

## Inductors for power circuits

## Wound ferrite

## VLS-EX-H series (for automotive)



AEC-Q200

## VLS5045EX-H type



## FEATURES

- Magnetic shield type wound inductor for power circuits.
- High magnetic shield construction achieved by a ferrite magnetic material and compatible with high-density mounting.
- Larger current and lower R<sub>dc</sub> were achieved by optimizing the ferrite core figure.
- Operating temperature range: -40 to +125 °C (including self-temperature rise)
- Compliant with AEC-Q200

## APPLICATION

- Automotive-related equipment (ECM, airbags, headlights, electronic power steering, meters, ABS, other)

## PART NUMBER CONSTRUCTION

VLS	5045	EX	-	1R0	H
Series name	L×W×H dimensions 5.0×5.3×4.5 mm	Internal code		Inductance (μH)	Internal code

## CHARACTERISTICS SPECIFICATION TABLE

L (μH)	Measuring frequency		DC resistance (Ω)±30%	Rated current*		Part No.
	Tolerance	(kHz)		Idc1 (A)max.	Idc2 (A)typ.	
1.0	±30%	100	0.015	8.9	5.1	<a href="#">VLS5045EX-1R0N-H</a>
2.2	±30%	100	0.022	6.4	4.7	<a href="#">VLS5045EX-2R2N-H</a>
4.7	±20%	100	0.036	4.4	3.2	<a href="#">VLS5045EX-4R7M-H</a>
10	±20%	100	0.061	3.1	2.5	<a href="#">VLS5045EX-100M-H</a>
22	±20%	100	0.125	2.0	1.8	<a href="#">VLS5045EX-220M-H</a>
47	±20%	100	0.30	1.3	1.0	<a href="#">VLS5045EX-470M-H</a>
100	±20%	100	0.58	0.8	0.7	<a href="#">VLS5045EX-101M-H</a>
220	±20%	100	1.05	0.45	0.45	<a href="#">VLS5045EX-221M-H</a>

\* Rated current: smaller value of either Isat or Itemp.

Isat: When based on the inductance change rate (30% below the initial L value)

Itemp: When based on the temperature increase (temperature increase of 40°C by self heating)

## Measurement equipment

Measurement item	Product No.	Manufacturer
L	4294A	Keysight Technologies, Inc. (formerly Hewlett-Packard)
DC resistance	34420A	Keysight Technologies, Inc. (formerly Hewlett-Packard)
Rated current Isat	4284A+42841A+42842A	Keysight Technologies, Inc. (formerly Hewlett-Packard)

\* Equivalent measurement equipment may be used.

## TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range*	Storage temperature range**	Individual weight
-40 to 125 °C	-40 to 125 °C	0.4 g

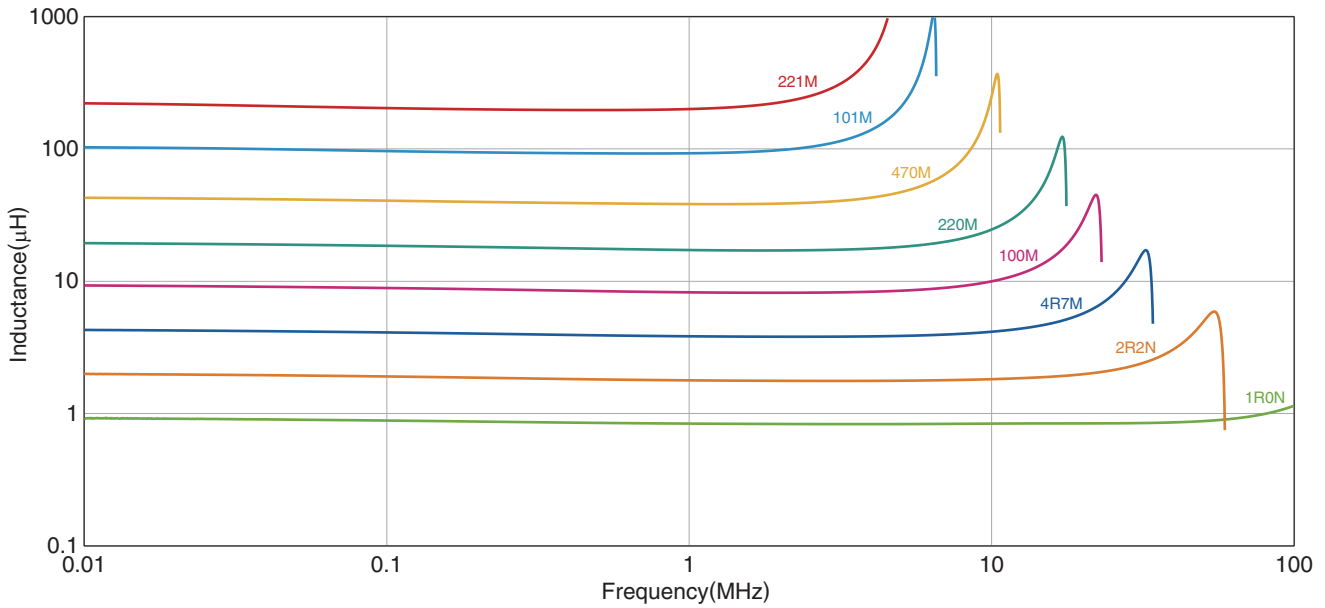
\* Operating temperature range includes self-temperature rise.

