12.8×T4.5mm, about 40% lower in profile than our existing products (the SLF12575 type).

FEATURES

- With the height at only 4.5mm, and retaining the DC current superimposition characteristic, this inductor reduces DC resistance 20 to 50% lower than our existing products (the SLF12575 type).
- Structural efficiency allows for both a lower profile than, and electrical features equivalent to, our existing devices.
- The low profile makes the inductor particularly optimal for power circuit applications requiring low voltages and large current.
- Completely lead free for both inside of products and terminal electrodes.

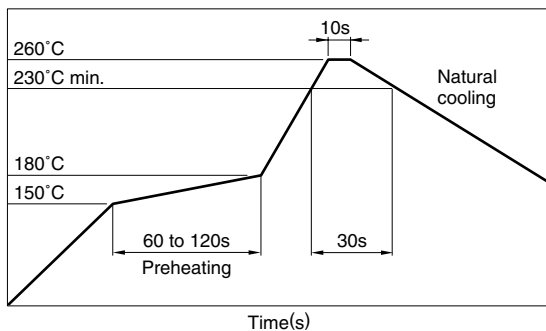
APPLICATIONS

- Choke coils in power circuit of note book computers, LCD, DVD, STB, PDP, amusement equipment, etc.

SPECIFICATIONS

Operating temperature range	-20 to +105°C [Including self-temperature rise]
Storage temperature range	-40 to +105°C [Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

RLF	12545	T	2R7	N	8R7	- PF
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions

12545	12.5×12.8×4.5mm (L×W×T)
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(3) Packaging style

T	Taping (reel)
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(4) Inductance value

2R7	2.7μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

8R7	8.7A
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(7) Lead-free compatible product

PF	Lead-free compatible product
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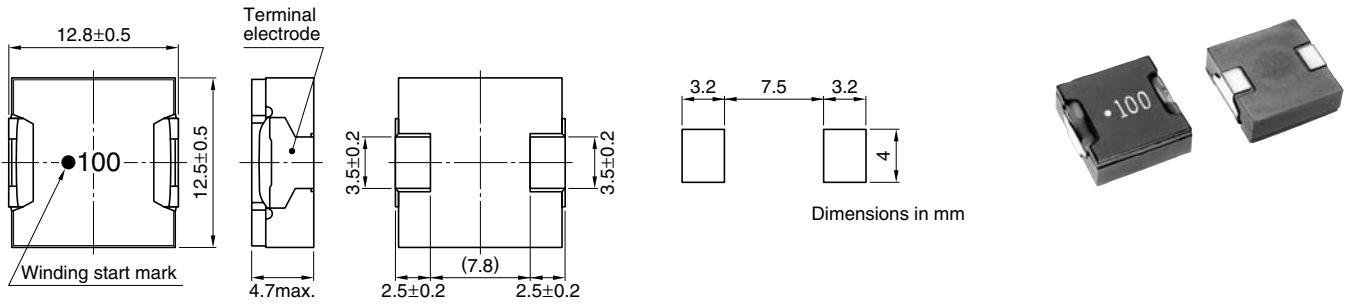
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	500 pieces/reel

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SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



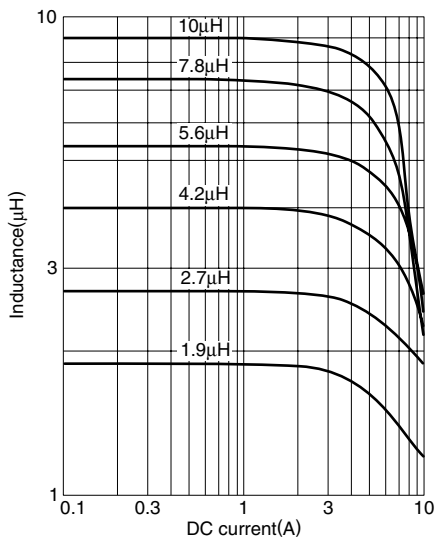
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Test frequency L (kHz)	DC resistance ($\text{m}\Omega$) $\pm 20\%$	Rated current(A)*max.		Part No.
				Based on inductance change	Based on temperature rise	
1.9	$\pm 30\%$	100	3.6	13	10.5	RLF12545T-1R9N100-PF
2.7	$\pm 30\%$	100	4.5	12	8.7	RLF12545T-2R7N8R7-PF
4.2	$\pm 30\%$	100	7.4	9.5	6.5	RLF12545T-4R2N6R5-PF
5.6	$\pm 30\%$	100	8.5	8	6.1	RLF12545T-5R6N6R1-PF
7.8	$\pm 30\%$	100	10.2	7	5.4	RLF12545T-7R8N5R4-PF
10	$\pm 20\%$	100	12.4	6	5.1	RLF12545T-100M5R1-PF

