

# RL1218

## Unshielded radial leaded drum core inductors



### Product features

- Unshielded, leaded drum core
- Protective sleeving over winding
- Inductance range from 4.7  $\mu\text{H}$  to 12,000  $\mu\text{H}$
- Current range from 0.20 A to 15 A
- 12.2 mm OD x 18.0 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**

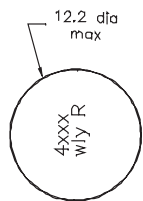
Part Number <sup>4</sup>	OCL <sup>1</sup> ( $\mu\text{H}$ ) $\pm 10\%$	$I_{\text{rms}}^2$ (A)	$I_{\text{sat}}^3$ (A)	DCR ( $\Omega$ ) @ +20 °C max.	SRF (MHz) typ.
RL1218-4R7-R	4.7 $\pm 20\%$	5.65	15.0	0.017	34
RL1218-8R2-R	8.2 $\pm 20\%$	4.75	10.7	0.025	25
RL1218-100-R	10	4.61	10.2	0.026	21
RL1218-150-R	15	4.05	8.00	0.034	11
RL1218-220-R	22	3.64	6.60	0.042	8
RL1218-270-R	27	3.44	5.97	0.047	6
RL1218-330-R	33	3.27	5.45	0.052	5
RL1218-101-R	100	2.31	3.16	0.102	3
RL1218-151-R	150	1.89	2.56	0.159	3
RL1218-181-R	180	1.64	2.34	0.211	3
RL1218-221-R	220	1.53	2.10	0.241	2
RL1218-331-R	330	1.25	1.73	0.366	2
RL1218-561-R	560	0.968	1.33	0.606	1
RL1218-102-R	1000	0.677	0.992	1.23	1
RL1218-152-R	1500	0.597	0.809	1.59	0.81
RL1218-472-R	4700	0.322	0.457	5.46	0.40
RL1218-562-R	5600	0.305	0.418	6.11	0.40
RL1218-682-R	6800	0.263	0.379	8.20	0.36
RL1218-123-R	12,000	0.201	0.286	14.1	0.28

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

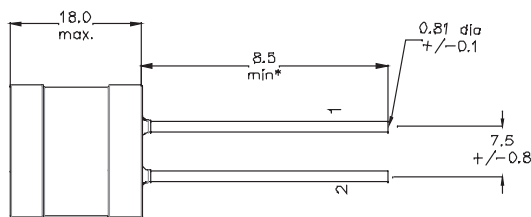
- $I_{\text{sat}}$ : Peak current for approximately 5% rolloff at +25 °C
- Part Number Definition: RL1218-yyy-R  
 - RL1218 = Product code and size  
 - yyy= Inductance value in  $\mu\text{H}$ , R = decimal point,  
 if no R is present then third character = number of zeros.  
 - "-R" suffix = RoHS compliant

