

RL0809

Unshielded radial leaded drum core inductors



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 plus self-temperature rise)

Product features

- Unshielded, leaded drum core
- Protective sleeving over winding
- Inductance range from 10 μ H to 33,000 μ H
- Current range from 0.042 A to 2.9 A
- 7.9 mm OD x 9.0 mm through-hole package
- Ferrite core material



Product specifications

Part Number ⁴	OCL ¹ (μ H) $\pm 10\%$	I_{rms}^2 (A)	I_{sat}^3 (A)	DCR (Ω) @ +20 °C max.	SRF (MHz) typ.
RL0809-100-R	9.65	2.90	2.47	0.031	18
RL0809-102-R	992	0.312	0.244	2.69	2
RL0809-152-R	1504	0.255	0.198	4.00	2
RL0809-182-R	1792	0.240	0.182	4.52	1
RL0809-222-R	2204	0.207	0.164	6.06	1
RL0809-332-R	3297	0.170	0.134	9.06	1
RL0809-682-R	6796	0.123	0.093	17.3	0.69
RL0809-822-R	8209	0.106	0.085	23.1	0.67
RL0809-103-R	10002	0.099	0.077	26.4	0.59
RL0809-123-R	12011	0.093	0.070	30.0	0.52
RL0809-223-R	21989	0.070	0.052	59.7	0.39
RL0809-333-R	32998	0.058	0.042	78.9	0.31

1. Open Circuit Inductance (OCL) Test Parameters: 10 kHz, 0.1 V_{rms}, 0.0 Adc, +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: RL0809-yyy-R

- RL0809 = Product code and size

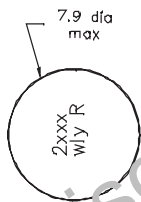
yyy= inductance value in μ H, R = decimal point,

if no R is present then third character = number of zeros.

- "-R" suffix = RoHS compliant

Dimensions - mm

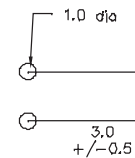
Top View



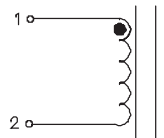
Side View



Recommended Hole Layout



Schematic



Part marking: 2xxx wly R

2= RL0809

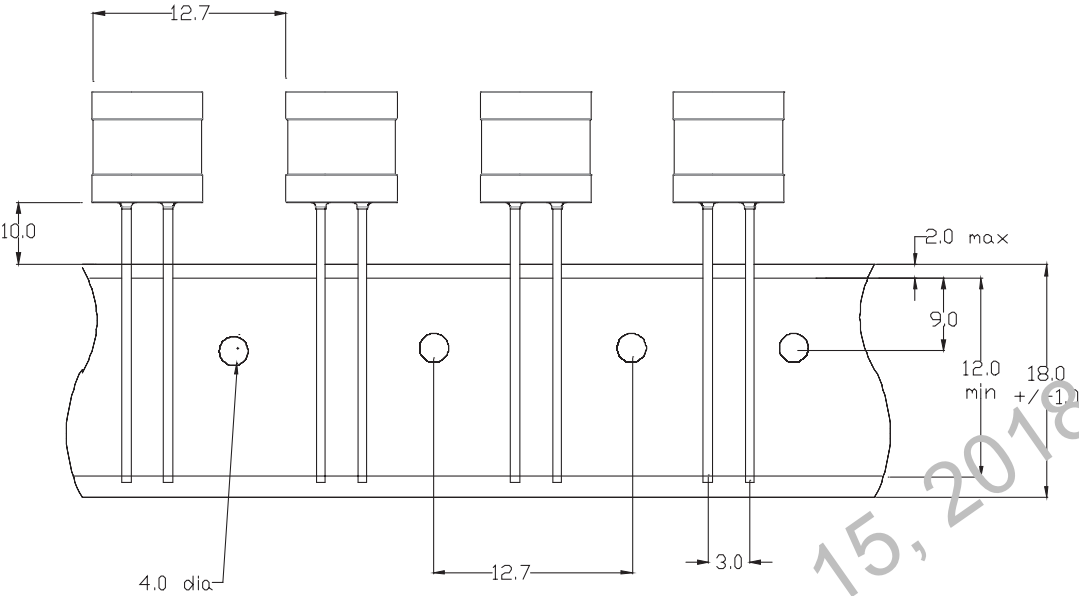
xxx = inductance in μ H, R = decimal point; if there is no R then third character = # of zeros.

