HIGH CURRENT INDUCTORS

MODEL NO : VTHI-330150MZ SERIES

Features :

∗ Through-hole version.
∗ Low core loss and high efficiency performance.
∗ Close magnetic path for low leakage flux.
∗ Low DCR with flat wire design.
∗ Compliant with RoHS and REACH.
∗ AEC-Q200 Qualified.

Application :

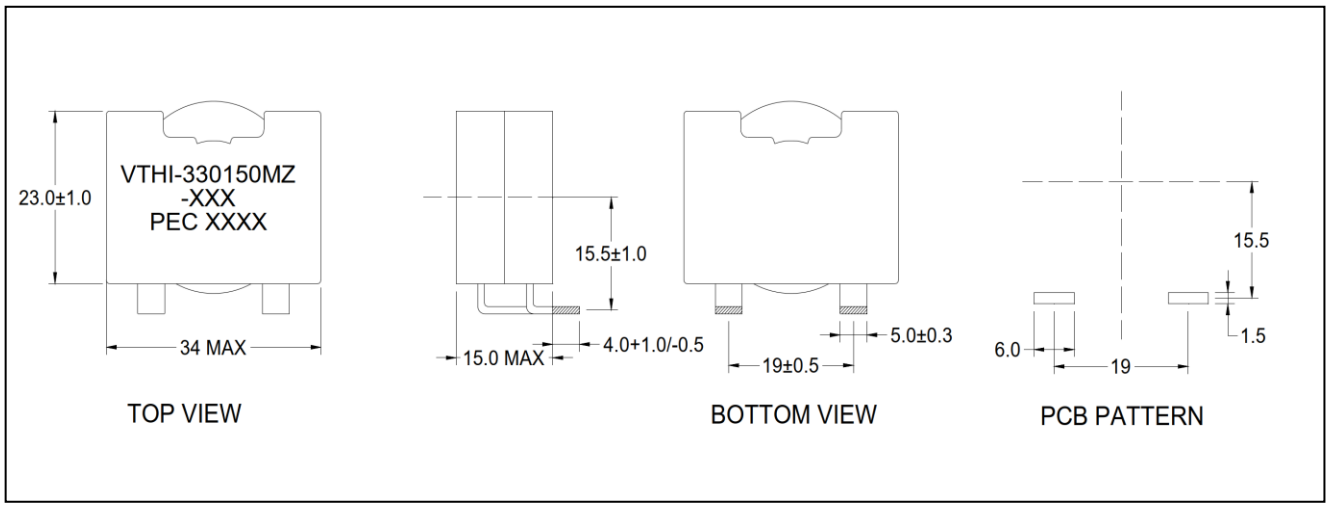
∗ DC/DC converter in power regulation system.
∗ PV inverters.
∗ Automotive.

Electrical Specification :

PART NO	INDUCTANCE ±10% (uH)	DCR ±10% (mΩ)	TEMPERATURE RISE CURRENT (ADC) (NOTE 2)	SATURATION CURRENT (ADC)		
				@25℃ (NOTE3)	@100℃	@160℃
VTHI-330150MZ-2R2	2.2	0.83	55.0	110	L@86DC≧1.6uH	L@69ADC≧1.5uH
VTHI-330150MZ-3R5	3.5	1.25	50.0	90	L@72ADC≧2.5uH	L@57ADC≧2.4uH
VTHI-330150MZ-6R5	6.5	1.25	46.0	51	L@41ADC≧4.6uH	L@32ADC≧4.5uH
VTHI-330150MZ-9R0	9.0	3.0	36.0	60	L@46ADC≧6.5uH	L@36ADC≧6.3uH

