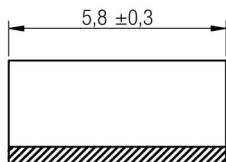
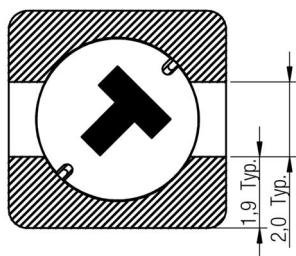
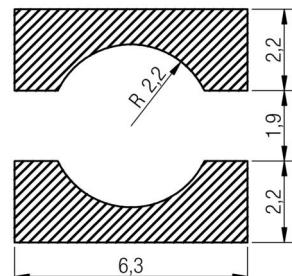


## A Dimensions: [mm]



Scale - 5:1

## B Recommended land pattern: [mm]



Scale - 5:1

## C Schematic:



## D Electrical

Properties
Inductance
Rated current
Saturation current
DC Resistance
DC Resistance
Self resonant frequency

## E General information

It is recommended to use this component under worst case conditions:

- Ambient temperature: -40°C to +105°C
- Operating temperature: -40°C to +105°C
- Storage temperature: -40°C to +105°C
- Test conditions: if not specified

				Projection		DES
					Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com eiSos@we-online.com	
6.1	2013-04-08	SSt	COt			
6.0	2010-08-02	CZ	-			
REV	DATE	BY	CHECKED			

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a hazard to life and property. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product can be reasonably expected to result in personal injury or death. The design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

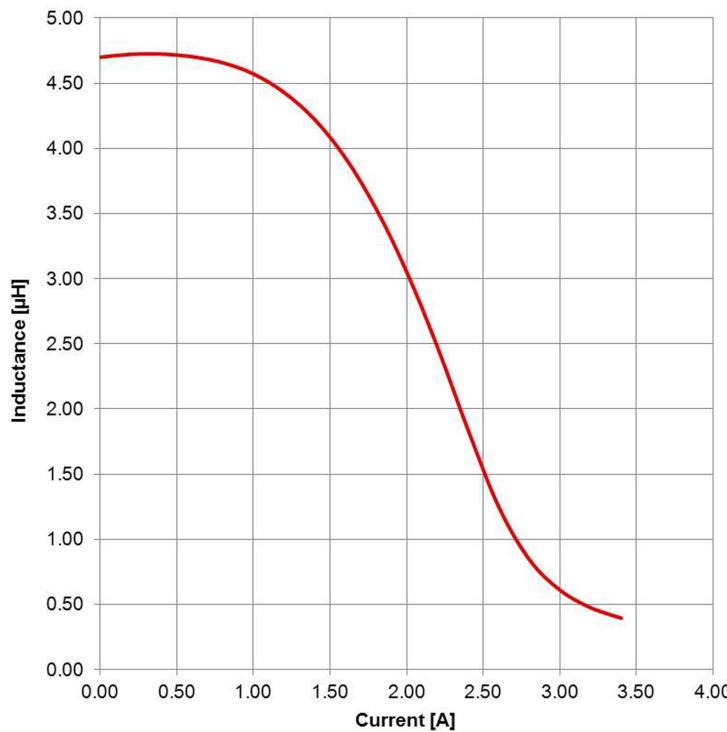
W

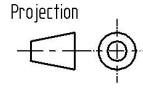
Ord

7

Size

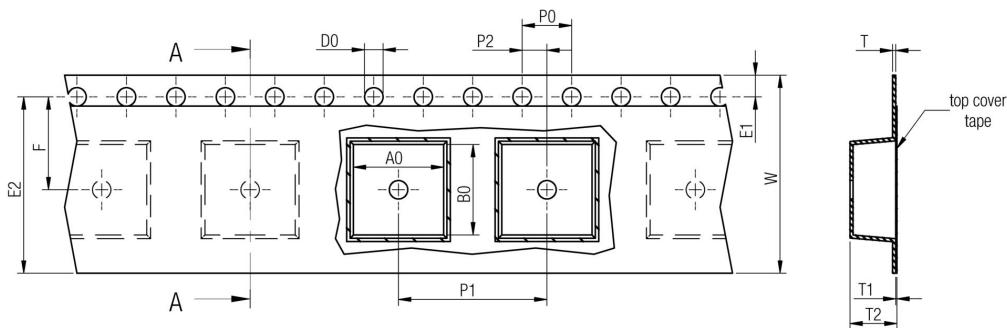
## F Typical Inductance vs. Current Characteristics:



