

Inductors for power circuits **Wound ferrite VLS-EX** series









## VLS6045EX type













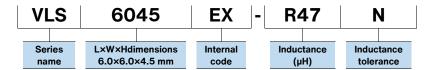
#### **FEATURES**

- OMagnetic shield type wound inductor for power circuits.
- OHigh magnetic shield construction achieved by a ferrite magnetic material and compatible with high-density mounting.
- OLarger current and lower Rdc were achieved by optimizing the ferrite core figure.
- Operating temperature range: -40 to +105°C(including self-heating)

#### APPLICATION

OTV, STB, gaming equipment, other AV equipment

#### PART NUMBER CONSTRUCTION



#### CHARACTERISTICS SPECIFICATION TABLE

L		Measuring frequency	DC resistance	Rated current*		Part No.
				Isat	Itemp	
(µH)	Tolerance	(kHz)	(Ω)±30%	(A)max.	(A)typ.	
0.47	±30%	100	0.010	13.5	7.0	VLS6045EX-R47N
1.0	±30%	100	0.012	12.0	6.0	<u>VLS6045EX-1R0N</u>
1.5	±30%	100	0.017	8.2	5.3	VLS6045EX-1R5N
2.2	±30%	100	0.019	7.5	5.1	VLS6045EX-2R2N
3.3	±30%	100	0.023	6.5	4.95	VLS6045EX-3R3N
4.7	±20%	100	0.027	5.8	4.2	VLS6045EX-4R7M
6.8	±20%	100	0.036	4.7	3.6	VLS6045EX-6R8M
10	±20%	100	0.047	3.9	3.4	VLS6045EX-100M
15	±20%	100	0.075	3.1	2.5	VLS6045EX-150M
22	±20%	100	0.105	2.4	1.9	VLS6045EX-220M
33	±20%	100	0.175	1.9	1.5	VLS6045EX-330M
47	±20%	100	0.23	1.8	1.3	VLS6045EX-470M
68	±20%	100	0.31	1.4	1.0	VLS6045EX-680M
100	±20%	100	0.47	1.1	0.9	VLS6045EX-101M
150	±20%	100	0.76	0.9	0.7	VLS6045EX-151M
220	±20%	100	1.15	0.8	0.5	VLS6045EX-221M
330	±20%	100	1.44	0.5	0.47	VLS6045EX-331M
470	±20%	100	2.14	0.4	0.42	<u>VLS6045EX-471M</u>
680	±20%	100	2.95	0.3	0.32	VLS6045EX-681M

<sup>\*</sup> Rated current: smaller value of either lsat 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

Product No. *	Manufacturer
4294A	Keysight Technologies, Inc. (formerly Hewlett-Packard)
34420A	Keysight Technologies, Inc. (formerly Hewlett-Packard)
4284A+42841A+42842A	Keysight Technologies, Inc. (formerly Hewlett-Packard)
	4294A 34420A

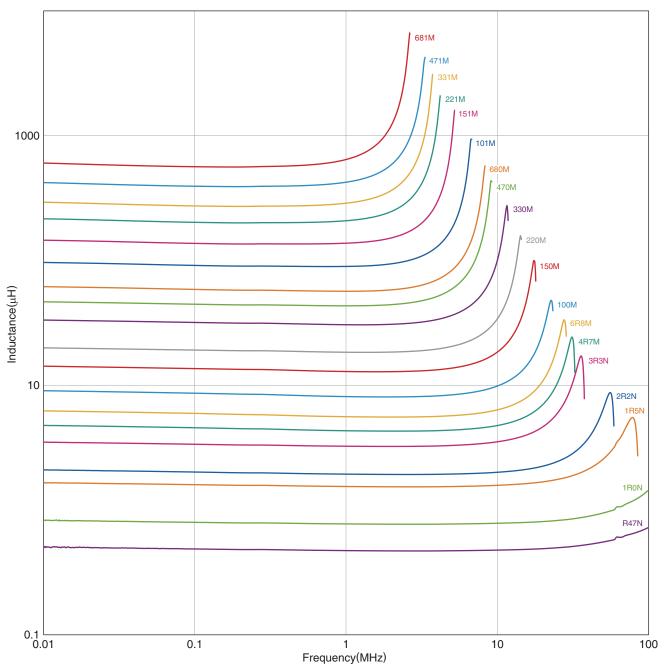
<sup>\*</sup> Equivalent measurement equipment may be used.





