

## Excellent Integrated System Limited

Stocking Distributor

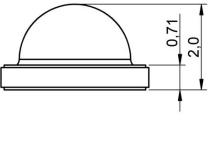
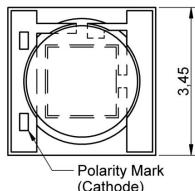
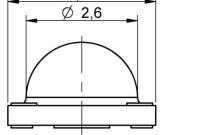
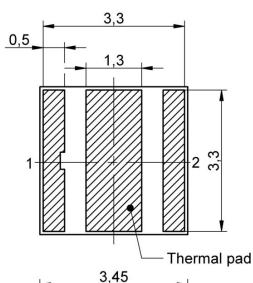
Click to view price, real time Inventory, Delivery & Lifecycle Information:

[Wurth Electronics Inc](#)  
[158353040](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

## A Dimensions: [mm]

Dimensions are  $\pm 0.15$  mm

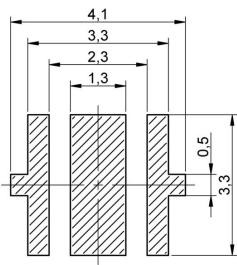
Scale - 8:1

## Optical Properties:

Properties	Value
Chip Technology	InGaN
Emitting Color	Moonlight
Lens Type	Dome Lens Waterclear

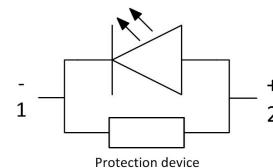
This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover 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 network etc.. Würth Elektronik eISos GmbH & Co KG must be informed about the intent of such usage before 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.

## B Recommended land pattern: [mm]



Scale - 8:1

## C Schematic:



## D Absolute Maximum Ratings (Ambient Temperature 25°C):

Properties	Test conditions	Value	Unit
Power dissipation		P <sub>Diss</sub>	2.52 W
Peak Forward Current	duty/10 @1kHz	I <sub>F</sub> Peak	1000 mA
Continuous Forward Current		I <sub>F</sub>	700 mA
Reverse Voltage		V <sub>Rev</sub>	5 V
ESD Threshold/ Human Body Modell		V <sub>ESD</sub>	8000 V
Absolute thermal resistance junction to solder point		R <sub>θJS</sub>	8 K/W
Junction temperature		T <sub>j</sub>	150 °C

## E General information:

- Operating temperature: -40°C to +125°C
- Storage temperature (on tape & reel): -40°C to +125°C; 60% RH max.
- Moisture Sensitivity Level (MSL): 2

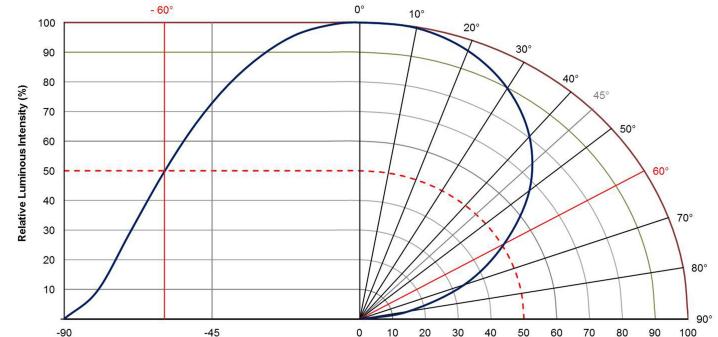
REV	DATE	BY	CHECKED	Projection	DESCRIPTION
1.5	2015-06-24	SSI	ZAn		<b>WL-SWTC SMD White Top View Ceramic LED</b>
1.4	2015-03-23	SSI	HOe		Würth Elektronik eISos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com eISos@we-online.com
1.3	2014-12-01	SSI	ZAn		
1.2	2014-11-10	SSI	ZAn		
1.1	2014-07-18	SSI	HOe		
1.0	2014-01-30	SSI	PLD		
REV				Size: 3535	
DATE				Order- No.	
BY				<b>158353040</b>	
CHECKED					
				SIZE	
				A4	



