

# RL0607

## Unshielded radial leaded drum core inductors



### Applications

- LED Drivers and lighting
- Utility meters
- Appliances and white goods
- 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 plus self-temperature rise)

### Product features

- Unshielded, leaded drum core
- Protective sleeving over winding
- Inductance range from 6.8  $\mu$ H to 1500  $\mu$ H
- Current range from 0.12 A to 2.23 A
- 5.7 mm OD  $\times$  7.3 mm through-hole package
- Ferrite core material



Discontinued effective June 15, 2018  
or until inventory is depleted.  
No recommended replacement available.

**Product specifications**

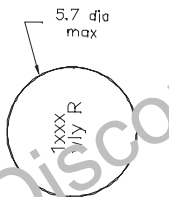
Part Number <sup>4</sup>	OCL <sup>1</sup> ( $\mu\text{H}$ ) $\pm 10\%$	$I_{\text{rms}}^2$ (A)	$I_{\text{sat}}^3$ (A)	DCR ( $\Omega$ ) @ +20 °C max.	SRF (MHz) typ.
RL0607-6R8-R	6.8 $\pm 20\%$	2.23	1.82	0.038	26
RL0607-100-R	10	1.82	1.51	0.058	21
RL0607-180-R	18	1.52	1.13	0.083	16
RL0607-330-R	33	1.08	0.840	0.171	11
RL0607-470-R	47	0.953	0.690	0.217	8
RL0607-820-R	82	0.686	0.530	0.426	6
RL0607-151-R	150	0.520	0.390	0.730	4
RL0607-221-R	220	0.423	0.320	1.10	3
RL0607-471-R	470	0.306	0.220	2.00	2
RL0607-821-R	820	0.219	0.170	4.13	2
RL0607-102-R	1000	0.205	0.150	7.70	1
RL0607-152-R	1500	0.166	0.120	7.20	1

- Open Circuit Inductance (OCL) Test Parameters: 10 kHz, 0.1  $V_{\text{rms}}$ , 0.0Adc, +25 °C
- $I_{\text{rms}}$ : 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.

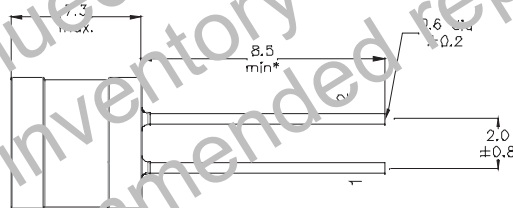
- $I_{\text{sat}}$ : Peak current for approximately 5% rolloff at +25 °C
- Part Number Definition: RL0607-yyy-R
  - RL0607 = Product code and size
  - yyy = inductance value in  $\mu\text{H}$ , R = decimal point
  - if no R is present then third character = number of zeros.
  - R" suffix = RoHS compliant

