

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_{dc} 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	VLS5045EX-1R0N-H
2.2	±30%	100	0.022	6.4	4.7	VLS5045EX-2R2N-H
4.7	±20%	100	0.036	4.4	3.2	VLS5045EX-4R7M-H
10	±20%	100	0.061	3.1	2.5	VLS5045EX-100M-H
22	±20%	100	0.125	2.0	1.8	VLS5045EX-220M-H
47	±20%	100	0.30	1.3	1.0	VLS5045EX-470M-H
100	±20%	100	0.58	0.8	0.7	VLS5045EX-101M-H
220	±20%	100	1.05	0.45	0.45	VLS5045EX-221M-H

* 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

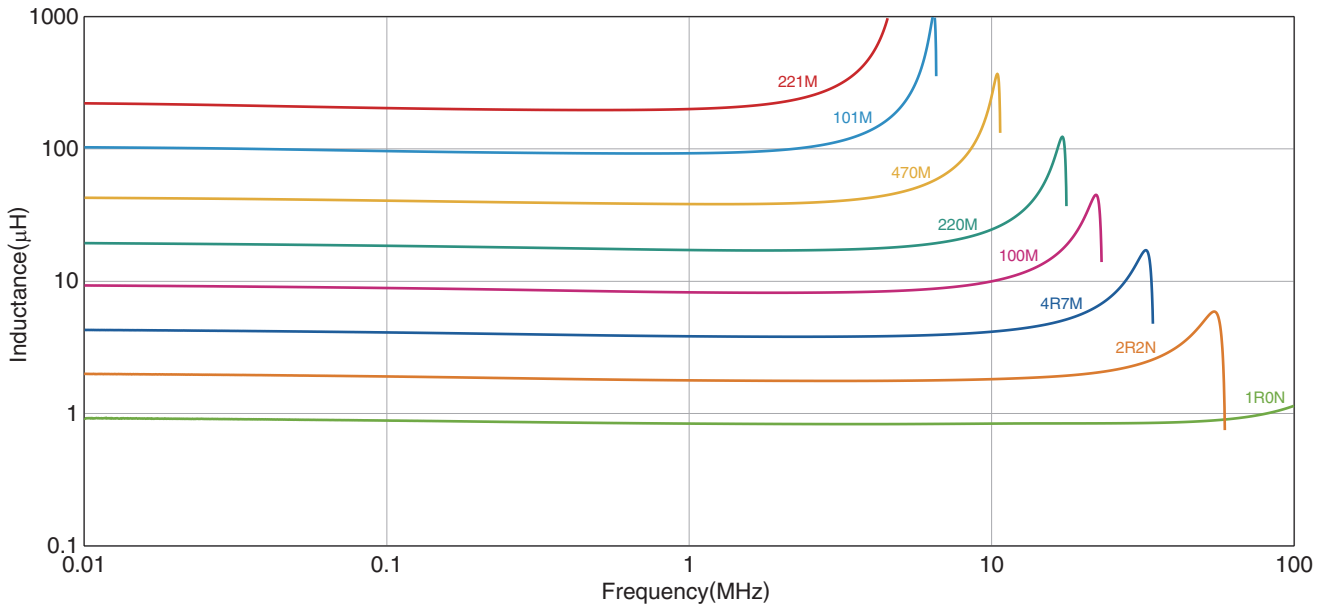
* Operating temperature range includes self-temperature rise.

