

# RL0809-682-R Datasheet



DiGi Electronics Part Number	RL0809-682-R-DG
Manufacturer	<a href="#">Eaton - Electronics Division</a>
Manufacturer Product Number	RL0809-682-R
Description	FIXED IND 6.8MH 123MA 17.3OHM TH
Detailed Description	6.8 mH Unshielded Drum Core, Wirewound Inductor 123 mA 17.3Ohm Max Radial, Vertical Cylinder

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## Purchase and inquiry

**Manufacturer Product Number:**

RL0809-682-R

**Series:**

RL0809

**Type:**

Drum Core, Wirewound

**Inductance:**

6.8 mH

**Current Rating (Amps):**

123 mA

**Shielding:**

Unshielded

**Q @ Freq:**

-

**Ratings:**

-

**Inductance Frequency - Test:**

10 kHz

**Package / Case:**

Radial, Vertical Cylinder

**Size / Dimension:**

0.311" Dia (7.90mm)

**Manufacturer:**

Eaton - Electronics Division

**Product Status:**

Obsolete

**Material - Core:**

Ferrite

**Tolerance:**

±10%

**Current - Saturation (Isat):**

93mA

**DC Resistance (DCR):**

17.30hm Max

**Frequency - Self Resonant:**

690kHz

**Operating Temperature:**

-40°C ~ 125°C

**Mounting Type:**

Through Hole

**Supplier Device Package:**

-

**Height - Seated (Max):**

0.354" (9.00mm)

## Environmental & Export classification

**Moisture Sensitivity Level (MSL):**

1 (Unlimited)

**HTSUS:**

8504.50.4000

**ECCN:**

EAR99

# 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  $\mu$ H to 33,000  $\mu$ H
- Current range from 0.042 A to 2.9 A
- 7.9 mm OD x 9.9 mm through-hole package
- Ferrite core material



**Product specifications**

Part Number <sup>4</sup>	OCL <sup>1</sup> ( $\mu$ H) $\pm$ 10%	$I_{rms}^2$ (A)	$I_{sat}^3$ (A)	DCR ( $\Omega$ ) @ +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

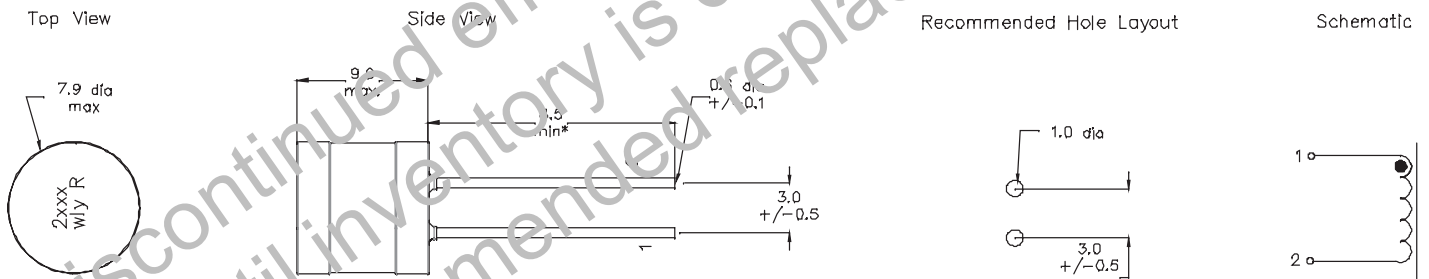
1. Open Circuit Inductance (OCL) Test Parameters: 10 kHz, 0.1  $V_{rms}$ , 0.0 Adc, +25 °C

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  $\mu$ H, R = decimal point,  
 if no R is present then third character = number of zeros.  
 - "-R" suffix = RoHS compliant