wly= date code, R= revision level

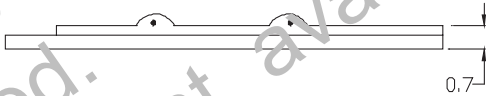
* Lead length is after the components are trimmed from the packaging tape roll

Do not route traces or vias underneath the inductor.

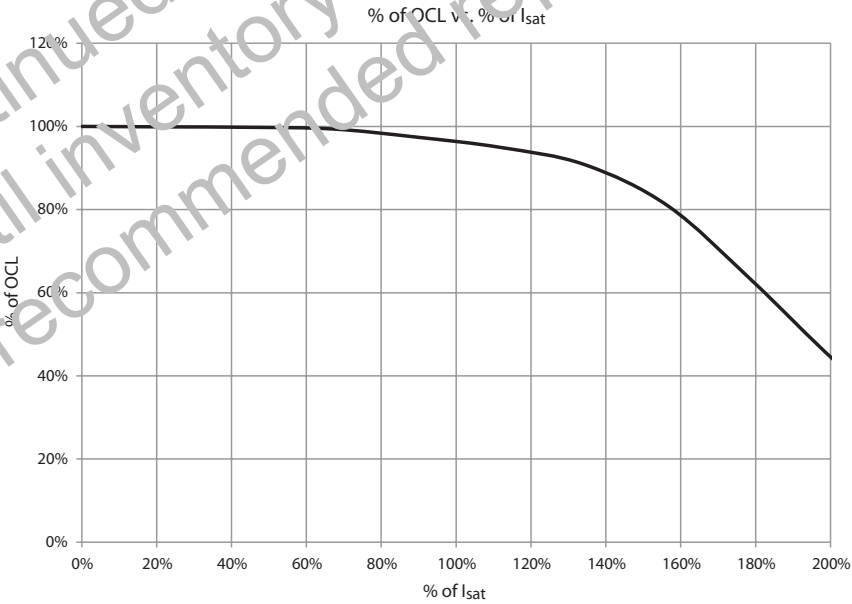
Packaging information - mm



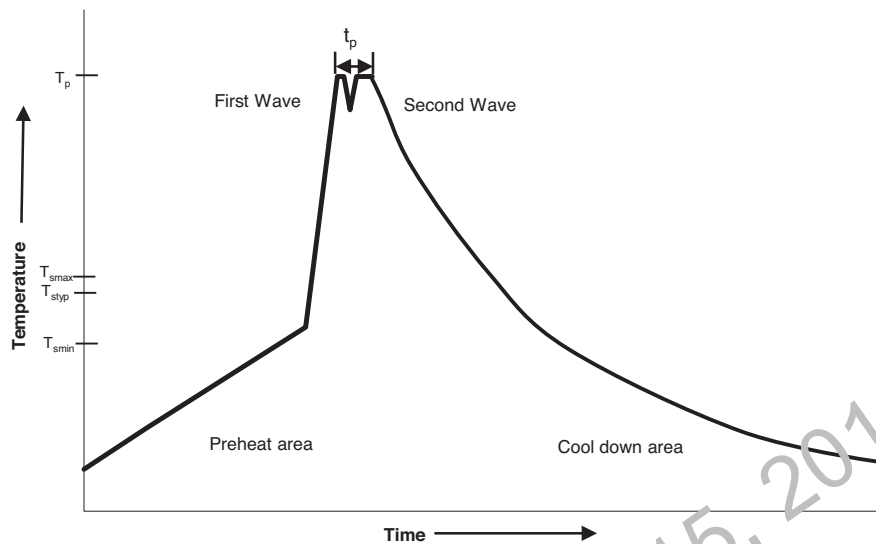
Supplied on cut tape roll packaging, 800 parts per roll.



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 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 (dry soldering iron), generally manual, hand soldering is not recommended.

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