

April 2016

Inductors for Power Circuits

Wound Ferrite

VLB Series

VLB10050 Type

VLB10050

ATDK

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 these products.

⚠ REMINDERS
The storage period is less than 6 months. Be sure to follow the storage conditions (Temperature: 5 to 30°C, Humidity: 10 to 75% RH cless).
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
On not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
 Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
 Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
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 turned ON, so the tolerance should be sufficient for the set thermal design.
Carefully lay out the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
Use a wrist band to discharge static electricity in your body through 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.
The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or
quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or condition set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) 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

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.

INDUCTORS &TDK

Inductors for Power CircuitsWound Ferrite

Product compatible with RoHS directive
Halogen-free
Compatible with lead-free solders

Overview of VLB10050 Type

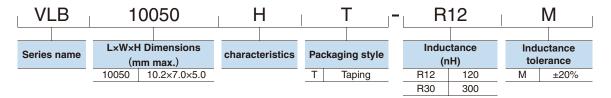
FEATURES

- O High-current SMD inductor.
- O Low-profile design.
- O High output processing capacity: Minimal copper loss
- O High saturation current and low DC resistance.
- O High operating frequency: Up to 2MHz

APPLICATION

- O Personal computers, servers (Voltage Regulator Modules, etc.)
- O Amusement equipment, AV equipment, etc.

PART NUMBER CONSTRUCTION



■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

	Temperat	ure range	Package quantity	Individual weight
Туре	Operating Storage temperature* temperature*			
	(°C)	(°C)	(pieces/reel)	(g)
VLB10050	-40 to +125	-40 to +125	500	1.40

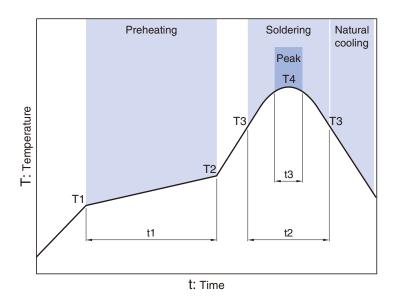
^{*} Operating temperature range includes self-temperature rise.

^{**} The Storage temperature range is for after the circuit board is mounted.

RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. http://product.tdk.com/en/environment/rohs/

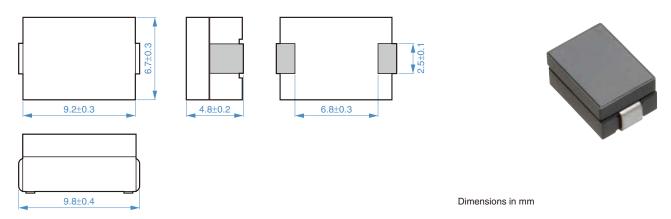
O Halogen-free: Indicates that CI content is less than 900ppm, Br content is less than 900ppm, and that the total CI and Br content is less than 1500ppm.

■ RECOMMENDED REFLOW PROFILE

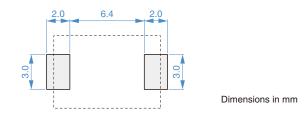


Preheating		Soldering		Peak	Peak		
Temp.		Time	Temp.	Time	Temp.	Time	
T1	T2	t1	Т3	t2	T4	t3	
150°C	180°C	60 to 120s	230°C	30s	250°C	5s	

■SHAPE & DIMENSIONS



■ RECOMMENDED LAND PATTERN



■ ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

L		Measuring frequency	DC resist	DC resistance		ent*	Part No.
					Isat	Itemp	
(nH)	Tolerance	(MHz)	$(m\Omega)$	tolerance(%)	(A)typ.	(A)typ.	
120	±20%	1	0.35	±6	68	31	VLB10050HT-R12M
150	±20%	1	0.35	±6	52	31	VLB10050HT-R15M
200	±20%	1	0.35	±6	37	31	VLB10050HT-R20M
300	±30%	1	0.35	±6	21	31	VLB10050HT-R30N

^{*} Rated current: smaller value of either Isat or Itemp.

Isat: When based on the inductance change rate (20% below the nominal value) $\,$

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

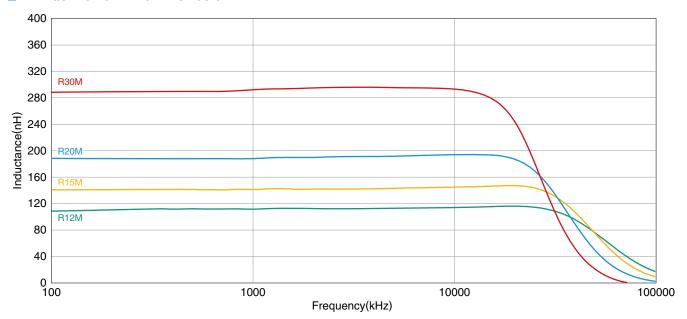
\bigcirc Measurement equipment

Measurement item	Product No.	Manufacturer
L	4194A	Keysight Technologies
DC resistance	3541	HIOKI
Rated current Isat	3260+3265B	Wayne Kerr Electronics

^{*} Equivalent measurement equipment may be used.

■ ELECTRICAL CHARACTERISTICS

☐ L FREQUENCY CHARACTERISTICS GRAPH



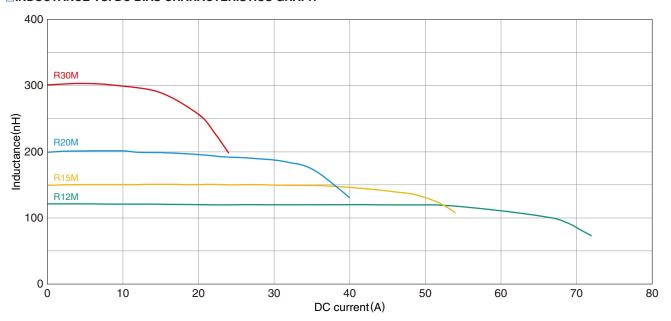
 \bigcirc Measurement equipment

Product No.	Manufacturer
4294A	Keysight Technologies

^{*} Equivalent measurement equipment may be used.

■ ELECTRICAL CHARACTERISTICS

□INDUCTANCE VS. DC BIAS CHARACTERISTICS GRAPH



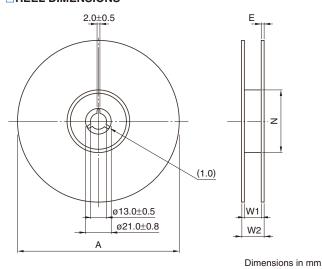
O Measurement equipment

Product No.	Manufacturer
3260B+3265B	Wayne Kerr Electronics

^{*} Equivalent measurement equipment may be used.

■PACKAGING STYLE

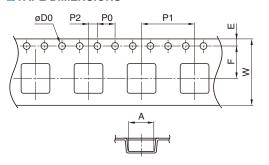
REEL DIMENSIONS



Type	Type A		W2	N	Е	
VLB10050	ø330	25.5	30.4	ø100	2	

^{*} These values are typical values.

TAPE DIMENSIONS





Dimensions in mm

Type	Α	В	øD0	Е	F	P0	P1	P2	W	K	t
VLB10050	7.2	10.4	1.5+0.1/-1	1.75±0.1	11.5±0.1	4.0±0.1	12.0±0.1	2.0±0.1	24.0±0.3	5.2	0.5



OOO «ЛайфЭлектроникс" "LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 P/C 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 3010181090000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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