RL0607

Unshielded radial leaded drum core inductors

Product features

- Unshielded, leaded drum core
- Protective sleeving over winding
- Inductance range from 6.8 µH to 1500 µH
- Current range from 0.42 A to 2.23 A
- 5.7 mm OD x 7.5 mm through-hole package
- Ferrite core material

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)

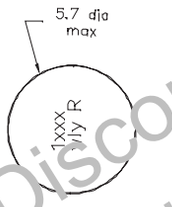
Product specifications

Part Number[4]	OCL[1] (µH) ±10%	I_{rms}[2] (A)	I_{sat}[3] (A)	DCR (Ω) @ +20 °C max.	SRF (MHz) typ.
RL0607-6R8-R	6.8 ± 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	4.70	1
RL0607-152-R	1500	0.166	0.120	7.20	1

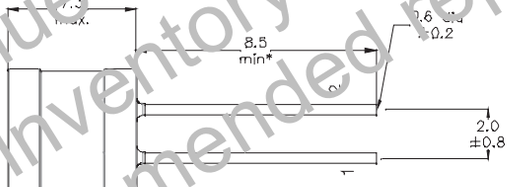
1. Open Circuit Inductance (OCL) Test Parameters: 10 kHz, 0.1 V_{rms}, 0.0Adc, +25 °C
2. I_{rms}: DC current for an approximate temperature rise of 40 °C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components 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.
3. I_{sat}: Peak current for approximately 5% rolloff at +25 °C
4. Part Number Definition: RL0607-yyy-R
   - RL0607 = Product code and size
   - yyy = Inductance value in µH, R = decimal point
   - if no R is present then third character = number of zeros.
   - "-R" suffix = RoHS compliant

Dimensions - mm

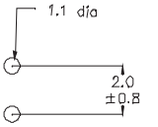
Top view



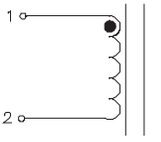
Side view



Recommended pad layout



Schematic

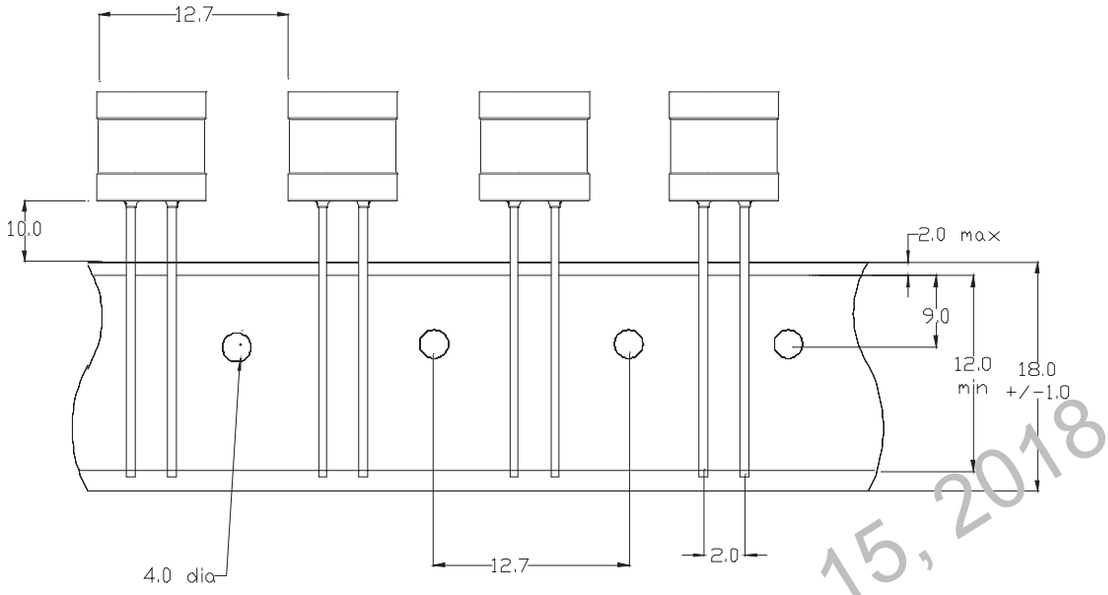


Part marking: 1xxx
wly R

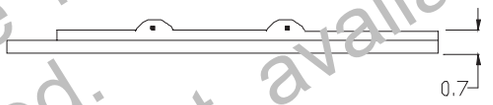
1 = RL0607
xxx = inductance in µH, R = decimal point; if there is no R, then third character = number of zeros
wly = date code, R = revision level