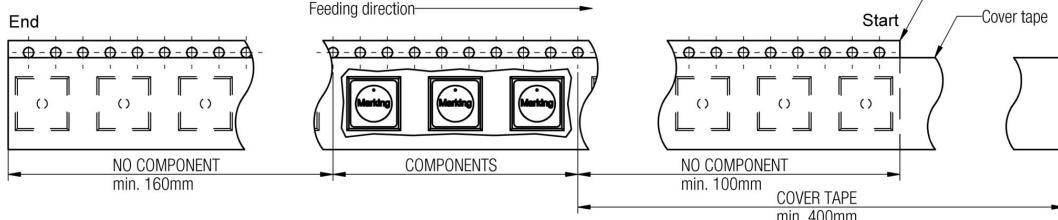
				Projection 	DES W Ord 7 Size
6.1	2013-04-08	SSt	COt		
6.0	2010-08-02	CZ	-		
REV	DATE	BY	CHECKED		

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a dangerous situation. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product can be reasonably expected to result in personal injury or death. The design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

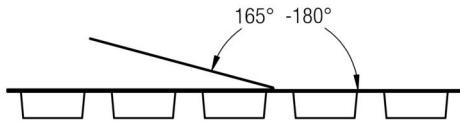
## G Packaging Specification: [mm]



	A0	B0	W	P1	T	T1	T2	D0	E1	E2	F	P0	P2	Tape	VPE / packaging unit	
tolerance	typ.	typ.	+0,3 -0,1	$\pm 0,1$	$\pm 0,1$	max.	typ.	+0,1 -0,0	$\pm 0,1$	min.	$\pm 0,05$	$\pm 0,1$	$\pm 0,05$			
size	3816	4,30	4,30	12,00	8,00	0,25	0,10	2,00	1,50	1,75	10,25	5,50	4,00	2,00	Polystyrene	1000
	4818	5,30	5,30	12,00	8,00	0,25	0,10	2,50	1,50	1,75	10,25	5,50	4,00	2,00	Polystyrene	800
	4828	5,30	5,30	12,00	8,00	0,25	0,10	3,00	1,50	1,75	10,25	5,50	4,00	2,00	Polystyrene	500
	5818	6,30	6,30	16,00	12,00	0,25	0,10	2,50	1,50	1,75	14,25	7,50	4,00	2,00	Polystyrene	500
	5828	6,30	6,30	16,00	12,00	0,25	0,10	3,00	1,50	1,75	14,25	7,50	4,00	2,00	Polystyrene	400
	6823	7,30	7,30	16,00	12,00	0,25	0,10	3,00	1,50	1,75	14,25	7,50	4,00	2,00	Polystyrene	500



Packaging is referred to the international standard IEC 60286 -3:2007



Pull-of force	
Tape width	12 mm 0,1 N - 1,0 N
	16 mm 0,1 N - 1,3 N

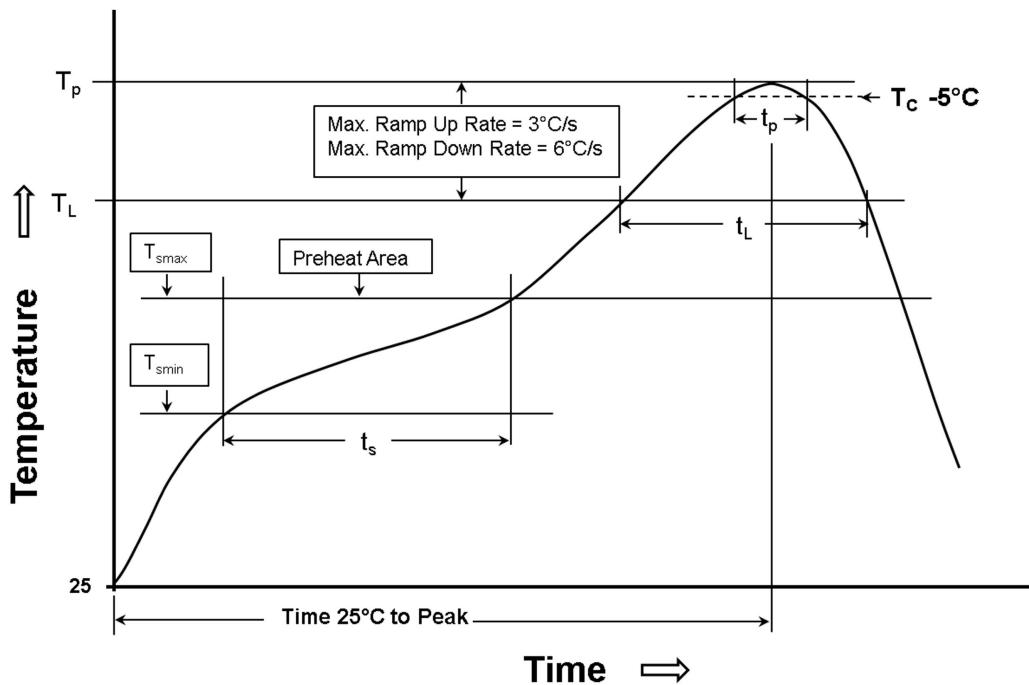
				Projection		DES
6.1	2013-04-08	SSt	COt			
6.0	2010-08-02	CZ	-			
REV	DATE	BY	CHECKED			

