

# **Excellent Integrated System Limited**

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

Wurth Electronics Inc 7440680220

For any questions, you can email us directly: <u>sales@integrated-circuit.com</u>



Δ.

#### B Recommended land pattern: [mm] A Dimensions: [mm] WÜRTH ELEKTRONĬK **D Electrical Properties:** Test conditions Properties Value Unit Tol. Inductance 100 kHz/ 10 mA 22 μH ±20% Rated current $\Delta T = 40 \text{ K}$ 0.85 А $I_{\mathsf{R}}$ typ. Saturation current $|\Delta L/L| < 35\%$ 0.7 А typ. Isat DC Resistance @ 20°C 350 mΩ typ. R<sub>DC</sub> DC Resistance @ 20°C 395 mΩ 1,1 ±0,1 R<sub>DC</sub> max. Self resonant frequency 10 8,0 ±0,3 Scale - 2:1 fres MHz typ. C Schematic: 1,0 Typ. E General information: It is recommended that the temperature of the part does not exceed 125°C 3 under worst case operating conditions. Ambient temperature: -40°C to +85°C (refering to I<sub>R</sub>) Operating temperature: -40°C to +125°C •Storage temperature (on tape & reel): -20°C to +40°C; 75% RH max. •Test conditions of Electrical Properties: 20°C, 33% RH if not specified differently Scale - 2:1 DESCRIPTION Projection =Description Reference on drawing 1.5 2015-01-29 SSt JRS WE-TPC SMD Shielded Tiny Power Inductor Start of winding . Würth Elektronik elSos GmbH & Co. KG ENC & Inductive Solutions Max-Eyrh-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com elSos@we-online.com SSt 1.4 2014-09-11 JRS Marking 220 (Inductance Code) 1.3 2014-04-01 SSt SSt COMPLIANT ROHS&REACH WORTH ELEKTRONIK Order - No 1.2 2013-05-21 SSt COt SIZE

ectoric 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 severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Intended for use in areas such as military, aerrespace, avaitori, nuclear control, standarother control, transportation (automotive control, transportation (automotive), transp This electronic component has been designed and developed for usage in general electronic Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended the design-in stage. In addition, sufficient reliability evaluation checks for safety must be perf

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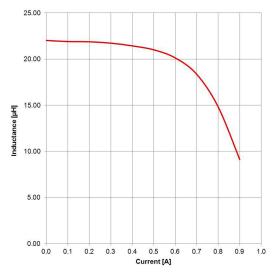
1.0 REV



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# F1 Typical Inductance vs. Current Characteristics:

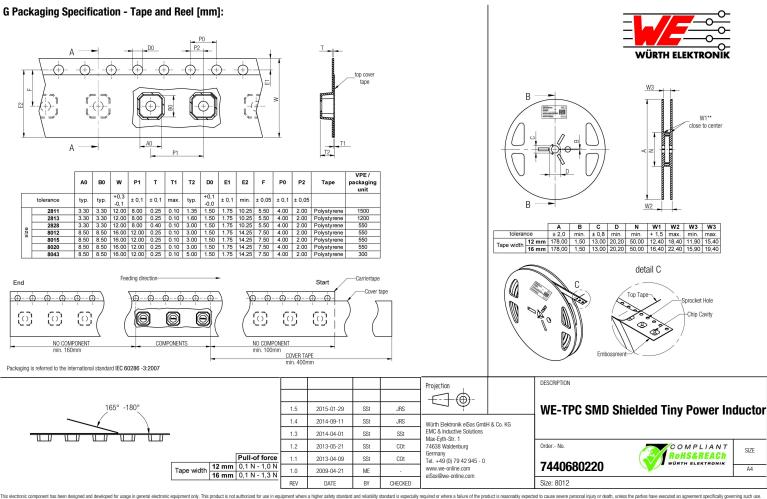


				Projection		DESCRIPTION		
1.5	2015-01-29	SSt	JRS	+		WE-TPC SMD Shielded Tiny Power Inductor		
1.4	2014-09-11	SSt	JRS	Wurth Elektronik elSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyh-Str. 1 74638 Waldenburg Germany Tel. +49 (0) /79 42 945 - 0 www.we-online.com elSos@we-online.com				
1.3	2014-04-01	SSt	SSt					
1.2	2013-05-21	SSt	COt			Order No.	COMPLIANT	SIZE
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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 severe personal injury or death, unlies the parties have executed an agreement specifically governing such use. Moreover Will Electronic eSis Grint & D. KS products are nettine designed not intended for use in eases such as millary, arrespace, advaton, nucleosity expected to cause severe personal injury or death, unlies the parties have executed an agreement specifically governing such use. He design is again, it addition, stickent entities to start and the second and and reliability factored on the design is again, it addition, stickent entities to start and the start and is used in electrical crucits. The trace in this addition or performance.



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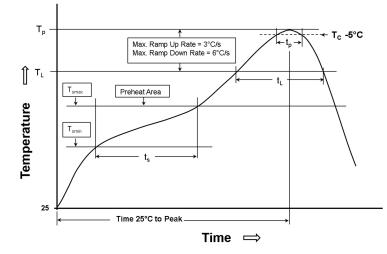
This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a halve of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Wild: Exectionic edits from H& Co KB product are not intended for use in areas such as millitary, arrespace, aviation, uncircuiter starsportation signal, disaster prevention, medical, public information network etc... With Exectional ecosity are not the design of the sait, and and in addition, attender in tended for use in eases such as millitary, arrespace, aviation, uncircuiter starsportation signal, disaster prevention, medical, public information network etc... With Exectional ecosity may arrespace, aviation, uncircuiter and are reliability finded or particulary and are reliable prevention ecosity and and the prevention component which is used in electrical circuits that require this starting are reliable prevention or performance.



