# E13 EMHV SMD TRANSFORMER

**Series/Type:** **P301429**
**Ordering code:** **B78308A9736A003**

Date: 2018-07-05
Version: 2



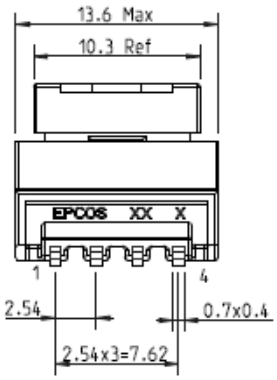
EPCOS AG is a TDK Group Company.

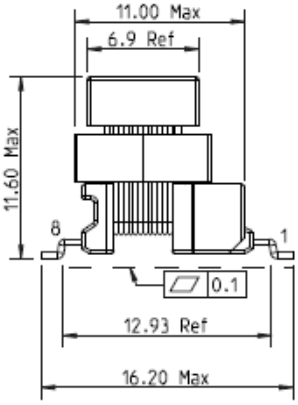
Specification:

Part tolerance to ISO 2768-cl / ISO 8015

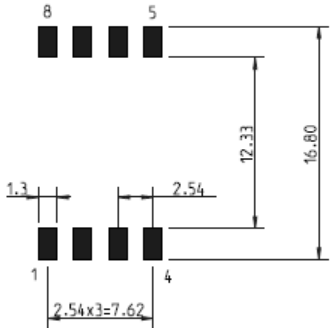
Size ISO 14405 E

■ Dimensions in mm:

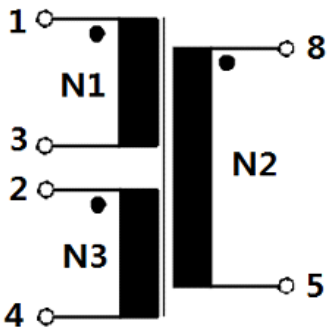



Recommended PCB-Layout
(Top view)




Schematic:




Marking:

*pin 1 marker*
**EPCOS**
*middle block of ordering code*
*date code / production place (1 letter)*

Electrical Characteristics**:** (specified @25°C if not mentioned otherwise) *) typical value

All values without tolerances are typical values

| | | |
|---|---|---|
| L (8-5) | 850 uH ± 35% | 100 kHz,100 mV |
| Lk (8-5) | 2.8 uH | 100 KHz,100 mV, shorted (1,2,3,4) |
| Rdc (1-3) | 600 mΩ | |
| Rdc (2-4) | 860 mΩ | |
| Rdc (8-5) | 1470 mΩ | |
| Cp( 1-8) | 20 pF | 10 kHz,1V shorted (2-3) |
| T/R (N1+N3):N2 | 1:1 | Short (2-3) |
| HV pin 1,2 to 8 | 4000 Vac | 50 Hz; 0.5mA,1 S |

**Packaging**: Blister tape
**Packing unit**: 190 pcs/ reel
**Remark**:
- ROHS Compatible
- Type test for HV,4000V,60s,50Hz
- Creepage distance N1,N2/N3 = 8 mm (cumulative, core floating)
- Clearance distance N1,N2/N3 = 7 mm (cumulative, core floating)
- Insulation material class CTI = 3
- Customer need to shortcut pin 2-3 on PCB

**Deviations to customer's specification:**

Electrical parameters / dimensions

**Operation temperature: -40°C ~ +125°C component**

## Cautions and warnings

- Additional information is contained in our data books, which are also available on the internet.
  - Particular attention should be paid to the derating curves given there.
  - Ensure the operation temperature (which is the sum of the ambient temperature and the temperature rise caused by losses / self-heating) of the component in the application does not exceed the maximum value specified in the data sheet.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not to the housing or bobbin.
- If the components are to be washed varnished, it is necessary to check whether any washing varnish agent that is 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 potted 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 insulation, plastics or glue;
  - The effect of the potting material can change the high frequency behaviour of the components.
- 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 components in the circuit can only be carried out by the customer.

## Display of ordering codes for EPCOS products

The ordering code for one and the same EPCOS product can be represented differently in data sheets, data books, other publications, on the EPCOS website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products**. Detailed information can be found on the Internet under www.epcos.com/orderingcodes

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements 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, EPCOS is 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 an EPCOS 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 or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are 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. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
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7. **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") TDK 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.

## Important notes

8. The trade names EPCOS, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.

Release 2018-06