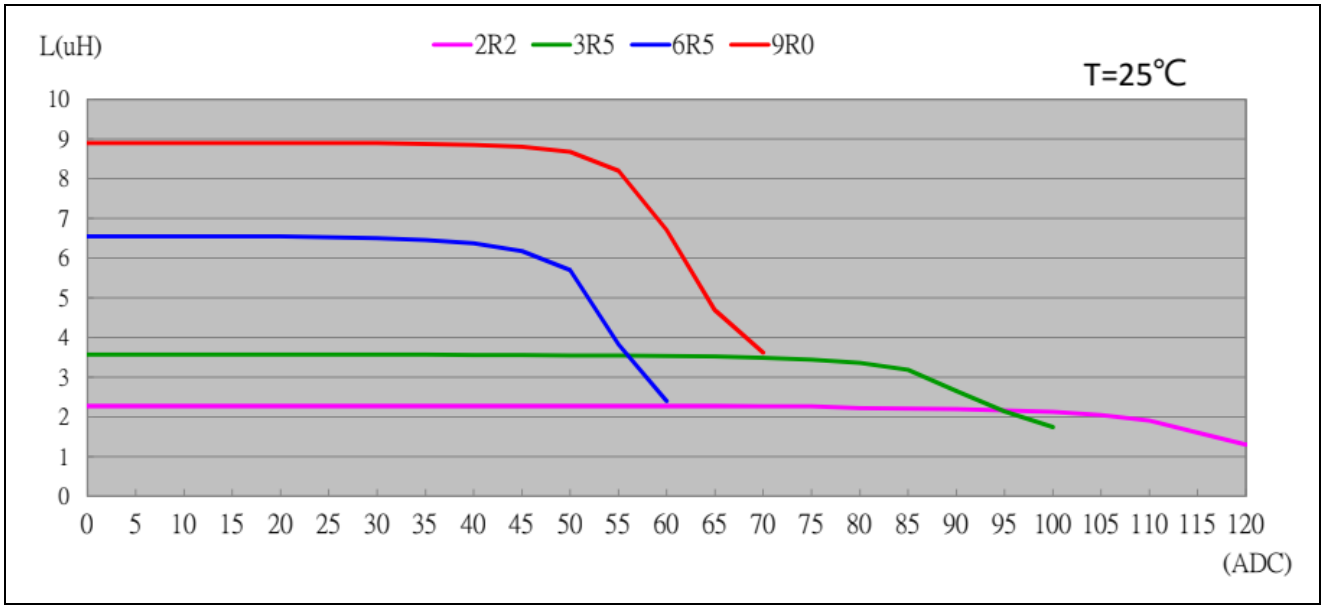
NOTE (1): Measuring condition : 100 KHZ ,0.1Vrms.
NOTE (2): ΔT=40℃ approximately under the temperature rise current.
NOTE (3): The saturation current indicates the value of DC current is approximately 30% lower than its initial value of inductance.
NOTE (4): Operating temperature range: -40℃~+160℃.
NOTE (5): Storage time :The recommended storage time of Inductor is maximum 12 months, and don't suggest to use the parts over 12 months.