# **H Soldering Specifications:**



# H1: Classification Reflow Profile for SMT components:



# H2: Classification Reflow Profiles

Profile Feature	Pb-Free Assembly			
Preheat - Temperature Min (T <sub>smin</sub> ) - Temperature Max (T <sub>smax</sub> ) - Time (t <sub>s</sub> ) from (T <sub>smin</sub> to T <sub>smax</sub> )	150°C 200°C 60-120 seconds			
Ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/ second max.			
Liquidous temperature (TL) Time (tL) maintained above TL	217°C 60-150 seconds			
Peak package body temperature (Tp)	See Table H3			
Time within 5°C of actual peak temperature (tp)	20-30 seconds, except Tp 260°C at tp 10 seconds			
Ramp-down rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/ second max.			
Time 25°C to peak temperature	8 minutes max.			

refer to IPC/JEDEC J-STD-020D

# H3: Package Classification Reflow Temperature

	Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350 - 2000	Volume mm <sup>3</sup> >2000
PB-Free Assembly	< 1.6 mm	260°C	260°C	260°C
PB-Free Assembly	1.6 - 2.5 mm	260°C	250°C	245°C
PB-Free Assembly	≥ 2.5 mm	250°C	245°C	245°C

refer to IPC/JEDEC J-STD-020D

				Projection		DESCRIPTION			
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1.3	2014-04-01	SSt	SSt						
1.2	2013-05-21	SSt	COt			Order No.	COMPLIANT	7F	
1.1	2013-04-09	SSt	COt	Germany Tel. +49 (0) 79 42 945 - 0			WORTH ELEKTRONIK	~	
1.0	2009-04-21	ME	-	www.we-online.com eiSos@we-online.com		7440680220	0680220 P		
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This electronic component has been designed and developed for usage in general electronic equipment only. This product is near equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or desth, unless the parties have executed an agreement specifically governing such usa. Moreover Wilm Exelution & 65co Grinth & Co KS growth are more thereined for usa in areas such as millitary, annepase, availan, network eccurred, standard or executed an agreement specifically governing such usage before the designed network in the design of the standard for usa in a semilar, annepased to is usage before the designed network in the design of the standard is readen standard and reliability standard or reliability standard is even to a significant or reliability standard in the design of the standard is readen standard in the design of the standard is readen standard in the design of the standard is readen standard in the reliability standard is readen to a standard in the reliability standard is readen to a standard in the reliability standard is readen to a standard is readen the reliability standard in the reliability standard is readen to a standard in the reliability standard in the reliabil

# 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 usage 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. 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 endangered 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 to customer specific products.

Cleaning agents that are used to clean the customer 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 data sheet, especially:

 The soldering profile has to be complied with according to the technical reflow soldering specification, otherwise this will void the warranty.

 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 ensured.

•Violation of the technical product specifications such as exceeding the nominal rated current will void the warranty.

The general and product specific cautions comply with the state of the scientific and technical knowledge and are believed to be accurate and reliable; however, no responsibility is assumed for inaccuracies or incompleteness.

				Projection		DESCRIPTION		
1.5	2015-01-29	SSt	JRS	t-j@-		WE-TPC SMD Shielded Tiny Power In		
1.4	2014-09-11	SSt	JRS	Würth Elektronik elSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0 /79 42 945 - 0				
1.3	2014-04-01	SSt	SSt					
1.2	2013-05-21	SSt	COt			Order No.	COMPLIANT	
1.1	2013-04-09	SSt	COt				WORTH ELEKTRONIK	
1.0	2009-04-21	ME	-	www.we-online.com eiSos@we-online.com		7440680220	A4	
REV	DATE	BY	CHECKED	elSos@we-online.com		Size: 8012		

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# 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 responsibi-lity 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 thrman 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.

#### 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 also reserve the right to discontinue production and delivery of products. As a stan-dard reporting procedure of the Product Termination Notification (PTN) according to the JEDEC-Standard we will inform at an early stage about inevitable product discontinuance. According to this we cannot guarantee that all products within our product range will always be available. Therefore it needs to be verified with the field sales engineer or the internal sales person in charge about the current product availability expectancy before or when the product for application design-in disposal is considered.

The approach named above does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

7. Property Rights All the rights for contractual products produced by Würth Elektronik eiSos GmbH & Co. KG on the basis of ideas, development contracts as well as models or templates that are subject to copyright, patent or commercial protection supplied to the customer will remain with Würth Elektronik eiSos GmbH & Co. KG.

Würth Elektronik eiSos GmbH & Co. KG does not warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, application, or process in which Würth Elektronik eiSos GmbH & Co. KG components or services are used.

# 8. General Terms and Conditions

Unless otherwise agreed in individual contracts, all orders are subject to the current version of the "General Terms and Conditions of Würth Elektronik eiSos Group", last version available at www.we-online.com.

1.5	2015-01-29	SSt	JRS	Projection		DESCRIPTION	hielded Tiny Power Ind	uctor
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1.1	2013-04-09	SSt	COt	Germany Tel. +49 (0) 79 42 945 - 0			ROHS&REACh	
1.0	2009-04-21	ME	-	www.we-online.com eiSos@we-online.com		7440680220		A4
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Her safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use, transportation (automotive control, train control, stan portation signal, disaster prevention, medical, public information network etc... Wurth Elektronik eSos GmbH & Co KG must be informed about the internit of such usage before in pills safety and reliability functions or performance. lectronic equipment only. This product is not authorized for use in equipment where a higher : intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, tra st be performed on every electronic component which is used in electrical circuits that require ectronic component has been designed and developed for usage in general electronic e er Würth Elektronik elSos GmbH & Co KG products are neither designed nor intended f sign-in stage. In addition, sufficient reliability evaluation checks for safety must be perfo