**D Electrical & Optical Properties:**

Properties	Test conditions		Value			Unit
			min.	typ.	max.	
Chromaticity coordinate X according to CIE 1931	350 mA	$c_x$		0.3826		
Chromaticity coordinate Y according to CIE 1931	350 mA	$c_y$		0.3800		
Luminous Flux	350 mA	$\Phi_v$	100	110		lm
Forward Voltage	350 mA	$V_f$		3.2	3.6	V
Correlated Color Temperature	350 mA	CCT		4000		K
Color Rendering Index	350 mA	CRI		75		
Viewing Angle	350 mA	$2\theta_{50\%}$		120		°

**F1 Viewing Angle:**

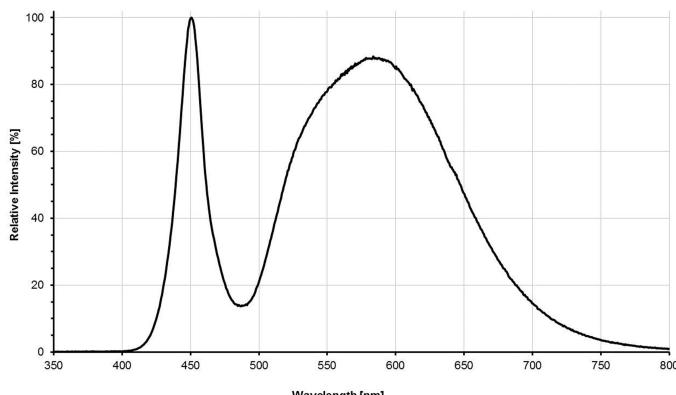


				Projection	DESCRIPTION
1.5	2015-06-24	SS1	ZAn		<b>WL-SWTC SMD White Top View Ceramic LED</b>
1.4	2015-03-23	SS1	HOe		
1.3	2014-12-01	SS1	ZAn		
1.2	2014-11-10	SS1	ZAn		
1.1	2014-07-18	SS1	HOe		
1.0	2014-01-30	SS1	PLD		
REV	DATE	BY	CHECKED		
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					Size: 3535
					SIZE
					A4

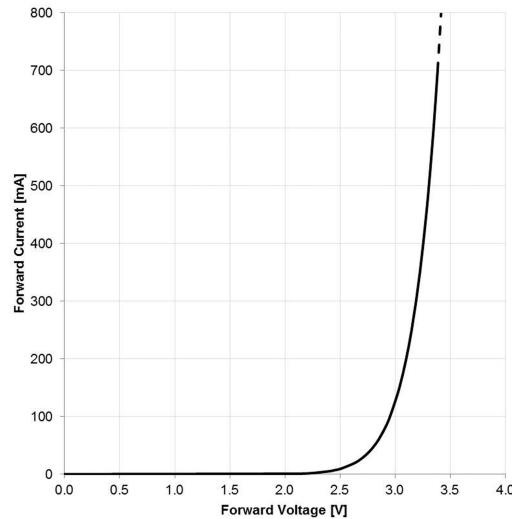
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## F2 Spectral:



### **F3 Forward Current vs. Forward Voltage:**

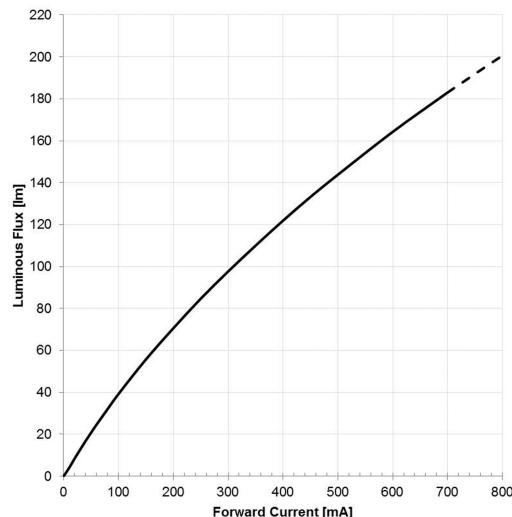


				Projection	DESCRIPTION
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1.4	2015-03-23	Sst	H0e		
1.3	2014-12-01	Sst	ZAn		
1.2	2014-11-10	Sst	ZAn		
1.1	2014-07-18	Sst	H0e		
1.0	2014-01-30	Sst	PLD		
REV	DATE	BY	CHECKED		
					Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldeburg Germany Tel. +49 (0) 79 42 945 - 0 <a href="http://www.we-online.com">www.we-online.com</a> eiSos@we-online.com
					Order.- No. <b>158353040</b>
					Size: 3535
					COMPLIANT RoHS & REACH HALOGEN FREE
					A4