**Dimensions - mm**

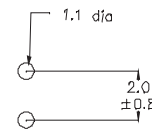
Top view



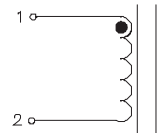
Side view



Recommended pad layout



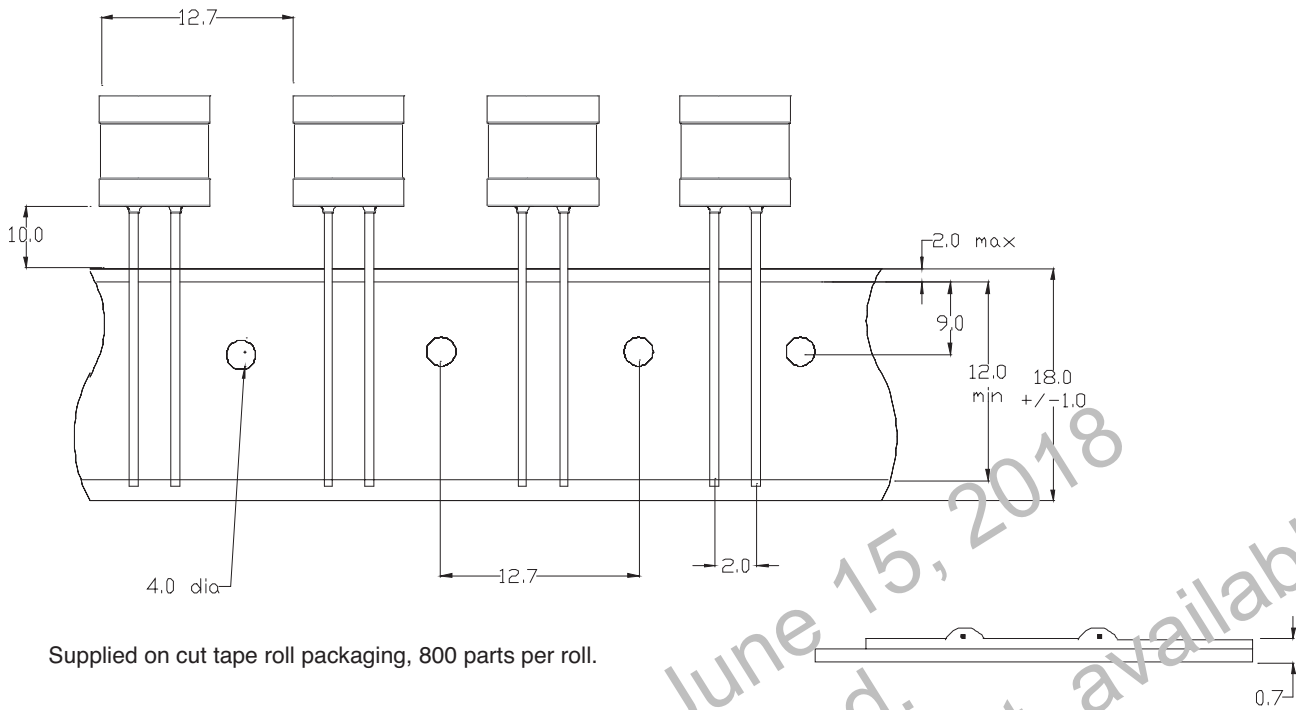
Schematic



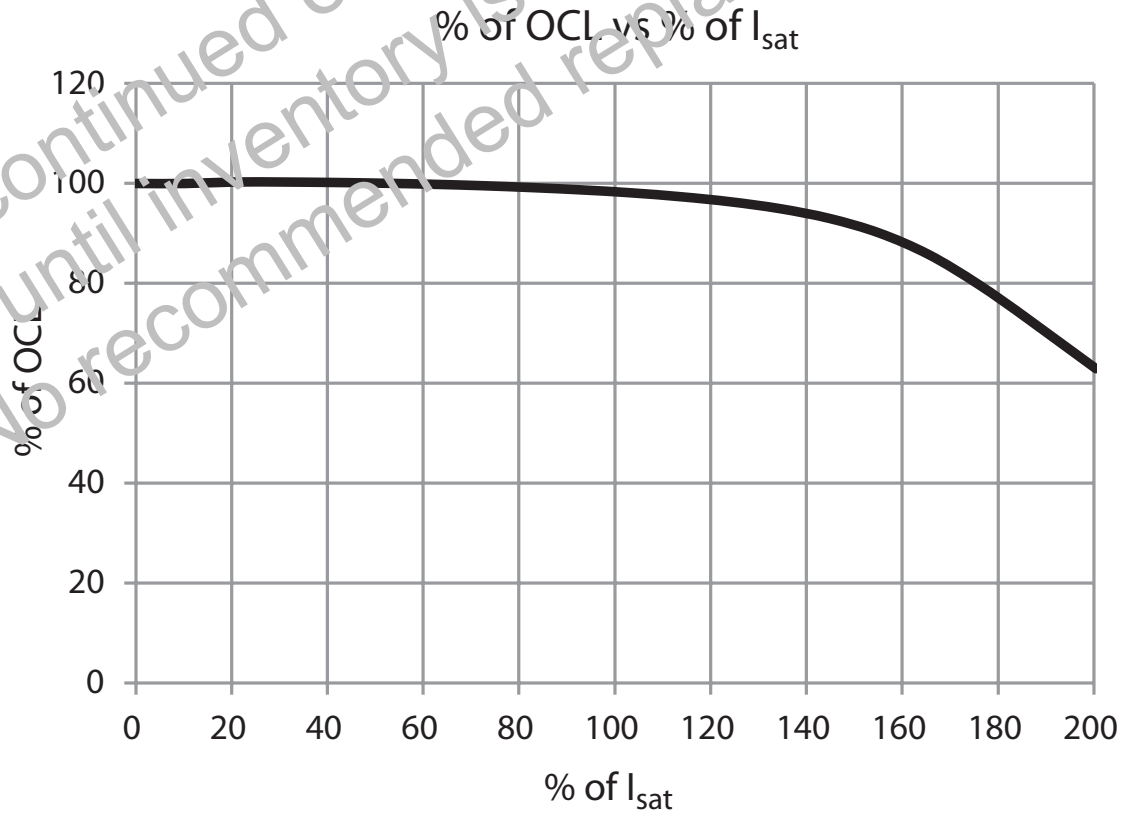
Part marking: 1xxx wly R  
 1 = RL0607  
 xxx = inductance in  $\mu\text{H}$ , R = decimal point; if there is no R, then third character = number of zeros  
 wly = date code, R = revision level