# VLS6045EX type

### L FREQUENCY CHARACTERISTICS



#### Measurement equipment

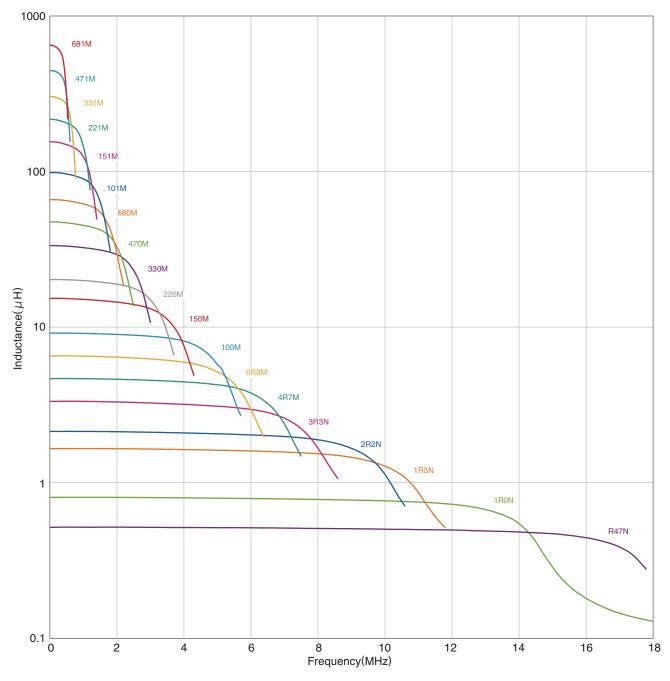
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#### INDUCTANCE VS. DC BIAS CHARACTERISTICS



#### Measurement equipment

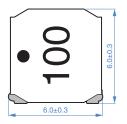
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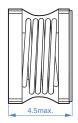
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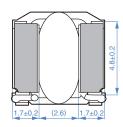


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#### SHAPE & DIMENSIONS



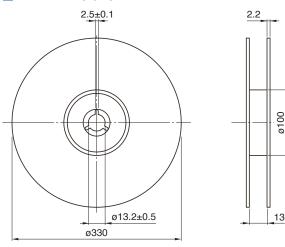




Dimensions in mm

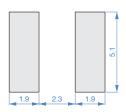
#### PACKAGING STYLE

#### REEL DIMENSIONS



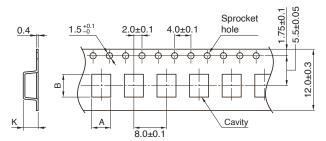
Dimensions in mm

#### RECOMMENDED LAND PATTERN



Dimensions in mm

#### **TAPE DIMENSIONS**



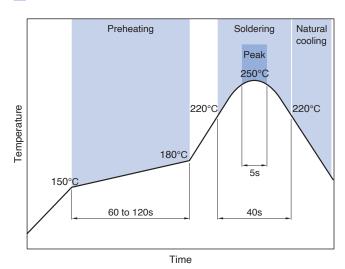
Dimensions in mm

Туре	Α	В	K
VLS6045EX	6.3	6.3	4.7

#### **□PACKAGE QUANTITY**

Package quantity	1500 pcs/reel

#### RECOMMENDED REFLOW PROFILE



## TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range *	Storage temperature range **	Individual weight
-40 to +105 °C	-40 to +105 °C	0.6 g

<sup>\*</sup> Operating temperature range includes self-heating.

<sup>\*\*</sup> The storage temperature range is for after the assembly.



### REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using this products

### REMINDERS

<ul> <li>The storage period is within 6 months. Be sure to follow the stor less).</li> <li>If the storage period elapses, the soldering of the terminal ele</li> </ul>	orage conditions (temperature: 5 to 30°C, humidity: 0 to 75% RH octrodes may deteriorate.
ODo not use or store in locations where there are conditions su	ch as gas corrosion (salt, acid, alkali, etc.).
Soldering corrections after mounting should be within the ran- If overheated, a short circuit, performance deterioration, or lif	•
Before soldering, be sure to preheat components. The preheating temperature should be set so that the temper temperature does not exceed 150°C.	ature difference between the solder temperature and chip
When embedding a printed circuit board where a chip is mour due to the overall distortion of the printed circuit board and p	•
Self heating (temperature increase) occurs when the power is thermal design.	turned ON, so the tolerance should be sufficient for the set
Carefully lay out the coil for the circuit board design of the no A malfunction may occur due to magnetic interference.	n-magnetic shield type.
Use a wrist band to discharge static electricity in your body th	rough the grounding wire.
On not expose the products to magnets or magnetic fields.	
On not use for a purpose outside of the contents regulated in	the delivery specifications.
or quality require a more stringent level of safety or reliability damage to society, person or property.	ter equipment, personal equipment, office equipment, peration and use condition. The rements of the applications listed below, whose performance and
<ul><li>(1) Aerospace/aviation equipment</li><li>(2) Transportation equipment (cars, electric trains, ships, etc.)</li><li>(3) Medical equipment</li><li>(4) Power-generation control equipment</li></ul>	<ul><li>(7) Transportation control equipment</li><li>(8) Public information-processing equipment</li><li>(9) Military equipment</li><li>(10) Electric heating apparatus, burning equipment</li></ul>

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

(5) Atomic energy-related equipment

(6) Seabed equipment

(11) Disaster prevention/crime prevention equipment

(13) Other applications that are not considered general-purpose

(12) Safety equipment

applications