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



VLS5045EX-H type

L FREQUENCY CHARACTERISTICS

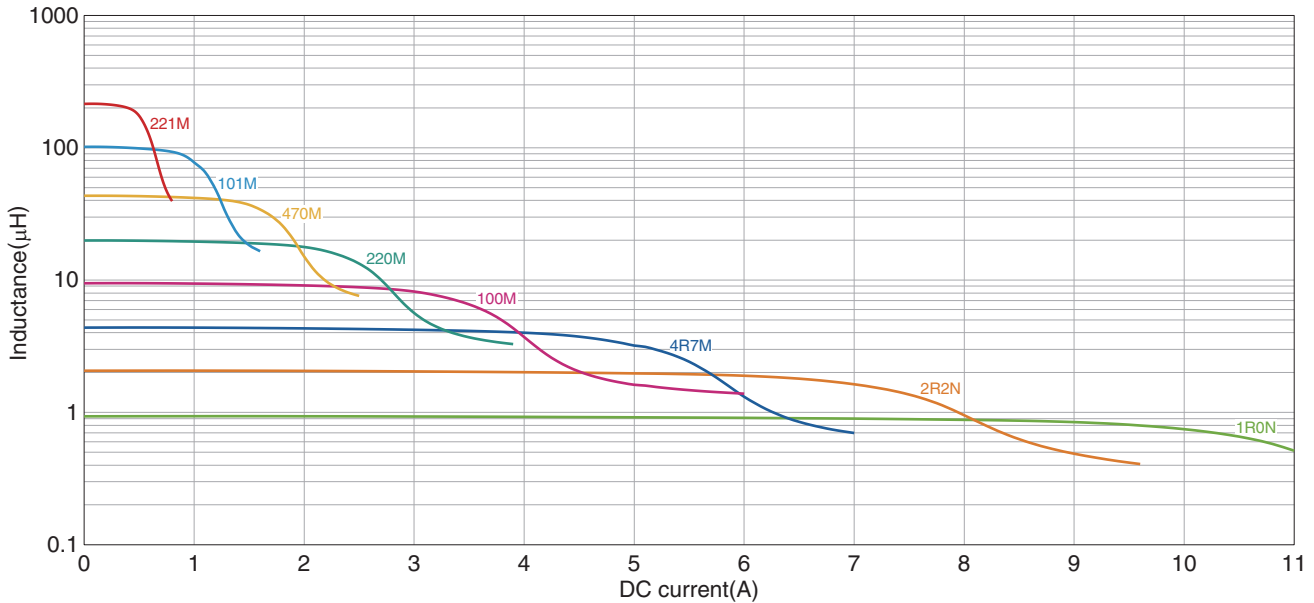


Measurement equipment

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* Equivalent measurement equipment may be used.

INDUCTANCE VS. DC BIAS CHARACTERISTICS



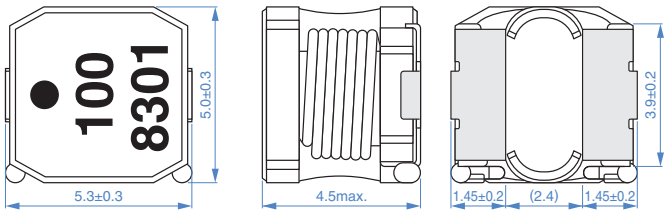
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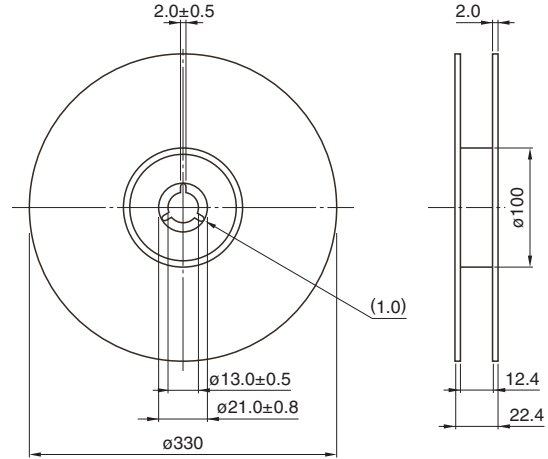
SHAPE & DIMENSIONS



Dimensions in mm

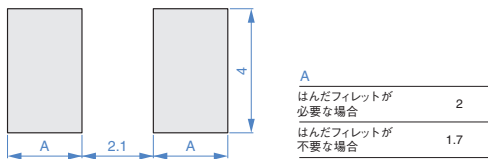
PACKAGING STYLE

REEL DIMENSIONS



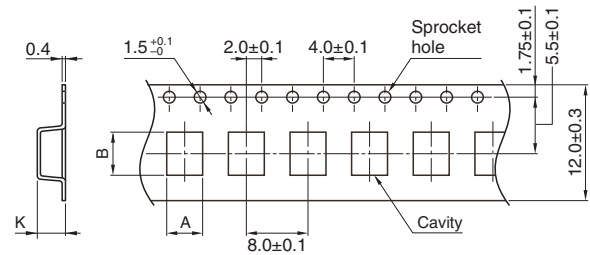
Dimensions in mm

RECOMMENDED LAND PATTERN



Dimensions in mm

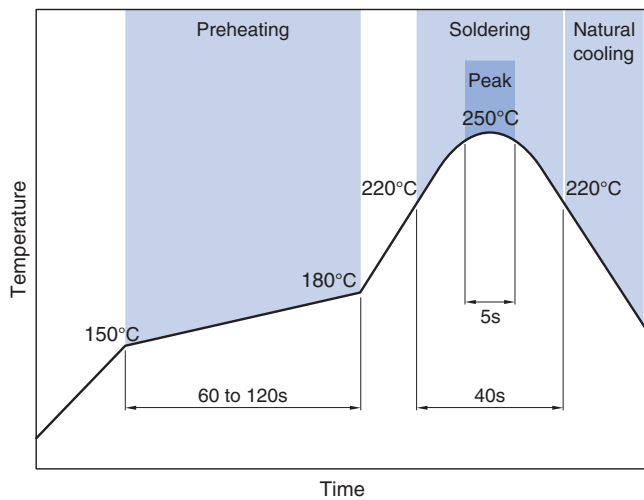
TAPE DIMENSIONS



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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