

# HORIZONTALLY ASSEMBLED POWER INDUCTOR



AVR-1F131309S

Request Samples



Check Inventory



13.0 x 13.5 x 9.5mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Features

- Ferrite Core
- Low DCR, High Efficiency
- High temperature current rating
- High saturation current rating

## Applications

- Single and Multiphase DC-DC converters
- Voltage regulator modules (VRMs)
- Renewable energy, Power inverters, DC links
- Electric Vehicles (EVs)
- Telecom infrastructure, datacenters, servers and switches
- Industrial and robotics equipment
- Medium and high-power switch mode power supplies (SMPS)

## Electrical Specifications @ 25°C

Part Number*	Inductance	Inductance Tolerance	DC Resistance	Saturation Current	Temperature Rise Current
	100KHz/0.25V			Typ.	Typ.
Units	nH	%	mΩ	A	A
Symbol	L	L	DCR	Isat1@ 25°C	Irms
AVR-1F131309SR12LT	120	15%	0.17 ± 10%	100	83
AVR-1F131309SR15LT	150			100	
AVR-1F131309SR22LT	220			90	
AVR-1F131309SR25LT	250			60	
AVR-1F131309SR30LT	300			60	
AVR-1F131309SR36LT	360			54	
AVR-1F131309SR45LT	450			43	
AVR-1F131309SR56LT	560			30	
AVR-1F131309SR68LT	680			24	

\* The “T” at the end of the part numbers refers to “Tape & Reel” packaging. For other options, please refer to the Part Identification section.

## Test Conditions:

**Isat1:** DC current at which the inductance drops 20% from its nominal value at 25°C.

**Irms:** DC current that causes the temperature rise ( $\Delta T$ , approximate 40 °C) from 25°C ambient.

**Operating Temperature:** -40°C ~ +125°C. (including self-temperature rise)

**Storage Condition:** -40°C ~ +125°C (on board), -10°C ~ +40°C (with packaging) and R.H. 70 max.

AVR-1F131309S Series is **RoHS Compliant and Pb free**.



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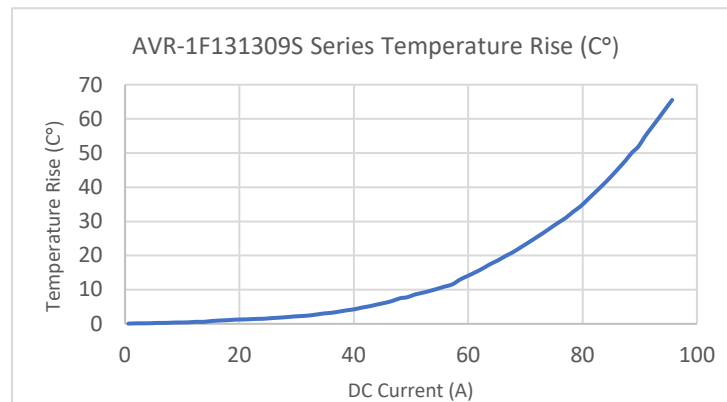
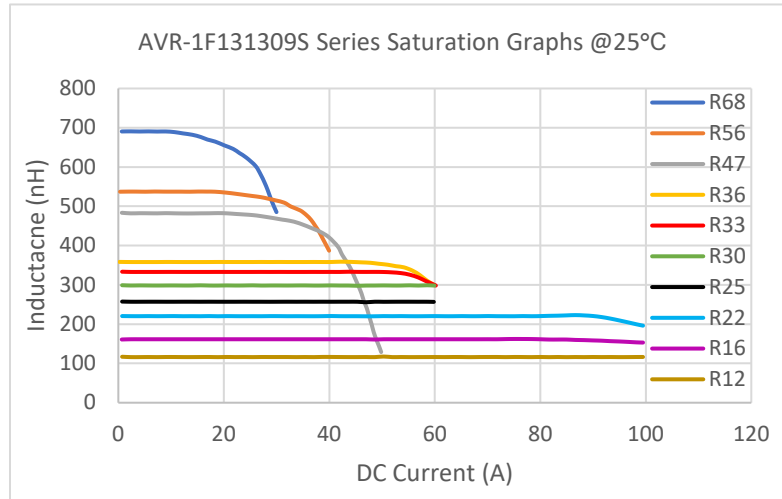