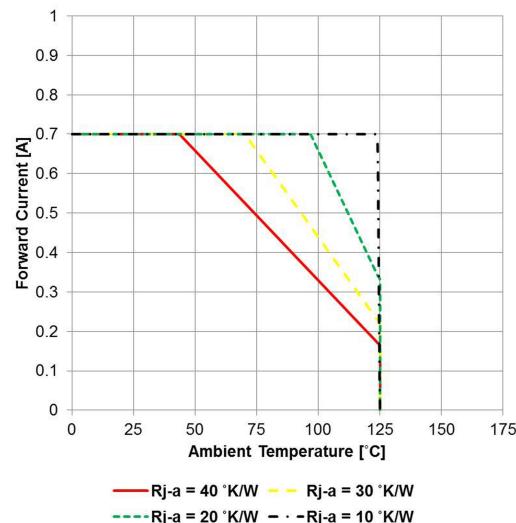
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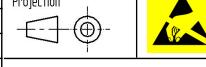


F4 Luminous Intensity vs. Forward Current:



F5 Derating Curve:

R<sub>ja</sub> = Thermal Resistance between the junction and ambient

				Projection	DESCRIPTION
1.5	2015-06-24	SSI	ZAn		<b>WL-SWTC SMD White Top View Ceramic LED</b>
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1.3	2014-12-01	SSI	ZAn		<b>158353040</b>
1.2	2014-11-10	SSI	ZAn		Size: 3535
1.1	2014-07-18	SSI	HOe		
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REV	DATE	BY	CHECKED		

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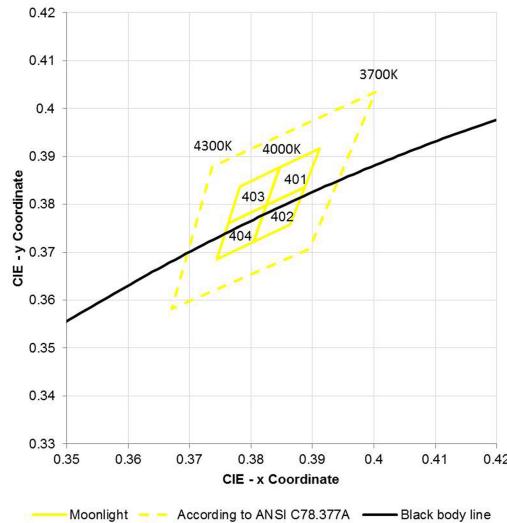


SIZE

A4



**F6 Chromaticity diagram:**



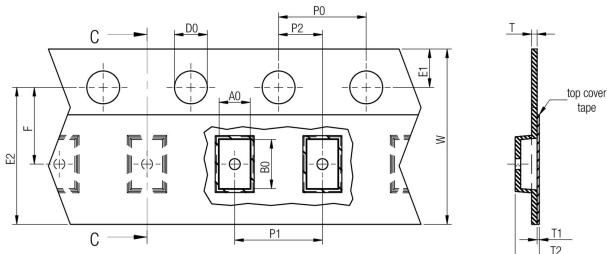
**F6 Chromaticity Performance - Bin groups from**

3850K to 4000K	Cx	Cy	4000K to 4150K	Cx	Cy
<b>401</b>	0.3825	0.3798	<b>403</b>	0.3763	0.3760
	0.3847	0.3877		0.3782	0.3837
	0.3912	0.3917		0.3847	0.3877
	0.3887	0.3836		0.3825	0.3798
	0.3825	0.3798		0.3763	0.3760
<b>402</b>	0.3804	0.3721	<b>404</b>	0.3744	0.3685
	0.3825	0.3798		0.3763	0.3760
	0.3887	0.3836		0.3825	0.3798
	0.3863	0.3758		0.3804	0.3721
	0.3804	0.3721		0.3744	0.3685

