

Inductors for decoupling circuits

Wound ferrite

ADL-VK series (for automotive)



AEC-Q200

ADL4532VK type



FEATURES

- Achieving broadband impedance characteristics and good DC superimposition characteristics as the result of an original coiled wiring design and original structure
- Operating temperature range: -55 to +155°C (including self-heating)
- Compliant with AEC-Q200

APPLICATION

- Inductor for use with separate signal and power lines in in-vehicle PoC (Power Over Coax)

PART NUMBER CONSTRUCTION

ADL	4532	VK	-	3R0	M	-	TL	000
Series name	L×W×H dimensions 4.5×3.2×3.2 mm	Characteristic type		Inductance (μH)	Inductance tolerance		Packaging style	Internal code

CHARACTERISTICS SPECIFICATION TABLE

L		L measuring frequency	DC resistance	Isat.	Itemp.		Part No.
(μH)	Tolerance	(kHz)	(Ω)max.	(mA)typ.	(mA)typ. 105deg.C	125deg.C	
3	±20%	100	0.125	2100	1650	1300	ADL4532VK-3R0M-TL000
10	±20%	100	0.235	1250	1200	940	ADL4532VK-100M-TL000
16	±20%	100	0.470	950	830	640	ADL4532VK-160M-TL000

* Isat. : Current value at -30% inductance change (relative to nominal value) in DC superposition.

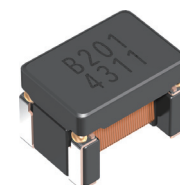
Itemp. 105°C: Current value at 50°C self-heating when a product is mounted on the board for self-heating measurement.

Itemp. 125°C: Current value at 30°C self-heating when a product is mounted on the board for self-heating measurement.

Measurement equipment

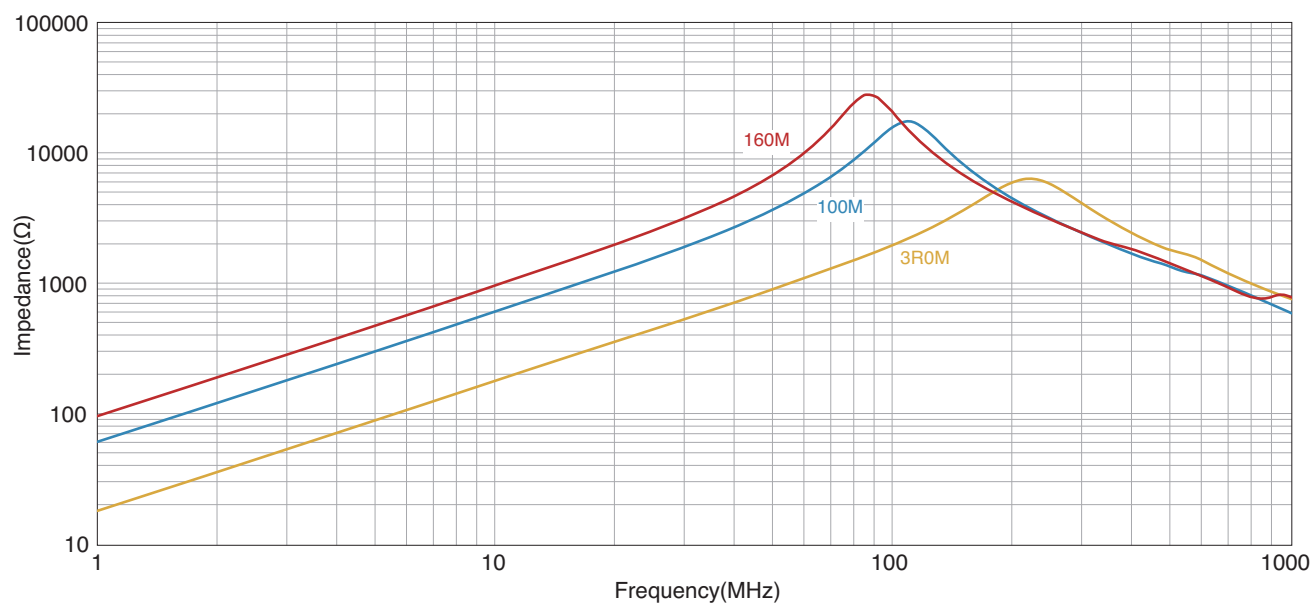
Measurement item	Product No. *	Manufacturer
Inductance	E4990A	Keysight Technologies
DC resistance	4338A	Keysight Technologies

* Equivalent measurement equipment may be used.