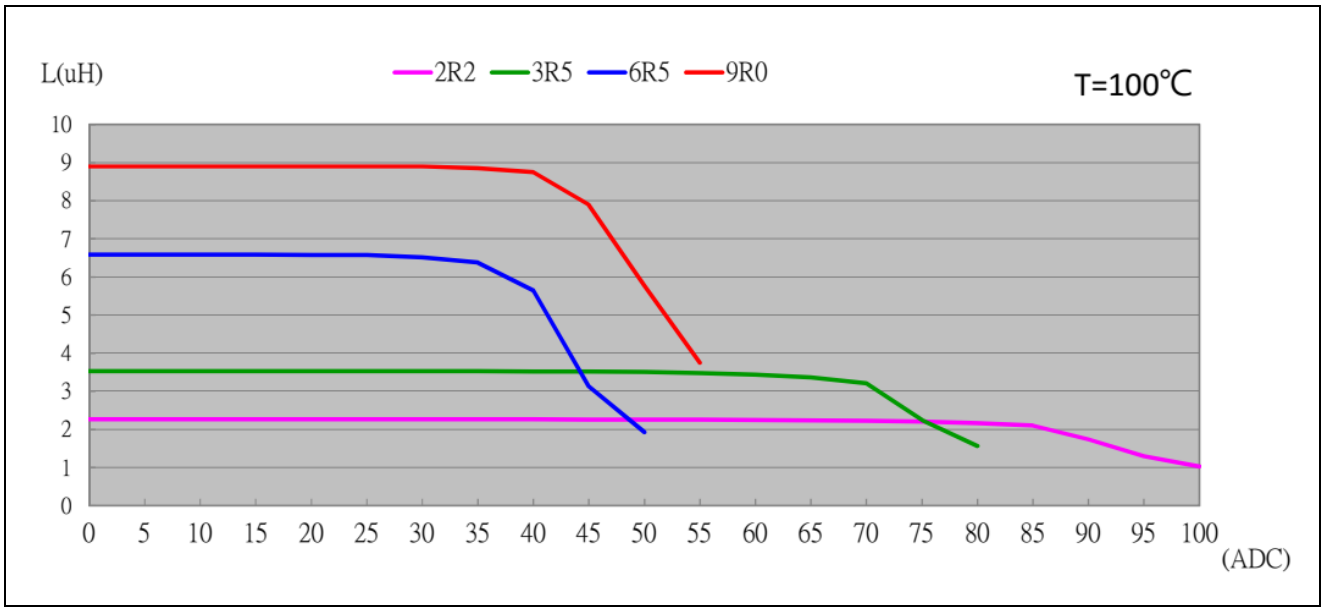
Physical Dimension : (unit :mm)