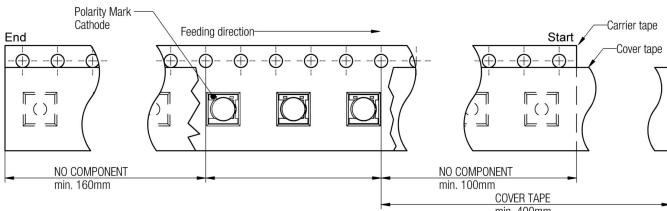
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1.1	2014-07-18	SSI	HOe		
1.0	2014-01-30	SSI	PLD		
REV DATE BY CHECKED					<b>WL-SWTC SMD White Top View Ceramic LED</b>
					Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com eSos@we-online.com
					Order.- No. <b>158353040</b> Size: 3535
					SIZE A4

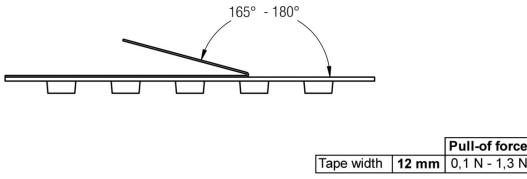
**G Packaging Specification - Tape and Reel [mm]:**



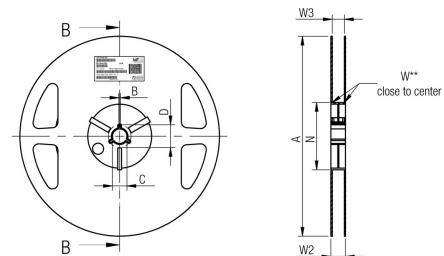
	A0	B0	W	P1	T	T1	T2	D0	E0	E1	E2	F	P0	P2	Tape	Packaging Unit
tolerance	typ.	typ.	+0,3 -0,1	± 0,1	± 0,1	max.	typ.	+0,1 -0,0	± 0,1	min.	± 0,05	± 0,1	± 0,05			
size	Ceramic 3535	3,80	3,80	12,00	8,00	0,25	0,10	2,20	1,50	1,75	10,25	5,50	4,00	2,00	Polystyrene	1000



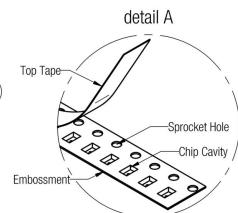
Packaging is referred to the international standard IEC 60286 -3:2007



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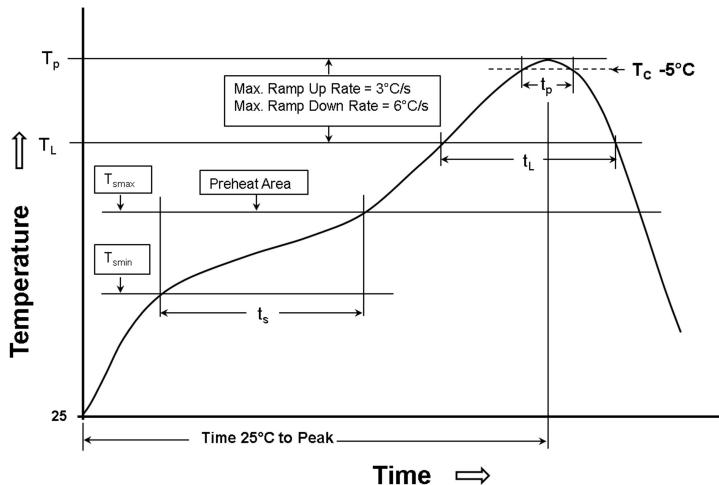


	A	B	C	D	N	W1	W2	W3
tolerance	± 2,0	min.	± 0,8	min.	min.	+ 1,5	max.	min. max.
Tape width	12 mm	176,00	1,50	13,00	20,20	50,00	12,40	18,40