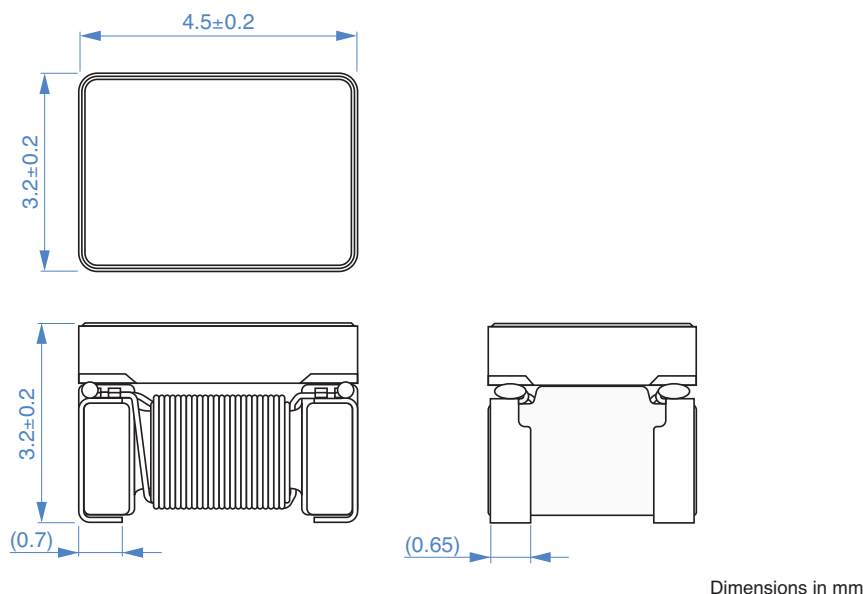
ADL4532VK type

■ IMPEDANCE VS. FREQUENCY CHARACTERISTICS



ADL4532VK type

SHAPE & DIMENSIONS

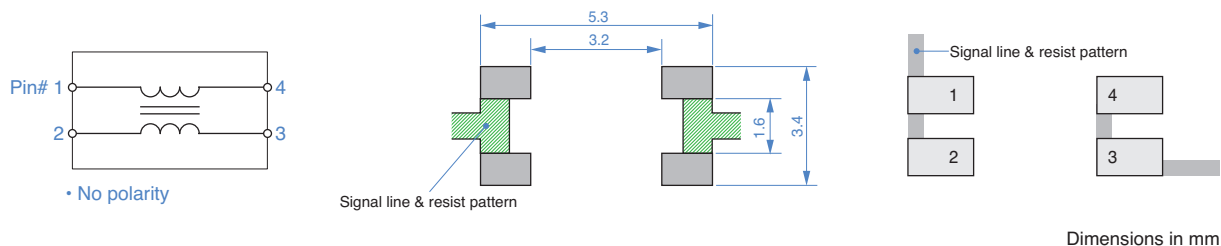


RECOMMENDED LAND PATTERN

ADL4532VK type has 4 terminals, but please connect it in a short-circuited state in the width direction and use it as a 2-terminal component.

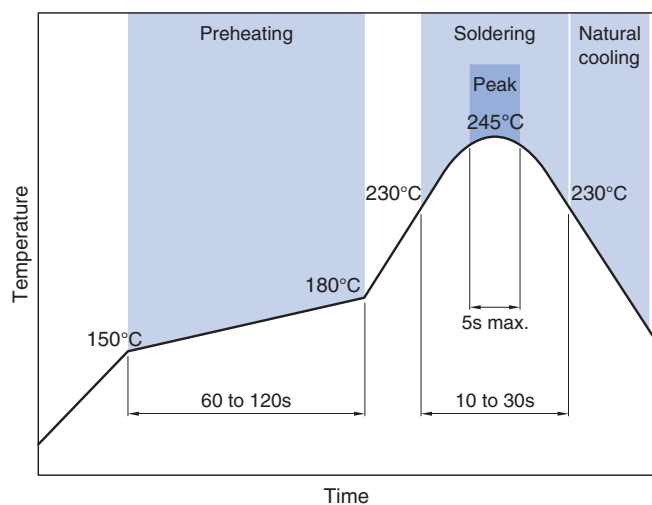
Connect between PIN1-2 and PIN3-4 of the PCB, and cover the pattern that is not used as a footprint with a resist layer.

Here is an example of a footprint connection.