**Dimensions - mm**

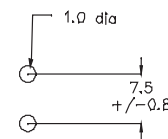
Top view



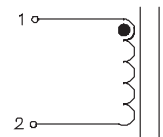
Side view



Recommended pad layout



Schematic



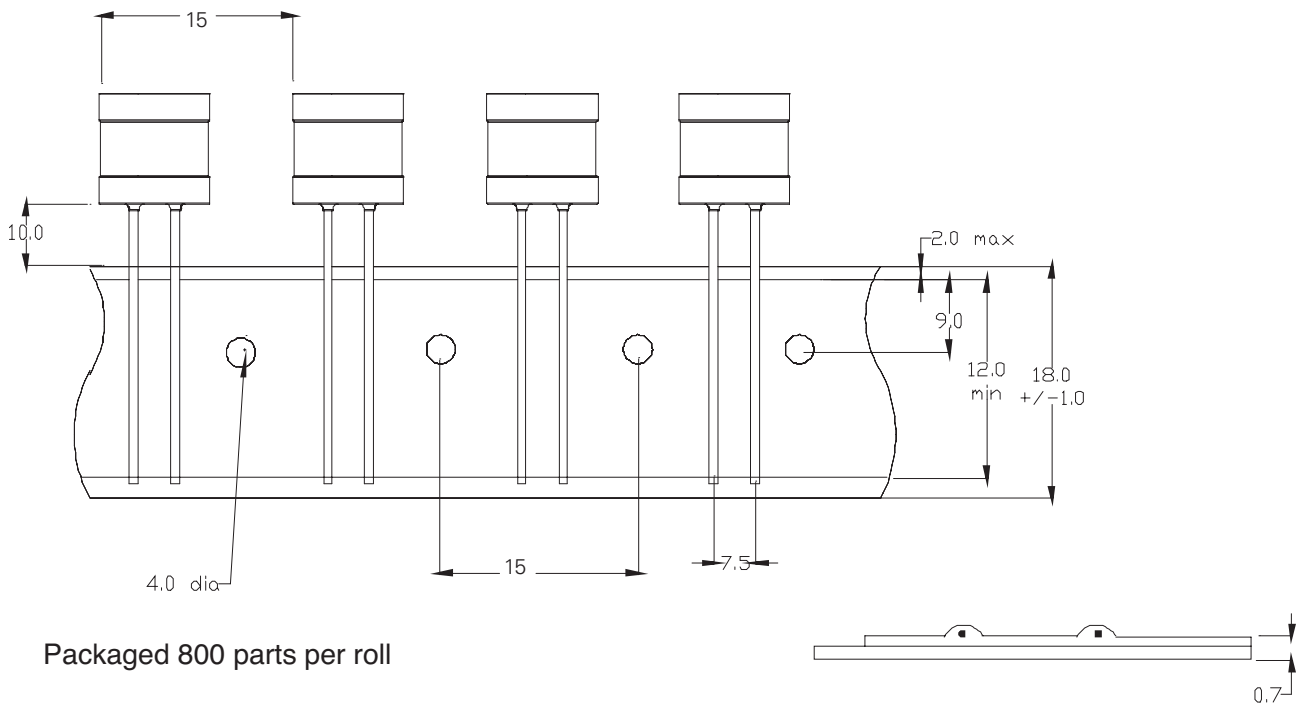
Part marking: 4xxx  
wly R

4 = RL1218

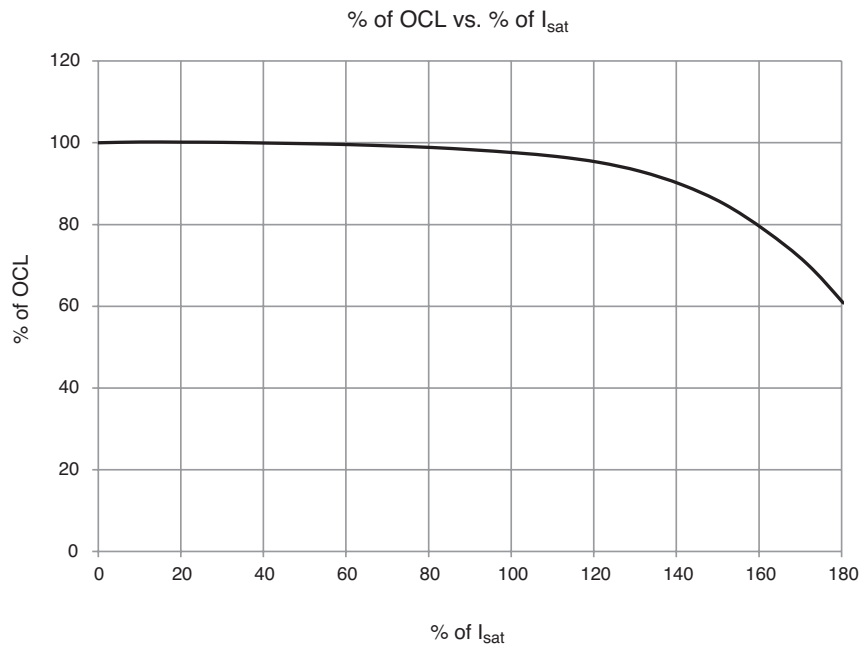
xxx = inductance in  $\mu\text{H}$ , R = decimal point; if there is no "R" then third character = number of zeros  
wly = date code, R = revision level

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

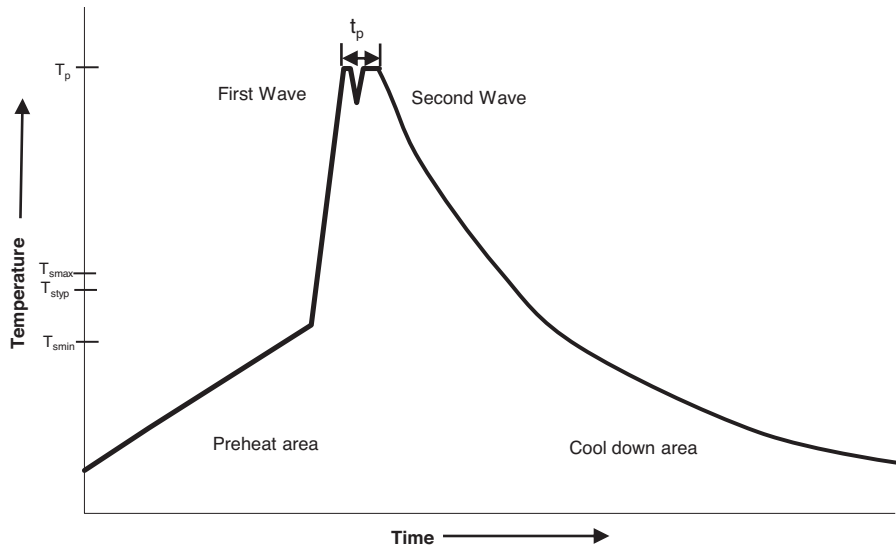
**Packaging information - mm**



**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 ( $T_p$ )	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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