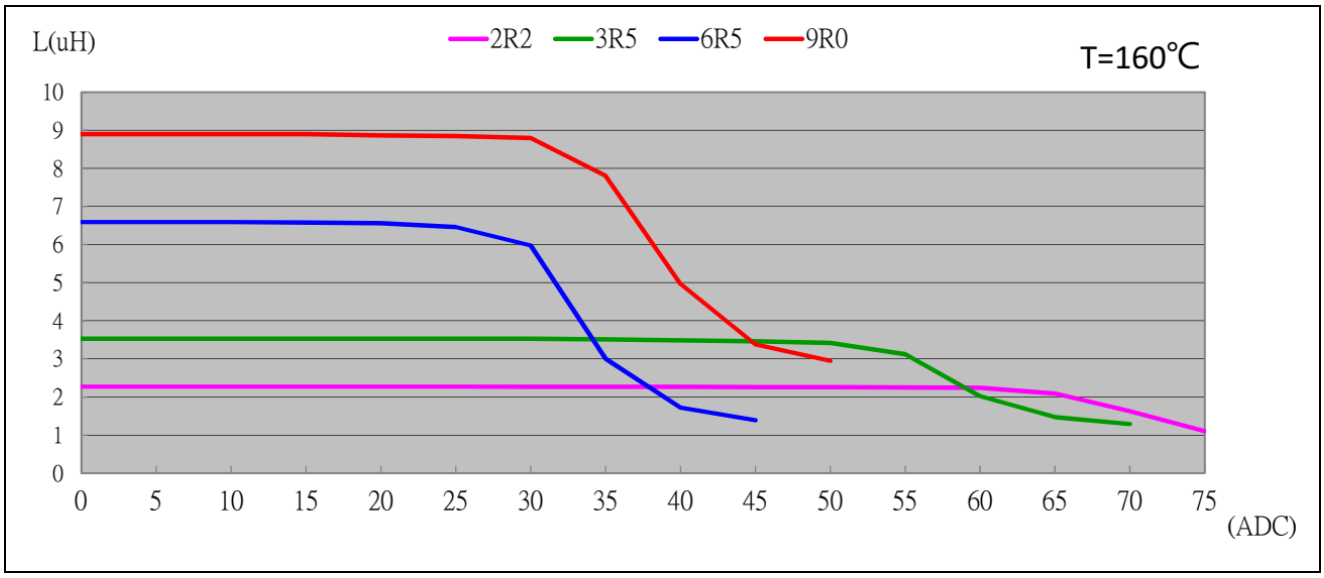


2025/09/04 Revise

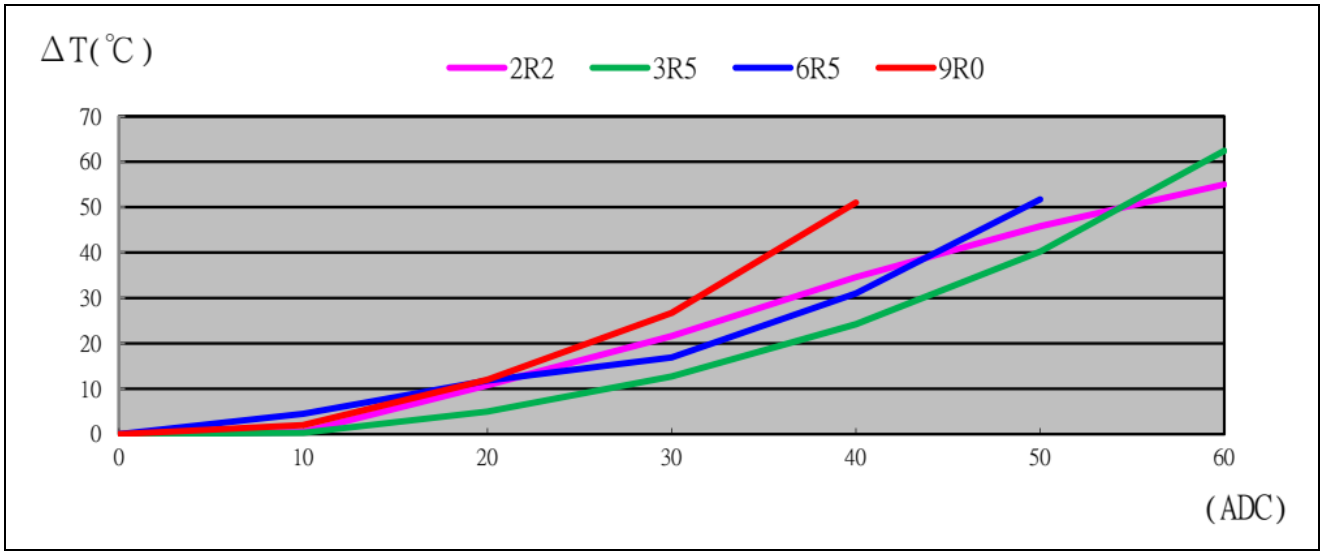
Inductance vs DC Bias:







Temperature vs DC Bias :



Cautions and warnings

● Please note the recommendations in our product specification (latest edition) and in the data sheets.

- Particular attention should be paid to the derating curves given there.
- The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not the housing.

● If the components are to be washed with varnish it is necessary to check whether the washing varnish agent used has a negative effect on the wire insulation, any plastics that are used, or on glued joints. In particular, it is possible for washing varnish agent residues to have a negative effect in the long-term on wire insulation.

Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.

● The following points must be observed if the components are potted in customer applications:

- Many potting materials shrink as they harden. They therefore exert a pressure on the plastic housing or core. This pressure can have a deleterious effect on electrical properties, and in extreme cases can damage the core or plastic housing mechanically.
- It is necessary to check whether the potting material used attacks or destroys the wire, wire insulation plastics or glue.
- The effect of the potting material can change the high-frequency behavior of the components.
- Many coating material have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obligated to determine whether and to what extent their coating material influence the component. Customers are responsible and bear all risk for the use of the coating material.

● Ceramics / Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core.

●Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statement about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of electronic components of failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed.**

4. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.
   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

5. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements (“CSR”) PEC always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System**. For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.