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 50%, whichever is smaller.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



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RLF Series RLF12560

Accompanying large current power supplies, these inductors have secured efficient characteristics by improving its magnetic circuit based on existing products. These products meet resistance reducing and current enlargement.

FEATURES

- Comparing with existing products(RLF12545), DC current superimposition characteristic has improved. Especially, inductance rises about 10% in spite of high temperature at 100°C. In addition, inductance has risen about 30% at normal temperature.
- Using flat-square wire for winding, that is rising space factor, these inductors can reduce current resistance and suppress calorific value.
- Forming internal gap, their structure suppress outgoing magnetic flux leakage.
- Completely Pb free for both inside of products and terminal electrodes.

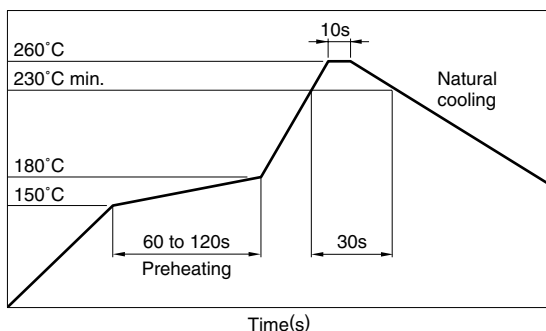
APPLICATIONS

- Choke coils in power circuit of note book computers, LCD, DVD, STB, PDP, amusement equipment, etc.

SPECIFICATIONS

Operating temperature range	-20 to +105°C [Including self-temperature rise]
Storage temperature range	-40 to +105°C[Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

RLF	12560	T	1R0	N	140
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

12560	12.5×12.8×6.0mm (L×W×T)
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(3) Packaging style

T	Taping(reel)
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(4) Inductance value

1R0	1μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

8R2	8.2A
140	14.4A

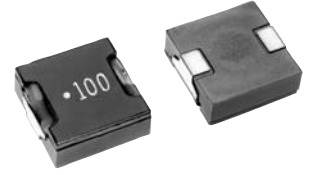
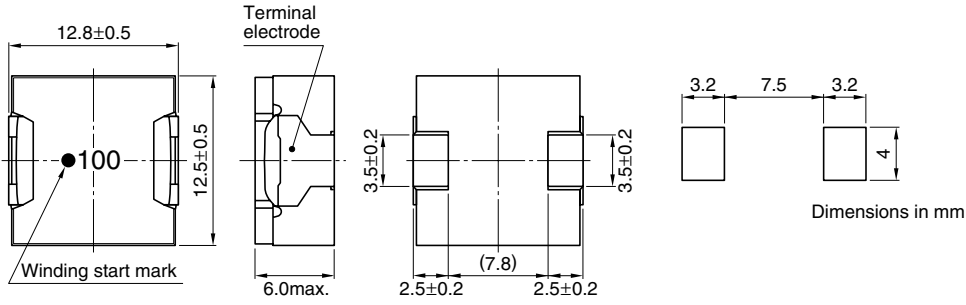
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	500 pieces/reel

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SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Test frequency L (kHz)	DC resistance (mΩ)±20%	Rated current(A)*max.		Part No.
				Based on inductance change	Based on temperature rise	
1.0	±30%	100	2.8	18.5	14.4	RLF12560T-1R0N140
1.9	±30%	100	3.6	15.6	12.7	RLF12560T-1R9N120
2.7	±30%	100	4.5	14.4	11.5	RLF12560T-2R7N110
4.2	±30%	100	7.4	10.2	10.0	RLF12560T-4R2N100
5.6	±30%	100	8.5	9.7	9.2	RLF12560T-5R6N9R2
7.8	±30%	100	10.2	8.2	8.4	RLF12560T-7R8N8R2
10	±20%	100	12.4	7.5	7.8	RLF12560T-100M7R5

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 50%, whichever is smaller.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