Würth Elektronik eiSos GmbH & Co. KG  
EMC & Inductive Solutions  
Max-Eyth-Str. 1  
74638 Waldenburg  
Germany  
Tel. +49 (0) 79 42 945 - 0  
www.we-online.com  
eiSos@we-online.com

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a hazard to life or property. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product is reasonably expected to cause a hazard to life or property. The design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

## H Soldering Specifications:

### H1: Classification Reflow Profile for SMT components:



### H2: Classification Reflow Profiles

Profile Feature
Preheat
- Temperature Min ( $T_{smin}$ )
- Temperature Max ( $T_{smax}$ )
- Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )
Ramp-up rate ( $T_L$ to $T_p$ )
Liquidous temperature ( $T_L$ )
Time ( $t_L$ ) maintained above $T_L$
Peak package body temperature ( $T_p$ )
Time within 5°C of actual peak temperature ( $t_p$ )
Ramp-down rate ( $T_p$ to $T_L$ )
Time 25°C to peak temperature

refer to IPC/JEDEC J-STD-020D

### H3: Package Classification Reflow T

	Package Thickness
<b>PB-Free Assembly</b>	< 1.6 mm
<b>PB-Free Assembly</b>	1.6 - 2.5 mm
<b>PB-Free Assembly</b>	≥ 2.5 mm

refer to IPC/JEDEC J-STD-020D

					Projection			DES
6.1	2013-04-08	SSt	COt					
6.0	2010-08-02	CZ	-					
REV	DATE	BY	CHECKED					

Würth Elektronik eiSos GmbH & Co. KG  
EMC & Inductive Solutions  
Max-Eyth-Str. 1  
74638 Waldenburg  
Germany  
Tel. +49 (0) 79 42 945 - 0  
[www.we-online.com](http://www.we-online.com)  
[eiSos@we-online.com](mailto:eiSos@we-online.com)

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a dangerous situation. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product can be reasonably expected to result in personal injury or death. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

## I Cautions and Warnings:

**The following conditions apply to all goods within the product series of WE-TPC of Würth Elektronik eiSos GmbH & Co. KG:**

### General:

All recommendations according to the general technical specifications of the data-sheet have to be complied with.

The disposal and operation of the product within ambient conditions which probably alloy or harm the wire isolation has to be avoided.

If the product is potted in customer applications, the potting material might shrink during and after hardening. Accordingly to this the product is exposed to the pressure of the potting material with the effect that the core, wire and termination is possibly damaged by this pressure and so the electrical as well as the mechanical characteristics are endanger to be affected. After the potting material is cured, the core, wire and termination of the product have to be checked if any reduced electrical or mechanical functions or destructions have occurred.

The responsibility for the applicability of customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products do also apply for customer specific products.

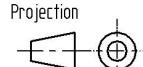
Cleaning agents that are used to clean application might damage or change the characteristics of the component, body, pins or termination.

Direct mechanical impact to the product shall be prevented as the ferrite material of the core could flake or in the worst case it could break.

