# **Excellent Integrated System Limited**

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Wurth Electronics Inc 7447649168

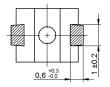
For any questions, you can email us directly: <a href="mailto:sales@integrated-circuit.com">sales@integrated-circuit.com</a>



Datasheet of 7447649168 - FIXED IND 68UH 225MA 8.45 OHM

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# A Dimensions: [mm]







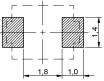




Reference on drawing	Description
Marking	680 (Inductance Code)

## B Recommended land pattern: [mm]

C Schematic:



Scale - 8:1



## **D Electrical Properties:**

Properties	Test conditions		Value	Unit	Tol.	
Inductance	1.92 MHz	L	68	μН	± 10%	
Rated current	$\Delta T = 40 \text{ K}$	I <sub>R</sub>	225	mA	max.	
DC Resistance	@ 20°C	R <sub>DC</sub>	7605	mΩ	typ.	
DC Resistance	@ 20°C	R <sub>DC</sub>	8450	mΩ	max.	
Self resonant frequency		f <sub>res</sub>	14	MHz	typ.	
Q-factor	1.92 MHz	Q	45		min.	

# E General information:

It is recommended that the temperature of the part does not exceed 125°C 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 +60°C; 75% RH max. •Test conditions of Electrical Properties: 20°C, 33% RH

if not specified differently

DESCRIPTION

Order. - No.

				Projection .
				i
				Würth Elektronik eiSos GmbH & Co. KG
				EMC & Inductive Solutions
				Max-Eyth-Str. 1 74638 Waldenburg
				Germany
				Tel. +49 (0) 79 42 945 - 0
4.0	2015-04-13	SSt	JRS	www.we-online.com eiSos@we-online.com
3.0	2004-10-11	MST	_	CIOOSONO UNINIC.CUIII

**WE-GFH High Frequency SMD Inductor** 

7447649168

COMPLIANT ROHS&REACH WÜRTH ELEKTRONIK SIZE

t 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, excepsion, available, reliable, submitted, training, tr

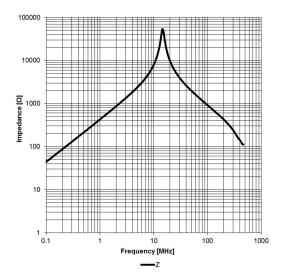




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## F1 Typical Impedance Characteristics:



				Projection ————————————————————————————————————	DESCRIPTION
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				Max-Eyth-Str. 1 74638 Waldenburg Germany	Order No.
4.0	2015-04-13	SSt	JRS	Tel. +49 (0) 79 42 945 - 0 www.we-online.com eiSos@we-online.com	7447649168 WORTH ELEKTRONIK A4
3.0	2004-10-11	MST	-	elous@we-uniirle.com	Size: 3225



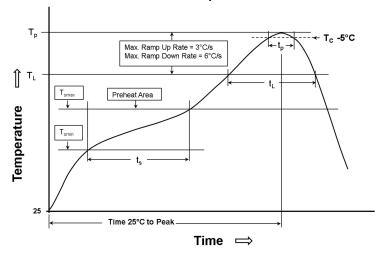
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## **H Soldering Specifications:**



## H1: Classification Reflow Profile for SMT components:



### **H2: Classification Reflow Profiles**

Profile Feature	Pb-Free Assembly
$ \begin{array}{ll} \text{Preheat} \\ \text{- Temperature Min } (T_{smin}) \\ \text{- Temperature Max } (T_{smax}) \\ \text{- Time } (t_s) \text{ from } (T_{smin} \text{ to } T_{smax}) \end{array} $	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 ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217°C 60-150 seconds
Peak package body temperature (Tp)	245°C
Time within 5°C of actual peak temperature (tp)	20-30 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

				Projection ————————————————————————————————————		DESCRIPTION  WE-GFH High F1	requency SMD Inducto	or	
				Würth Elektronik elSos GmbH & Co. KG EM& & Inductive Solutions Max-Eghth-St. 1 74638 Waldenburg Germany 1El. +49 (0) 79 42 945 - 0 www.we-online.com elSos@We-online.com		, ,			
						Order No.	COMPLIANT ROHS&REACH		
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Inserted component has been designed and overlooped our usage or general excitorite output interview to product is not autournoor or team required our writer a large or on the product is resourced product or undergreated or the product is resourced product or team from the same and the product of the resource of the product of the pro



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### **I Cautions and Warnings:**

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

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

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

### 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
  - •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
  - 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

				Projection -		DESCRIPTION  WF-GFH High F	requency SMD Inducto	r
				Würth Elektronik eiSos GmbH & EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany	H & Co. KG	TE at it ingli i requelicy only inductor		
						Order No.	COMPLIANT	SIZE
4.0	2015-04-13	SSt	JRS	Tel. +49 (0) 79 42 945 - 0 www.we-online.com		7447649168	WÜRTH ELEKTRONIK	
3.0	2004-10-11	MST	-	eiSos@we-online.com		Size: 3225		

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, unless the parties have executed an agreement specifically governing such use. Moreover Wilm Elektronic Resides Genirit & Co Kit or products are neither designed and on the control, transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Resides Genital & Co Kit or use to effect and on the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Resides Genital & Co Kit or use to effect and on the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Resides Genital & Co Kit or use to effect and on the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Resides Genital & Co Kit or use to effect and on the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Resides of the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Residence of the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Residence of the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Residence of the control transportation signal, disaster prevention, medical, public information network etc., Wilm Elektronic Residence of the control transportation signal, disaster prevention, medical public residence of the control transportation signal, disaster prevention, medical public residence of the control transportation of the control transportation of the control transportation





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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 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.

### 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 spe cific 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 standard 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.

				Projection		DESCRIPTION			
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				Würth Elektronik elSos GmbH & Co. KG EMC & Inductive Solutions Max-Epin-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com elSiss@we-online.com		WE-GFH High Frequency SMD Inductor			
						Order No.	COMPLIANT ROHS&REACH	SIZE	
4.0	2015-04-13	SSt	JRS			7447649168			
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Lectronic 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 equipment 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 usage.

Wer Wilth Elektronik eSos GrnbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, standard and reliability standard is especially expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such usage before significant reliability evaluation checks for each product are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, standard and reliability standard is especially expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such usage before significant reliability evaluation checks for each product are neither designed and developed for usage in general electronic expense personal injury or death, unless the parties have executed an agreement specifically governing such usage before significant reliability sendation checks for execute personal injury or death, unless the parties have executed an agreement specifically governing such usage before significant reliability sendation checks for execute personal injury or death, unless the parties have executed an agreement specifically governing such usage before significant reliability sendation checks for execute personal injury or death, unless the parties have executed an agreement specifically governing such usage personal injury or death, unless the product of the product is reasonable product of the product