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

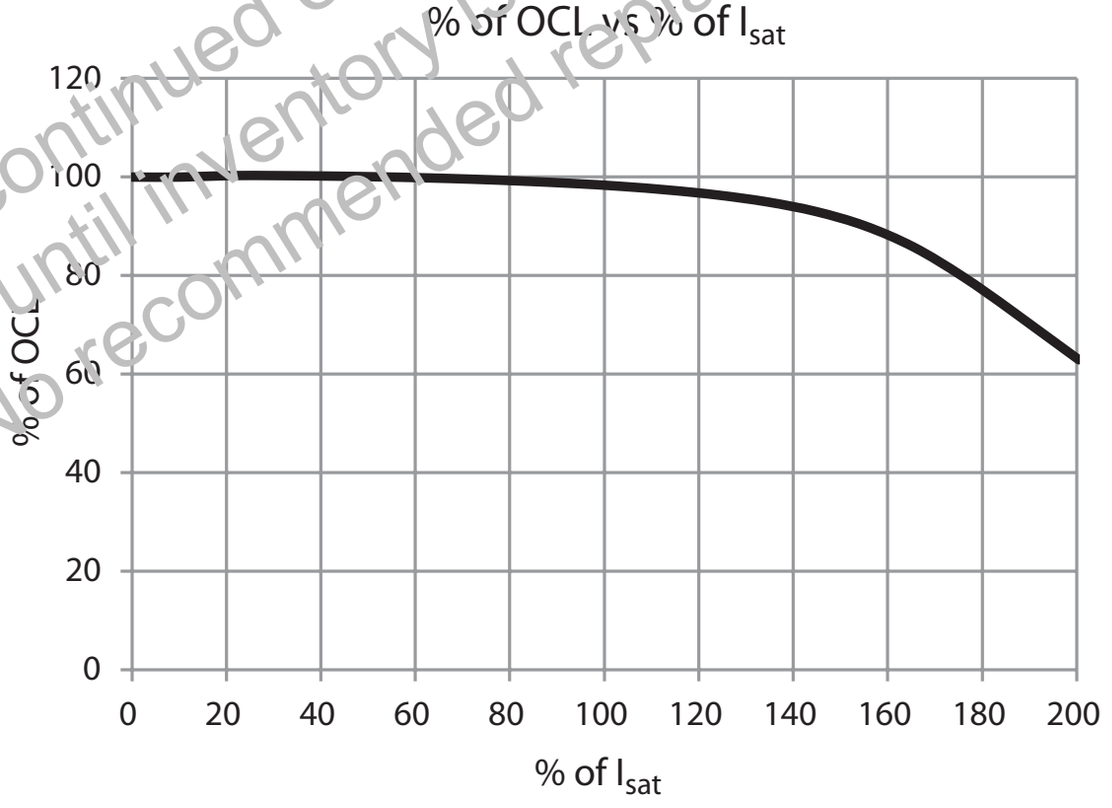
Packaging information - mm



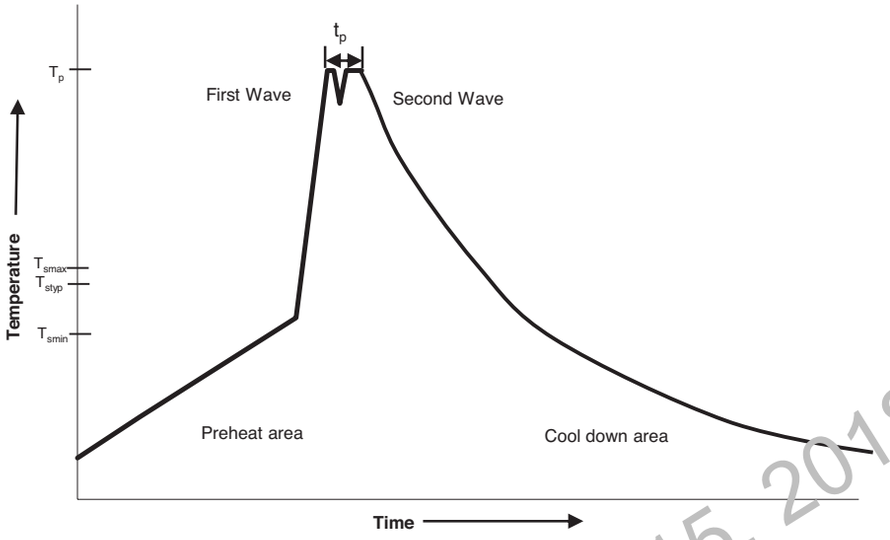
Supplied on cut tape roll packaging, 800 parts per roll.



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
Δ preheat to max Temeperature	150°C max.	150°C max.
Peak temperature (T_p)	235°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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Printed in USA
Publication No. 10334 BU-SB14688
October 2017

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