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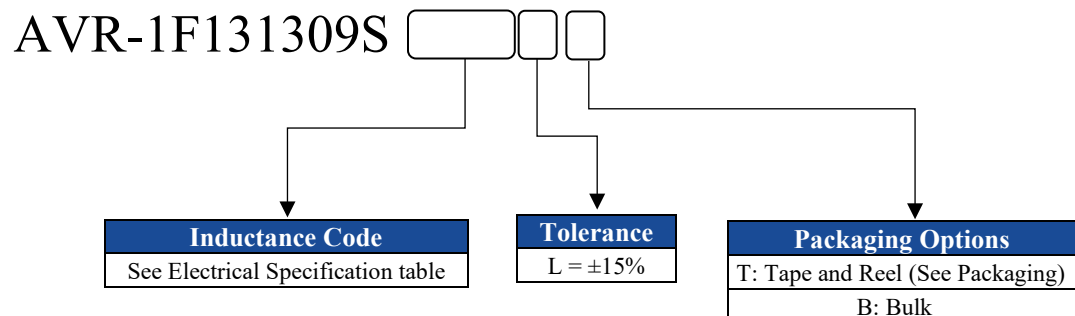


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## Performance Graphs



## Part Identification



\*Tolerance only available as indicated in electrical spec. table

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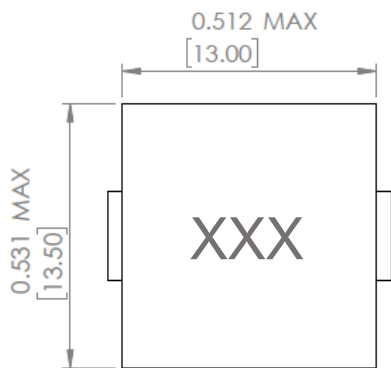


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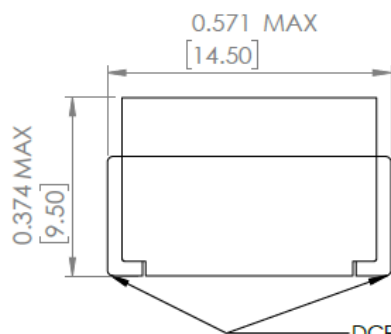


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## Mechanical Specifications