### Product specific:

Follow all instructions mentioned in the datasheet, especially:

- The solder profile has to be complied with according to the technical reflow soldering specification, otherwise no warranty will be sustained.
- All products shall be used before the end of the period of 12 months based on the product date-code, if not a 100% solderability can't be warranted.
- Violation of the technical product specifications such as exceeding the nominal rated current will result in the loss of warranty.

				Projection		
						
					Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 <a href="http://www.we-online.com">www.we-online.com</a> <a href="mailto:eiSos@we-online.com">eiSos@we-online.com</a>	
6.1	2013-04-08	SSt	COt			
6.0	2010-08-02	CZ	-			
REV	DATE	BY	CHECKED			

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a hazard to life and property. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product can be reasonably expected to cause a hazard to life and property. The design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

## J Important Notes:

### The following conditions apply to all goods within the product range of Würth Elektronik eiSos GmbH & Co. KG:

#### 1. General Customer Responsibility

Some goods within the product range of Würth Elektronik eiSos GmbH & Co. KG contain statements regarding general suitability for certain application areas. These statements about suitability are based on our knowledge and experience of typical requirements concerning the areas, serve as general guidance and cannot be estimated as binding statements about the suitability for a customer application. The responsibility for the applicability and use in a particular customer design is always solely within the authority of the customer. Due to this fact it is up to the customer to evaluate, where appropriate to investigate and decide whether the device with the specific product characteristics described in the product specification is valid and suitable for the respective customer application or not.

#### 2. Customer Responsibility related to Specific, in particular Safety-Relevant Applications

It has to be clearly pointed out that the possibility of a malfunction of electronic components or failure before the end of the usual lifetime cannot be completely eliminated in the current state of the art, even if the products are operated within the range of the specifications.

In certain customer applications requiring a very high level of safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health it must be ensured by most advanced technological aid of suitable design of the customer application that no injury or damage is caused to third parties in the event of malfunction or failure of an electronic component.

Therefore, customer is cautioned to verify that data sheets are current before placing orders. The current data sheets can be downloaded at [www.we-online.com](http://www.we-online.com).

#### 3. Best Care and Attention

Any product-specific notes, cautions and warnings must be strictly observed. Any disregard will result in the loss of warranty.

#### 4. Customer Support for Product Specifications

Some products within the product range may contain substances which are subject to restrictions in certain jurisdictions in order to serve specific technical requirements. Necessary information is available on request. In this case the field sales engineer or the internal sales person in charge should be contacted who will be happy to support in this matter.

#### 5. Product R&D

Due to constant product improvement product specifications may change from time to time. As a standard reporting procedure of the Product Change Notification (PCN) according to the JEDEC-Standard inform about minor and major changes. In case of further queries regarding the PCN, the field sales engineer or the internal sales person in charge should be contacted. The basic responsibility of the customer as per Section 1 and 2 remains unaffected.

#### 6. Product Life Cycle

Due to technical progress and economical evaluation we are using a standard reporting procedure of the Product Termination Notification in case of inevitable product discontinuance. According to this we can verify the product life expectancy before or when the product for application design is discontinued. The approach named above does not apply in the case of irrevocable contracts.

#### 7. Property Rights

All the rights for contractual products produced by Würth Elektronik eiSos GmbH & Co. KG as well as models or templates that are subject to copyright, trademarks, patent right, mask work right, or other intellectual property rights belong to Würth Elektronik eiSos GmbH & Co. KG.

Würth Elektronik eiSos GmbH & Co. KG does not warrant or grant any patent right, copyright, mask work right, or other intellectual property rights to the customer. Würth Elektronik eiSos GmbH & Co. KG components or services are not covered by any patent right, copyright, mask work right, or other intellectual property rights.

#### 8. General Terms and Conditions

Unless otherwise agreed in individual contracts, all orders are subject to the general terms and conditions of the "Würth Elektronik eiSos Group", last version available at [www.we-online.com](http://www.we-online.com).

				Projection	
6.1	2013-04-08	SSt	COt	Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 <a href="http://www.we-online.com">www.we-online.com</a> <a href="mailto:eiSos@we-online.com">eiSos@we-online.com</a>	
6.0	2010-08-02	CZ	-		
REV	DATE	BY	CHECKED		

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause a hazard to life or property. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information, and other areas where a failure of the product is reasonably expected to cause a hazard to life or property. The design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.