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# Coiltronics RL1011 Series

# Unshielded radial leaded drum core inductors



## **Product description**

- · Unshielded, leaded drum core
- · Protective sleeving over winding
- · Inductance range from 4.7μH to 2200μH
- Current range from 0.263A to 7.11A
- 9.5 OD x 10.5mm through-hole package
- · Ferrite core material
- · Halogen free, lead free, RoHS compliant

### **Applications**

- · LED Drivers and lighting
- · Utility meters
- Appliance electronics
- · Motor drives
- · Power supplies
- General purpose filtering

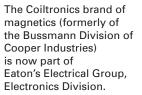
#### **Environmental data**

- Storage temperature range (Component): -40°C to +125°C
- Operating temperature range: -40°C to +125°C (ambient + self-temperature rise)















#### **Product specifications**

Part Number⁴	OCL¹ (μΗ) ±10%	l <sub>rms</sub> <sup>2</sup> (amps)	l <sub>sat</sub> (amps)	DCR (Ω) @ 20°C max.	SRF (MHz) typ.
RL1011-4R7-R	4.43	4.58	7.11	0.017	41
RL1011-6R8-R	7.04	4.03	5.64	0.023	25
RL1011-100-R	10.3	3.62	4.67	0.029	16
RL1011-150-R	15.5	2.92	3.80	0.037	13
RL1011-180-R	18.5	2.77	3.48	0.041	9
RL1011-220-R	21.8	2.64	3.21	0.046	9
RL1011-330-R	33.2	2.13	2.60	0.070	7
RL1011-470-R	47.1	1.91	2.18	0.085	6
RL1011-101-R	99.5	1.37	1.50	0.169	4
RL1011-121-R	123	1.19	1.35	0.216	3
RL1011-151-R	148	1.02	1.23	0.301	3
RL1011-181-R	181	0.959	1.11	0.330	3
RL1011-221-R	223	0.831	1.00	0.454	3
RL1011-331-R	332	0.671	0.820	0.698	2
RL1011-471-R	470	0.601	0.690	0.843	2
RL1011-102-R	1008	0.402	0.470	1.92	1
RL1011-122-R	1203	0.379	0.430	2.13	1
RL1011-152-R	1499	0.324	0.390	3.00	1
RL1011-222-R	2204	0.263	0.320	4.58	0.9

- 1. Open Circuit Inductance (OCL) Test Parameters: 10kHz,  $0.1V_{\rm rms}$ ,  $0.0{\rm Adc}$ ,  $25^{\circ}{\rm C}$
- 2. I<sub>ms</sub>: DC current for an approximate temperature rise of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.
- 3.  $\mbox{I}_{\mbox{\scriptsize sat}}.$  Peak current for approximately 5% rolloff at +25°C
- 4. Part Number Definition: RL1011-yyy-R
  - RL1011 = Product code and size
  - yyy= Inductance value in  $\mu H,\,R=$  decimal point, if no R is present then third character = number of zeros.
  - "-R" suffix = RoHS compliant

# **Dimensions - mm**

Top View

Side View

Recommended Hole Layout

Schematic

9.5 dla

max

10.5

max

1.2 dia

1.3 dia

1.4 dia

1.4 dia

1.5 dia

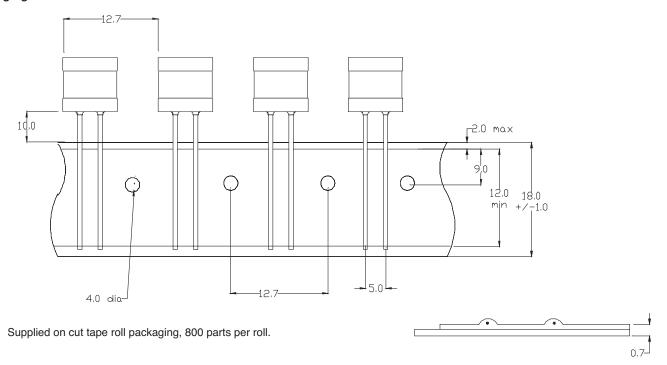
1.

Part marking: 3xxx wly R 3= RL1011

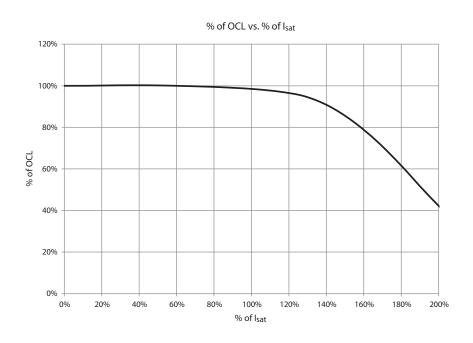
xxx = inductance in uH, R = decimal point; if there is no R then third character = # of zeros. Wly= date code, R= revision level

st Lead length is after the components are trimmed from the packaging tape roll

# Packaging information - mm

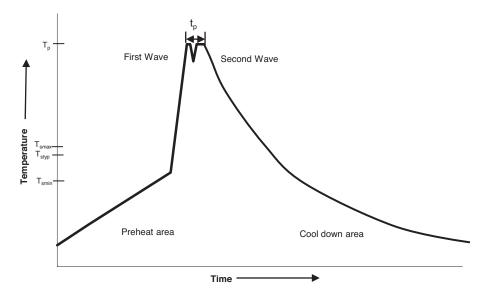


# **Inductance characteristics**



# Effective June 2014

## Wave solder profile



#### Reference EN 61760-1:2006

Neierence EN 01700-1.2000					
Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder			
Preheat					
Temperature min. (T <sub>smin</sub> )	100°C	100°C			
Temperature typ. (T <sub>stvp</sub> )	120°C	120°C			
Temperature max. (T <sub>smax</sub> )	130°C	130°C			
Time $(T_{smin} \text{ to } T_{smax})$ $(t_s)$	70 seconds	70 seconds			
$\Delta$ preheat to max Temeperature	150°C max.	150°C max.			
Peak temperature (T <sub>p</sub> )	235°C - 260°C	250°C - 260°C			
Time at peak temperature (t <sub>p</sub> )	10 seconds max	10 seconds max			
Time at peak temperature (t <sub>p</sub> )	5 seconds max each wave	5 seconds max each wave			
	~ 2 K/s min	~ 2 K/s min			
Ramp-down rate	~3.5 K/s typ	~3.5 K/s typ			
•	~5 K/s max	~5 K/s max			
Time 25°C to 25°C	4 minutes	4 minutes			

### Manual solder

350°C, 4-5 seconds. (by soldering iron), generally manual, hand soldering is not recommended.

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