RL1218

Unshielded radial leaded drum core inductors

Product features

- Unshielded, leaded drum core
- Protective sleeving over winding
- Inductance range from 4.7 µH to 12,000 µH
- 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)

Powering Business Worldwide

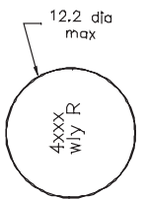
Product specifications

Part Number[4]	OCL[1] (µH)±10%	I_{rms}[2] (A)	I_{sat}[3] (A)	DCR (Ω) @ +20 °C max.	SRF (MHz) typ.
RL1218-4R7-R	4.7±20%	5.65	15.0	0.017	34
RL1218-8R2-R	8.2±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

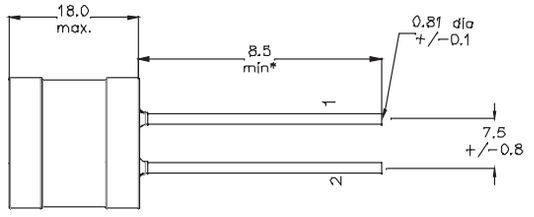
1. Open Circuit Inductance (OCL) Test Parameters: 10 kHz, 0.1 V_{rms}, 0.0 Adc, +25 °C
2. I_{rms}: DC current for an approximate temperature rise of 40 °C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating 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: RL1218-yyy-R
   - RL1218 = 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

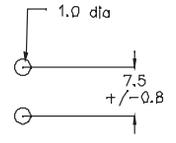
Top view



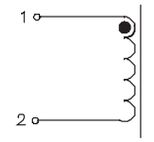
Side view



Recommended pad layout



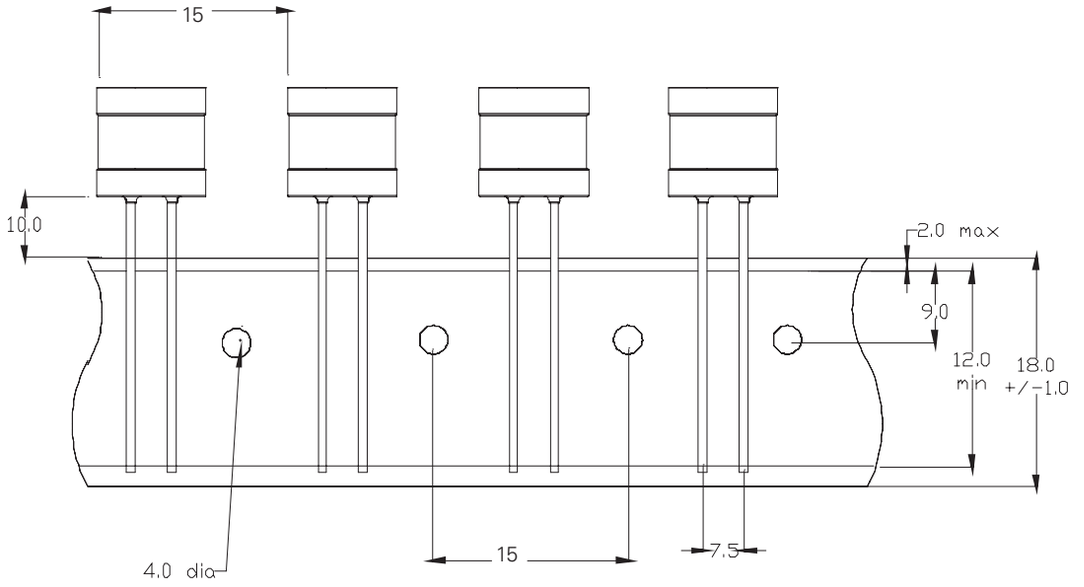
Schematic



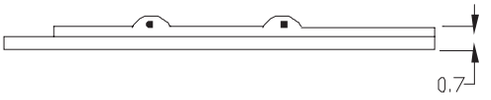
Part marking: 4xxx
wly R
4 = RL1218
xxx = inductance in µH, R = decimal point; if there is no "R" then third character = number of zeros wly = date code, R = revision level

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

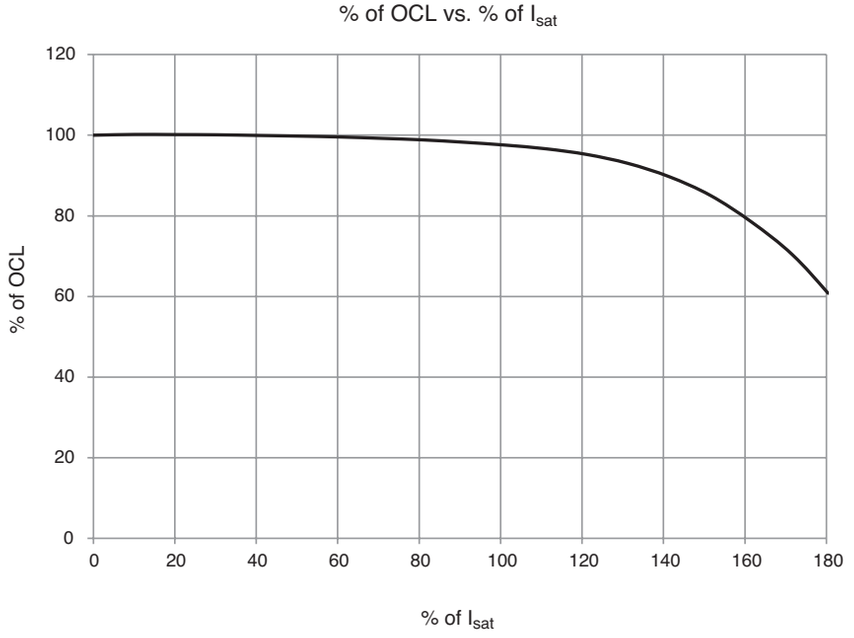
Packaging information - mm



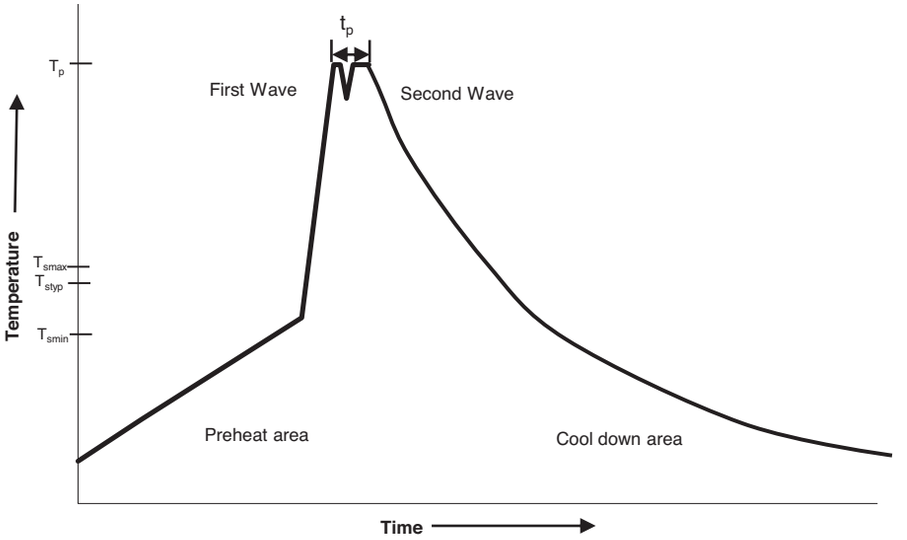
Packaged 800 parts per roll



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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Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
www.eaton.com/electronics

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