\*\* The storage temperature range is for after the assembly.



# VLS5045EX-H type

## L FREQUENCY CHARACTERISTICS

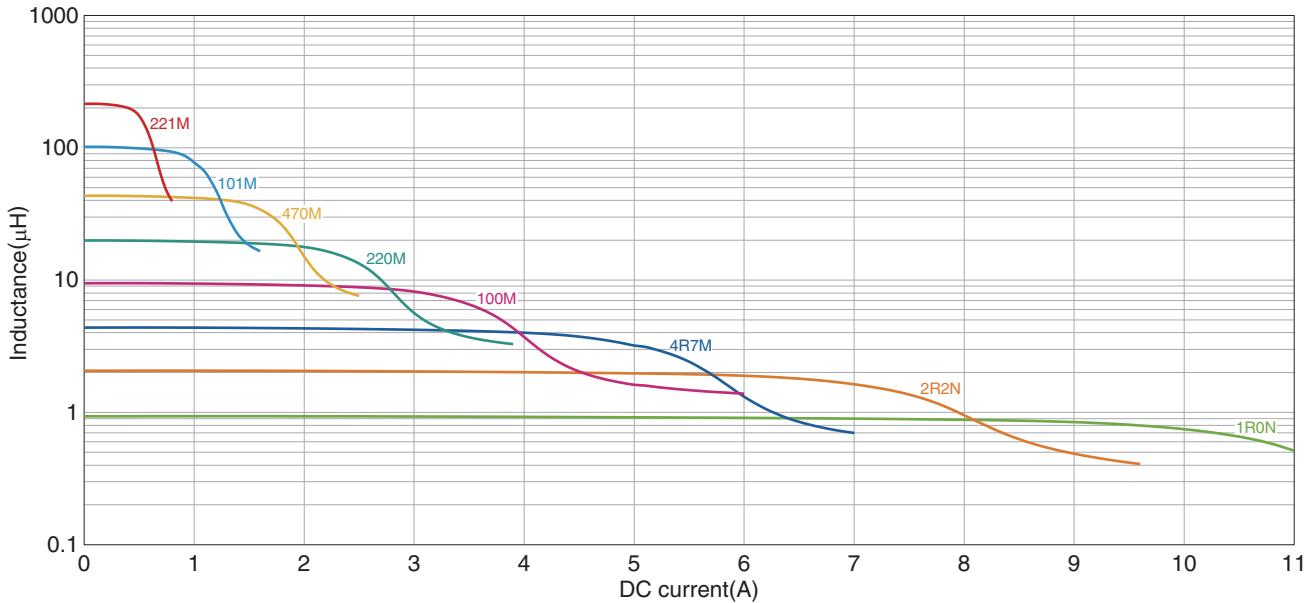


Measurement equipment

Product No.	Manufacturer
4294A	Keysight Technologies, Inc. (formerly Hewlett-Packard)

\* Equivalent measurement equipment may be used.