\*Lead length is after the components are trimmed from the packaging tape roll.  
 Do not route traces or vias underneath the inductor

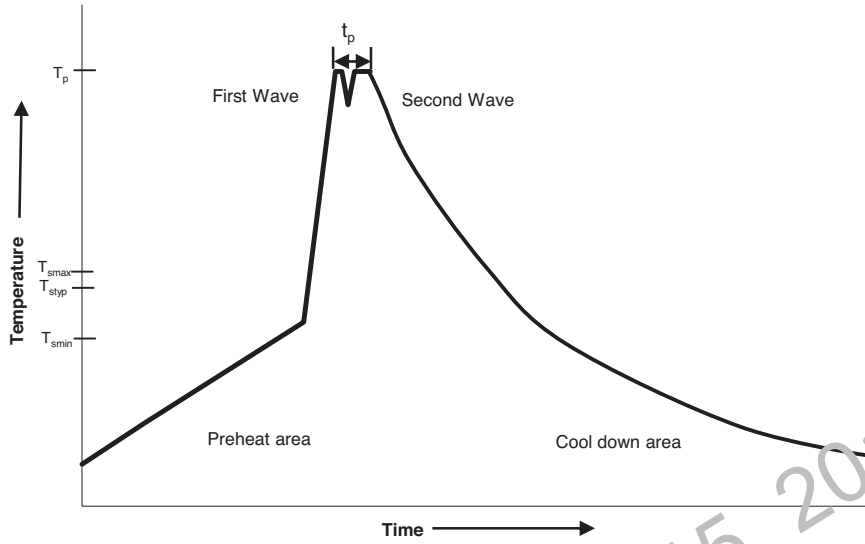
**Packaging information - mm**



**Inductance characteristics**



**Wave solder profile**



**Reference EN 61760-1:2006**

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat		
Temperature min. ( $T_{smin}$ )	100°C	100°C
Temperature typ. ( $T_{styp}$ )	120°C	120°C
Temperature max. ( $T_{smax}$ )	130°C	130°C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	70 seconds	70 seconds
$\Delta$ preheat to max Temperature	150°C max.	150°C max.
Peak temperature ( $T_p$ )	230°C - 260°C	250°C - 260°C
Time at peak temperature ( $t_p$ )	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate	~ 2 K/s min ~ 3.5 K/s typ ~ 5 K/s max	~ 2 K/s min ~ 3.5 K/s typ ~ 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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