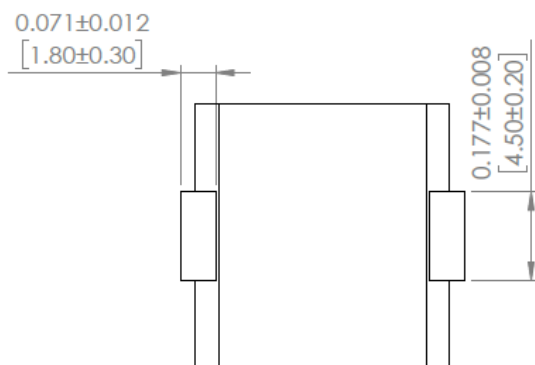


**TOP VIEW**



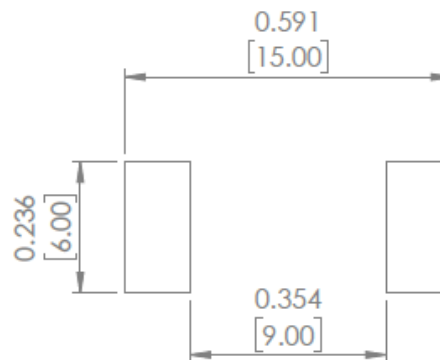
DCR IS MEASURED AT THESE POINTS

**FRONT VIEW**



**BOTTOM VIEW**

## RECOMMENDED LAND PATTERN



**Markings:** Inductance code.

**Dimensions:** Inches[mm]



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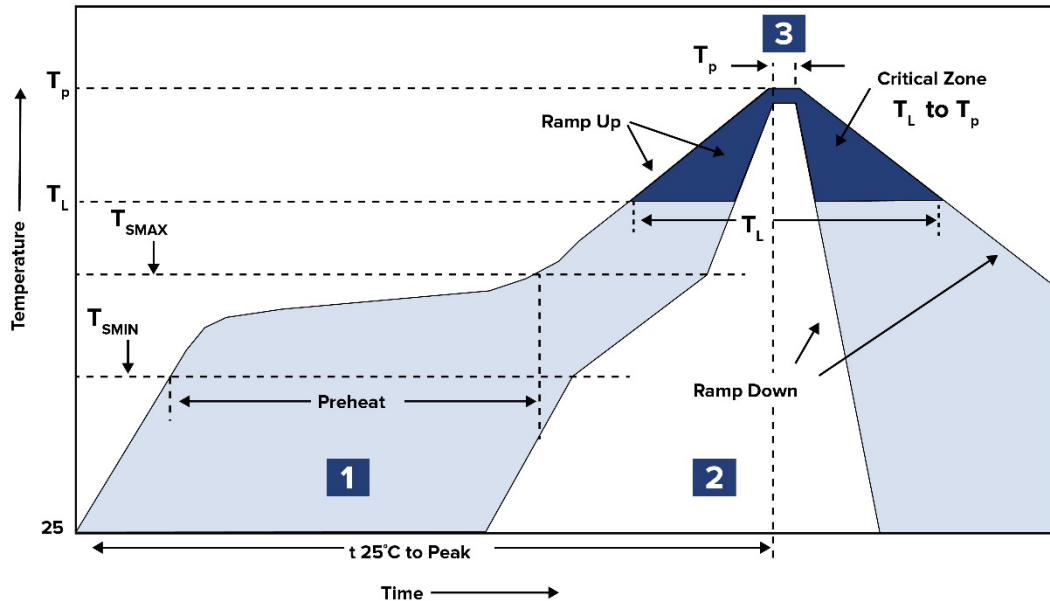


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## Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	$T_L$ 230°C	30 ~ 40 sec.
3	Peak heat	$T_P$ 250°C ± 5°C	5 ± 0.5 sec.

Ref. Solder paste: Sn/3.0Ag/0.5Cu

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.



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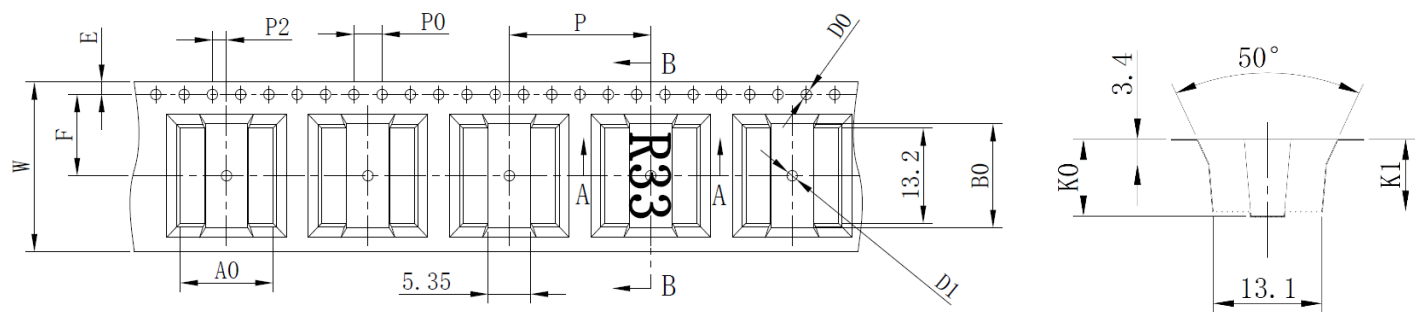
Check Inventory



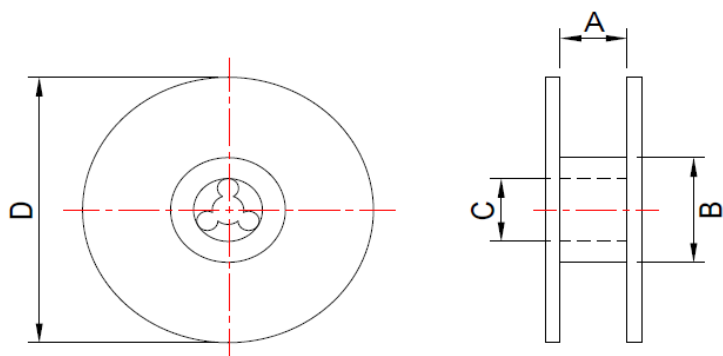
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## Packaging

Tape & Reel: 300 pcs/reel



Ao	Bo	Ko	F	E	P0	P	T	W
13.35 ± 0.1	14.7 ± 0.1	9.65 ± 0.1	11.5 ± 0.1	1.75 ± 0.1	4.0 ± 0.1	20.0 ± 0.1	0.4 ± 0.05	24.0 ± 0.3



A	B	C	D
24.0 ± 0.5	100 ± 2.0	13.5 ± 0.5	330 Ref.

Dimensions: mm

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