Projection	DESCRIPTION
	<b>WL-SWTC SMD White Top View Ceramic LED</b>
	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 eSos@we-online.com
	Order- No.
	<b>158353040</b>
	Size: 3535
	SIZE A4

**H Soldering Specifications:**



**H2: Classification Reflow Profile:**

Profile Feature	Pb-Free Assembly
Preheat	150°C 200°C 120 seconds max.
- Temperature Min ( $T_{\text{min}}$ )	
- Temperature Max ( $T_{\text{max}}$ )	
- Time ( $t_s$ ) from ( $T_{\text{min}}$ to $T_{\text{max}}$ )	
Ramp-up rate ( $T_L$ to $T_p$ )	3°C/ second max.
Liquidous temperature ( $T_L$ )	217°C
Time ( $t_L$ ) maintained above $T_L$	60 seconds max.
Peak package body temperature ( $T_p$ )	250°C max.
Time within 5°C of actual peak temperature ( $t_p$ )	10 seconds max.
Ramp-down rate ( $T_p$ to $T_L$ )	6°C/ second max.
Time 25°C to peak temperature	220 seconds max.
Applied cycles	2 cycles max.

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1.5	2015-06-24	SS1	ZAn			
1.4	2015-03-23	SS1	HOe			
1.3	2014-12-01	SS1	ZAn			
1.2	2014-11-10	SS1	ZAn			
1.1	2014-07-18	SS1	HOe			
1.0	2014-01-30	SS1	PLD			
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 <a href="http://www.we-online.com">www.we-online.com</a> <a href="mailto:eiSos@we-online.com">eiSos@we-online.com</a>	<b>WL-SWTC SMD White Top View Ceramic LED</b> Order- No. <b>158353040</b> Size: 3535	 COMPLIANT RoHS & REACH HALOGENFREE
						A4

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**I Cautions and Warnings:**

**The following conditions apply to all goods within the product series of WL-SWTC**  
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 component surface, 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 LED body, pins or 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 LED body, pins or 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.

Washing varnish agent that is used during the production to clean the customer application might damage or change the characteristics of the LED body, pins or termination. The washing varnish agent could have a negative effect on the long term function of the product.

Direct mechanical impact to the product shall be prevented as the material of the LED body, pins or termination could flake or in the worst case it could break.

The standard deliveries include values in the range and limitation as defined in the Electrical & Optical Properties specified in the datasheet. On each reel, only one bin is sorted and taped. The bin is defined on intensity, chromaticity coordinate or wavelength and forward voltage. In order to ensure highest availability, the reel binning of standard deliveries can vary. A single bin cannot be ordered. Please contact us in advance, if you need a particular bin sorting before placing your order to clarify the lead time, MOQ and pricing.

**Product specific:**

Follow all instructions mentioned in the data sheet, especially:

- The soldering profile has to be complied with according to the technical reflow/ or wave 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 absolute maximum ratings will void the warranty.
- It is also recommended to return the LEDs to the original moisture proof bag and reseal the moisture proof bag again.
- Certain LED surfaces consist of soft material. Pressure on the top surface has to be handled carefully to prevent negative influence to the function and reliability of the LEDs.
- ESD prevention methods need to be applied for manual handling and processing by machinery.
- Resistors for protection are obligatory.
- Luminaires in operation could harm human vision or skin on a photo-biological level, therefore direct light impact has to be avoided. All products are additionally certified as risk groups 0 to 2 according to DIN EN 62471:2008

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							158353040	A4
							Size: 3535	

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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](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 Sections 1 and 2 remains unaffected.

REV	DATE	BY	CHECKED	Projection	Image	DESCRIPTION	Order- No.	SIZE
1.5	2015-06-24	SS1	ZAn					
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1.3	2014-12-01	SS1	ZAn					
1.2	2014-11-10	SS1	ZAn					
1.1	2014-07-18	SS1	HOe					
1.0	2014-01-30	SS1	PLD					
REV				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				
				Size: 3535				
								
				A4				

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 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 network etc.. Würth Elektronik eiSos GmbH & Co KG must be informed about the intent of such usage before 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.