**Dimensions - mm**



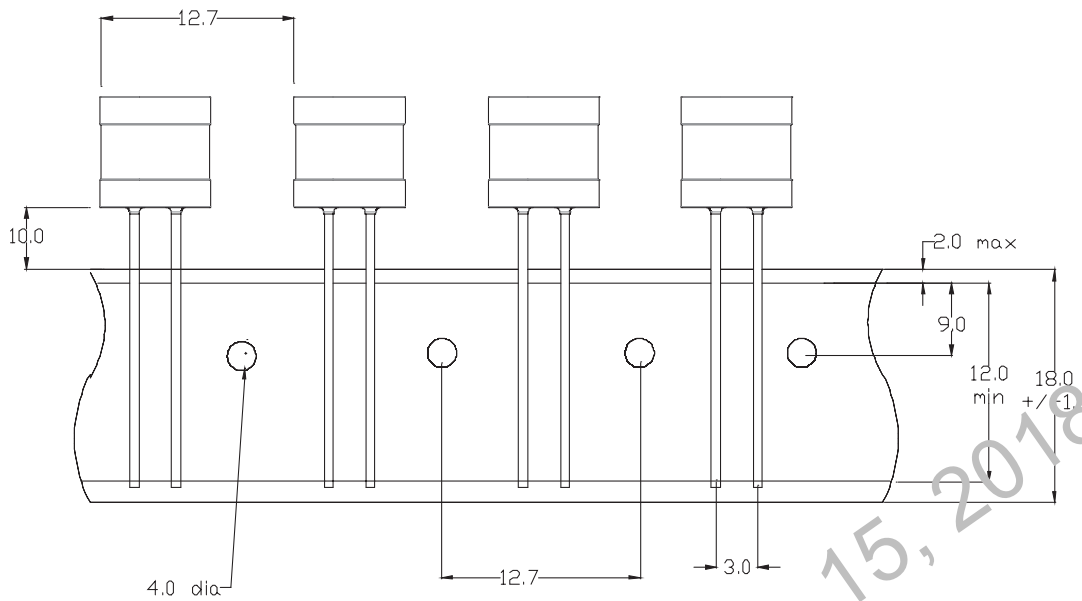
Part marking: 2xxx wly R

2= RL0809  
 xxx = inductance in  $\mu$ H, R = decimal point; if there is no R then third character = # of zeros.  
 wly = date code, R = revision level

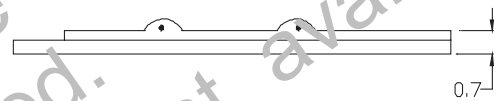
\* Lead length is after the components are trimmed from the packaging tape roll

**Do not route traces or vias underneath the inductor.**

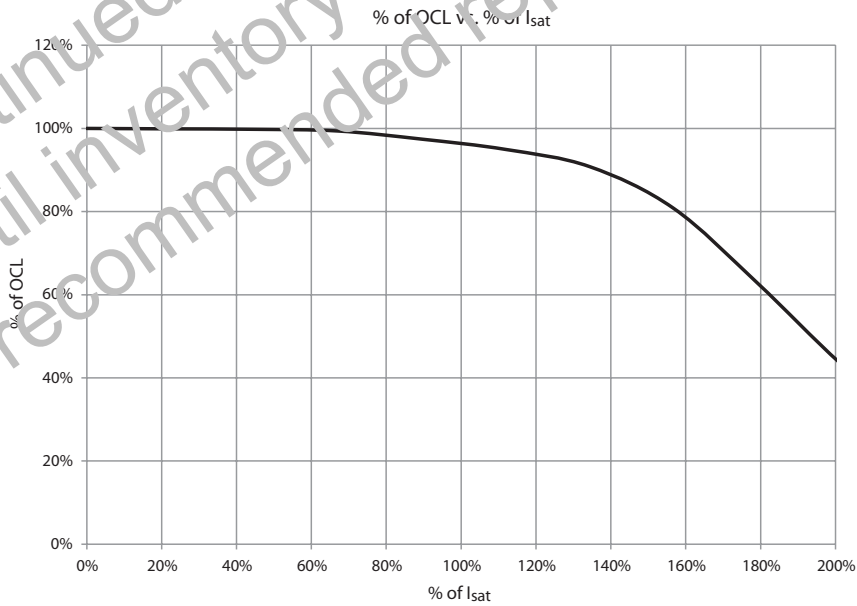
**Packaging information - mm**



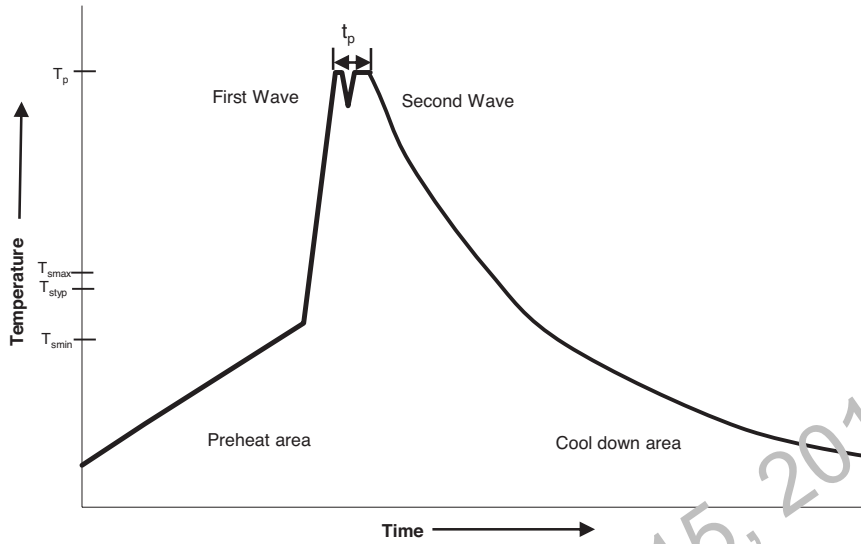
Supplied on cut tape roll packaging, 800 parts per roll.



**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
$\Delta$ 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 (dry soldering iron), generally manual, hand soldering is not recommended.

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