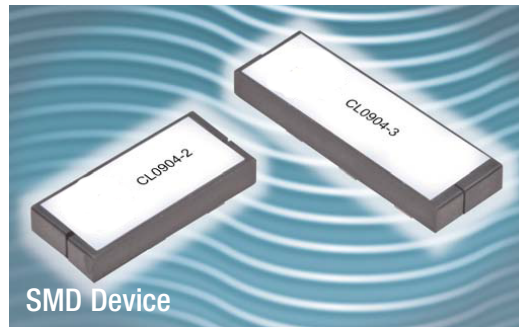


CL0904

Multi-Phase power inductors



Product features

- High current multi-phase inductor
- 50nH per phase coupled inductor
- Ferrite core material
- Patents pending
- Halogen free, lead free and RoHS compliant

Applications

- For exclusive use with Maxim® Multi-phase controllers

Environmental data

- Storage temperature range (component): -40 °C to +125 °C
- Operating temperature range: -40 °C to +125 °C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 (latest revision) compliant



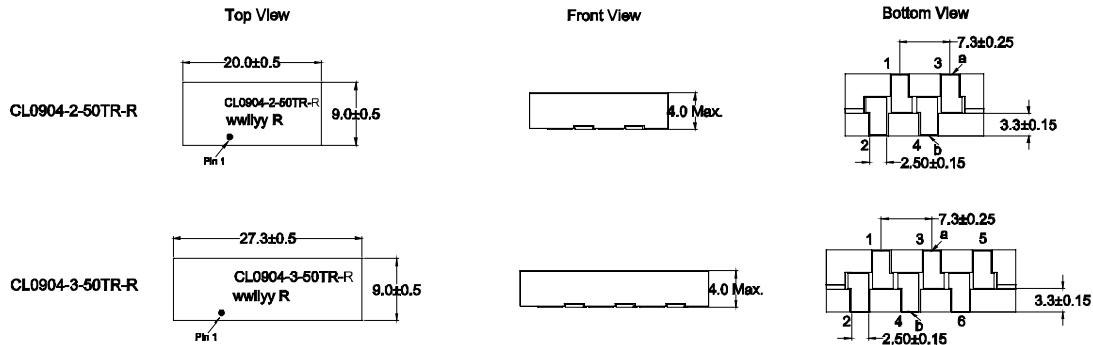
Maxim® is a registered trademark of Maxim Integrated Devices, Inc.

Specifications										
Functional						Test				
Part Number ⁴	Inductor Phases	DCR (mΩ) ±10% @20°C	Rated Inductance per Phase (nH)	I Rated per Phase (A _{dc}) ³	I _{max} Peak per Phase (A _{dc}) ³	Pin Number	OCL (nH) ^{1,2}	Pin Number	OCL (nH) ^{1,2}	Magnetized Inductance (nH) @ 5A _{dc} (25°C)
CL0904-2-50TR-R	2	0.35	50 ± 20%	35	80	(1-2)	320±20%	(3-4)	320±20%	245
CL0904-3-50TR-R	3	0.35	50 ± 20%	35	50	(3-4)	400±20%	(1-2), (5-6)	380±20%	250

1. Open Circuit Inductance (OCL)
2. Test Parameters: 1MHz, 0.1V_{rms}, 0.0A_{dc}.
3. The rated current, I_{max} peak current, and rated inductance per phase is determined by Volterra's testing and circuit design. Additional information can be provided by contacting Volterra.
4. Part Number Definition: CL0904-x-50TR-R
 - CL0904= Product code and size
 - "x" = number of phases
 - "50" = inductance value per phase nH
 - "TR" = Tape and Reel packaging
 - "-R" suffix = RoHS compliant

A This device is licensed for use only when incorporated within a voltage regulator employing power regulating devices manufactured by Maxim Integrated Devices. No license is granted expressly or by implication to use this device with power regulating devices manufactured by any company other than Maxim.

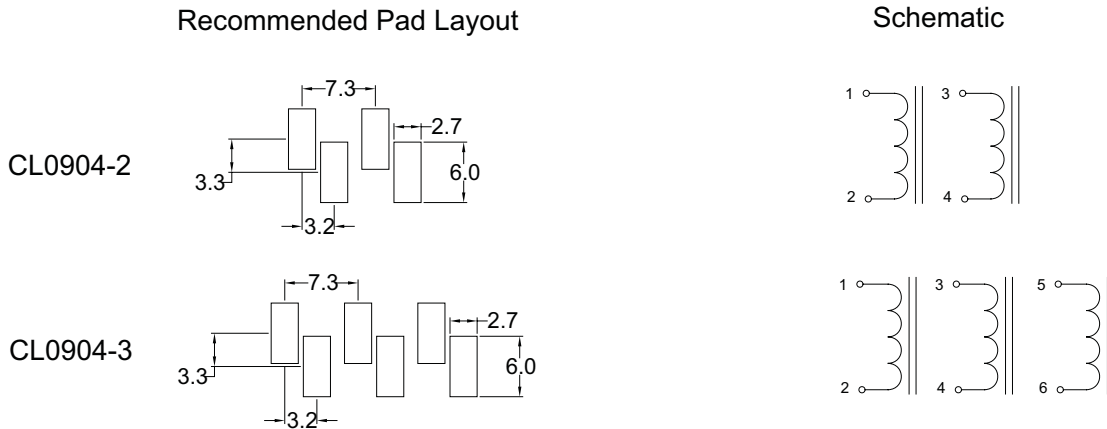
Dimensions- mm



DCR measured from point 'a' to point "b"

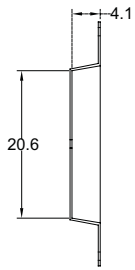
Part Marking: CL0904= Product Code and Size -x (-2, -3)= Number of phases -50= inductance value per phase TR= Tape and Reel wwllly= Date Code R=Revision Level
Soldering surfaces to be coplanar within 0.13 millimeters.