ADL4532VK type

RECOMMENDED REFLOW PROFILE



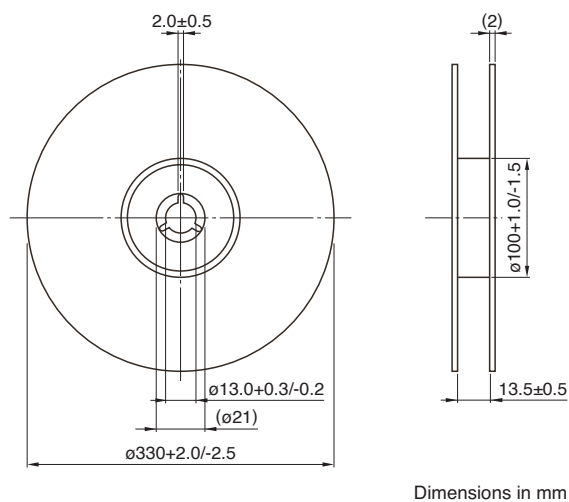
TEMPERATURE RANGE, INDIVIDUAL WEIGHT

Operating temperature range *	Storage temperature range	Individual weight
-55 to +155 °C	-55 to +155 °C	0.18 g

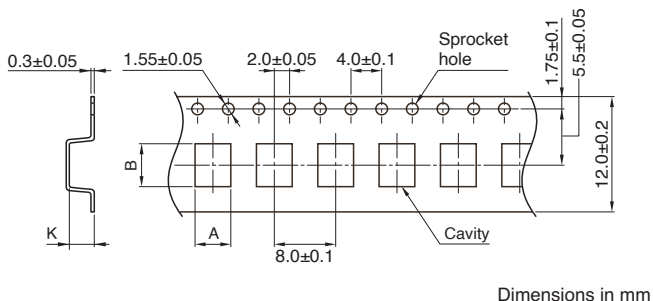
* Operating temperature range includes self-heating.

PACKAGING STYLE

REEL DIMENSIONS

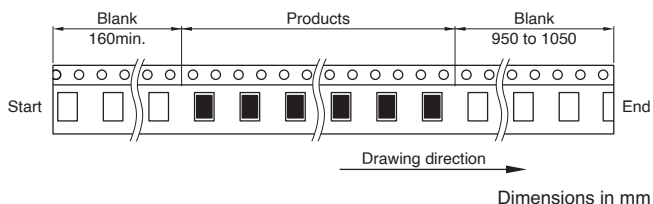


TAPE DIMENSIONS



Dimensions in mm

Type	A	B	K
ADL4532VK	(3.6)	(4.9)	(3.45)



Dimensions in mm

PACKAGE QUANTITY

Package quantity	2,000 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

REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 5 to 40°C, humidity: 10 to 75% RH or less).
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- 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.
- Do not expose the products to magnets or magnetic fields.
- Do not use products that have received any excessive mechanical shock such as by being dropped.
- The performance of the product may deteriorate or at the worst case open if coating materials are used, thus please assess the situation beforehand by tak-ing this factor into consideration.
- Due to the application of mechanical stress after mounting and handling such as contact, disconnection may occur.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this specification sheet (the "Products") are intended for incorporation into automobile and/or equipment to be installed in automobile on the grounds that (i) the Products are used in accordance with the conditions and scope stated in this specification sheet and (ii) said automobile and/or equipment involving the Products are used under a normal operation and use condition.

Except for said incorporation into automobile and/or equipment installed in automobile, 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. Please understand that we are not responsible for any damage or liability caused by use of the Products in any of the applications listed below or for any other use exceeding the range or conditions set forth in this specification sheet.

If you intend to use the Products beyond the condition and scope of this specification sheet or in any of the applications listed below, please contact with our sales office.

We will separately discuss with you applicable specification suitable for your intended use.

- | | |
|---|--|
| (1) Aerospace/aviation equipment | (7) Transportation control equipment |
| (2) Transportation equipment (electric trains, ships, etc.) | (8) Public information-processing equipment |
| (3) Medical equipment | (9) Military equipment |
| (4) Power-generation control equipment | (10) Electric heating apparatus, burning equipment |
| (5) Atomic energy-related equipment | (11) Disaster prevention/crime prevention equipment |
| (6) Seabed 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.

In addition, although the products listed in this specification are intended for use in automotive applications as described above, they are not prohibited to use in general electronic equipment, whose performance and/or quality doesn't require a more stringent level of safety or reliability, or whose failure, malfunction or defect could not cause serious damage to society, person or property. Therefore, the description of this caution will be applied, when the products are used in general electronic equipment under a normal operation and usage conditions.