INDUCTORS

公TDK

Inductors for power circuits Wound ferrite VLS-EX-H series (for automotive)



VLS6045EX-H type



FEATURES

O Magnetic shield type wound inductor for power circuits.

O High magnetic shield construction achieved by a ferrite magnetic material and compatible with high-density mounting.

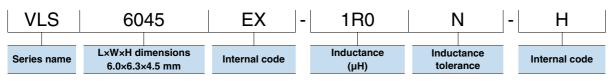
O Larger current and lower Rdc were achieved by optimizing the ferrite core figure.

O Compliant with AEC-Q200

APPLICATION

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

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.	
1.0	±30%	100	0.012	12.0	6.0	VLS6045EX-1R0N-H
2.2	±30%	100	0.019	7.5	5.1	VLS6045EX-2R2N-H
4.7	±20%	100	0.027	5.8	4.2	<u>VLS6045EX-4R7M-H</u>
10	±20%	100	0.047	3.9	3.4	VLS6045EX-100M-H
22	±20%	100	0.105	2.4	1.9	VLS6045EX-220M-H
47	±20%	100	0.23	1.8	1.3	VLS6045EX-470M-H
100	±20%	100	0.47	1.1	0.9	VLS6045EX-101M-H
220	±20%	100	1.15	0.8	0.5	VLS6045EX-221M-H

* 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

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)	
A Envirolent measurement environment may be used			

* 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	0.6 g

* Operating temperature range includes self-temperature rise.

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



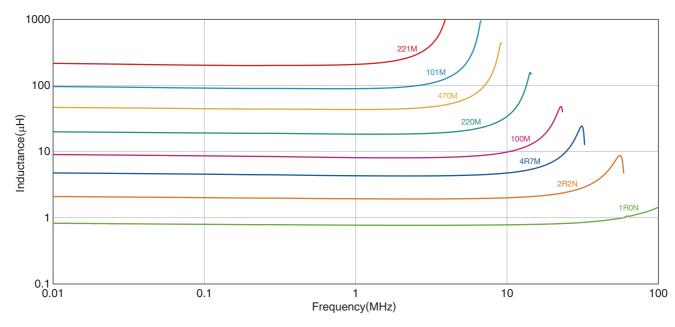
A Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (1/4) Please note that the contents may change without any prior notice due to reasons such as upgrading.

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INDUCTORS

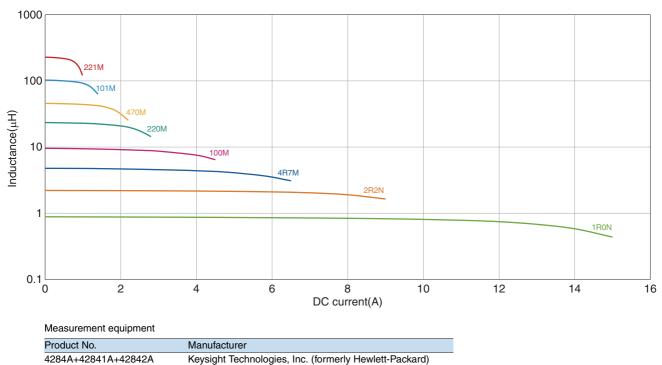
VLS6045EX-H type

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



* Equivalent measurement equipment may be used.

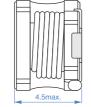
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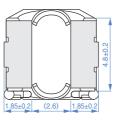
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VLS6045EX-H type

SHAPE & DIMENSIONS

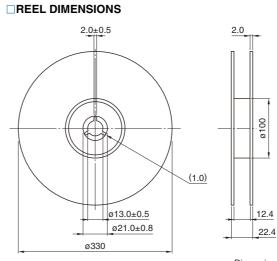






Dimensions in mm

PACKAGING STYLE

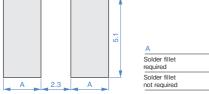


Dimensions in mm

TAPE DIMENSIONS



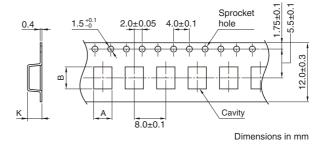
RECOMMENDED REFLOW PROFILE



Dimensions in mm

2.4

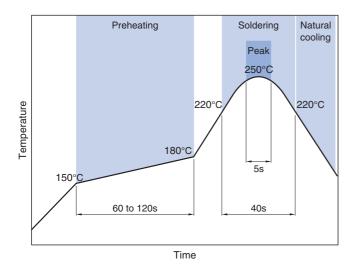
2.1



Туре	А	В	К
VLS6045EX-H	6.35	6.65	4.7

PACKAGE QUANTITY

Package quantity	1500 pcs/reel



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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.

A REM	INDERS	
 The storage period is within 12 months. Be sure to follow the stor less). If the storage period elapses, the soldering of the terminal electrod 		
O Do not use or store in locations where there are conditions such as	gas corrosion (sait, acid, aikali, etc.).	
 Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature does not exceed 150°C. 	e difference between the solder temperature and chip temperature	
 Soldering corrections after mounting should be within the range of If overheated, a short circuit, performance deterioration, or lifespan 	-	
When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.		
 Self heating (temperature increase) occurs when the power is tur design. 	rned ON, so the tolerance should be sufficient for the set thermal	
 Carefully lay out the coil for the circuit board design of the non-mag A malfunction may occur due to magnetic interference. 	netic shield type.	
\bigcirc Use a wrist band to discharge static electricity in your body through	the grounding wire.	
O Do not expose the products to magnets or magnetic fields.		
\bigcirc Do not use for a purpose outside of the contents regulated in the definition of the contents regulated in the definition of the contents regulated in the definition of the content o	elivery specifications.	
 The products listed on this catalog are intended for use in general ment, home appliances, amusement equipment, computer equipment, industrial robots) under a normal operation and use condition. The products are not designed or warranted to meet the requirement ity require a more stringent level of safety or reliability, or whose fail person or property. If you intend to use the products in the applications listed below or set forth in the each catalog, please contact us. 	ment, personal equipment, office equipment, measurement equip- n. hts of the applications listed below, whose performance and/or qual- lure, malfunction or trouble could cause serious damage to society,	
 Aerospace/aviation equipment Transportation equipment (cars, electric trains, ships, etc.) Medical equipment Power-generation control equipment Atomic energy-related equipment Seabed equipment Transportation control equipment Transportation control equipment 	 (8) Public information-processing equipment (9) Military equipment (10) Electric heating apparatus, burning equipment (11) Disaster prevention/crime prevention equipment (12) Safety equipment (13) Other applications that are not considered general-purpose applications 	

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