Pad layout and schematics- mm

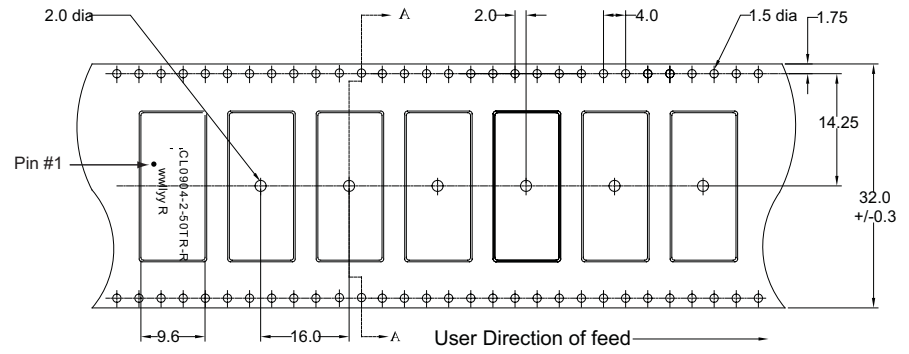


Packaging information- mm

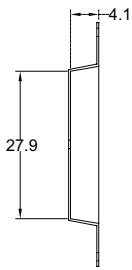
CL094-2



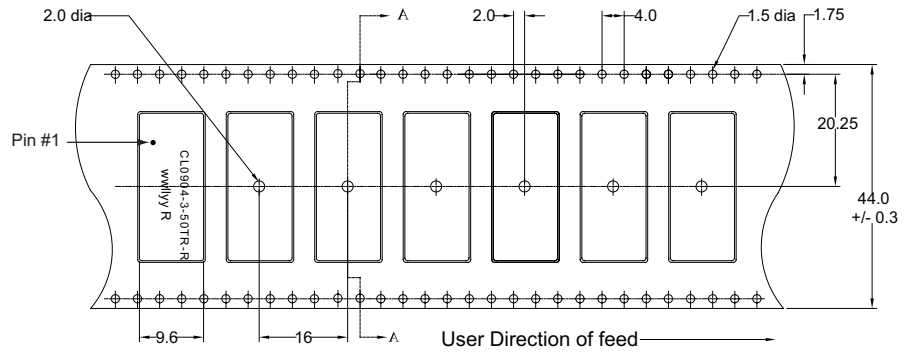
SECTION A-A



CL094-3



SECTION A-A



Supplied in tape and reel packaging, 1000 parts per 13" diameter reel.

Solder Reflow Profile

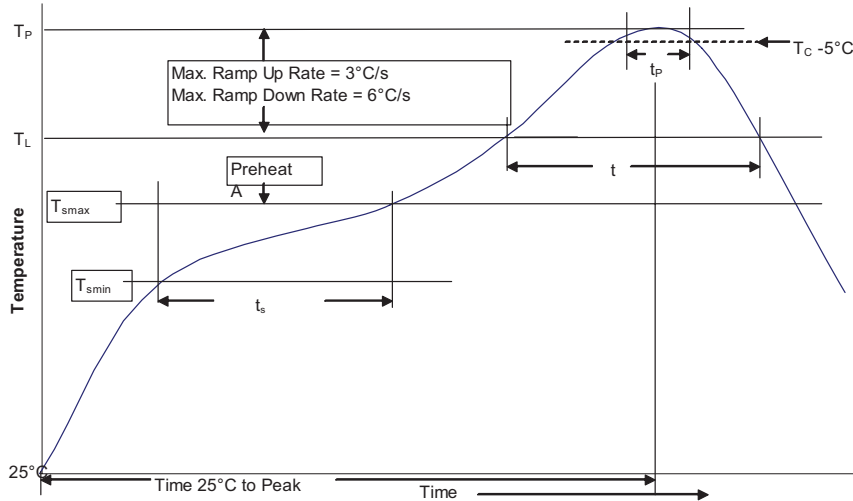


Table 1 - Standard SnPb Solder (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 ≥ 350
<2.5mm	235°C	220°C
$\geq 2.5\text{mm}$	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 350 - 2000	Volume mm^3 >2000
<1.6mm	260°C	260°C	260°C
1.6 - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak	• Temperature min. (T_{smin})	100°C
	• Temperature max. (T_{smax})	150°C
	• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds
Average ramp up rate T_{smax} to T_p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60-150 Seconds	60-150 Seconds
Peak package body temperature (T_p)*	Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_c)	20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

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

© 2017 Eaton
All Rights Reserved
Printed in USA
Publication No. 4379 BU-SB12068
June 2017

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View CL0904-2-50TR-R on WIN SOURCE](#)

 [Eaton Bussmann Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management