## INDUCTANCE VS. DC BIAS CHARACTERISTICS



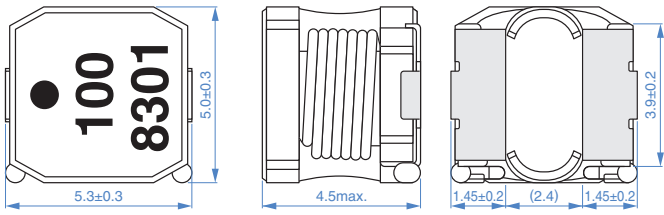
Measurement equipment

Product No.	Manufacturer
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# VLS5045EX-H type

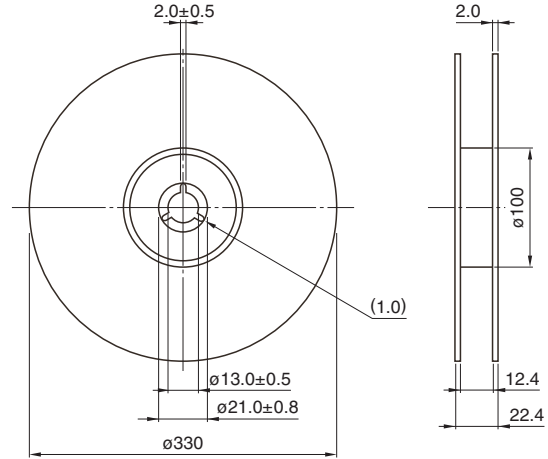
## SHAPE & DIMENSIONS



Dimensions in mm

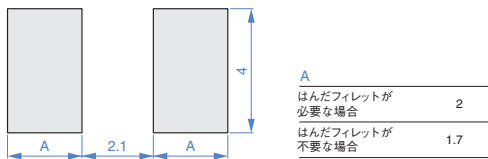
## PACKAGING STYLE

### REEL DIMENSIONS



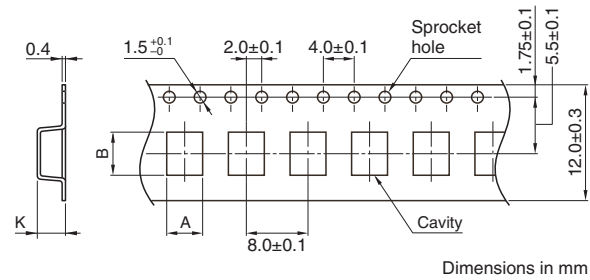
Dimensions in mm

## RECOMMENDED LAND PATTERN



Dimensions in mm

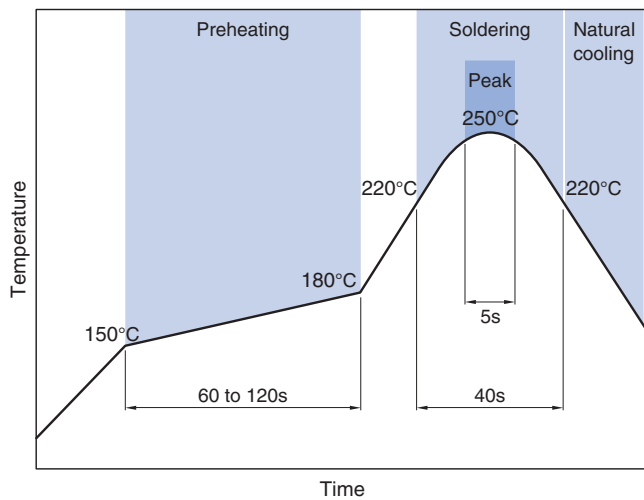
### TAPE DIMENSIONS



Dimensions in mm

Type	A	B	K
VLS5045EX-H	5.3	5.3	4.7

## RECOMMENDED REFLOW PROFILE



### PACKAGE QUANTITY

Package quantity	1500 pcs/reel
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⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (3/4)  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

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