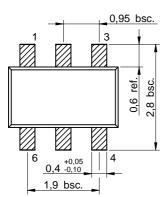
Dimensions: [mm]



2,9 bsc.

Marking

Product Marking:

¹⁾ X = Datecode; Y = Controlcode

Pin 1

Marking ¹⁾

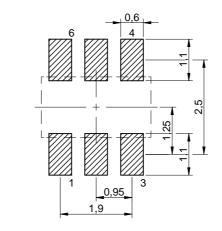
0,1 +0,05

1,6 bsc.

0,1 bsc.

0,51 +0,09 -0,21





4

3

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

Schematic:

3

RoHS

REACh

HALOGE

WÜRTH ELEKTRONIK

0,6 ref.

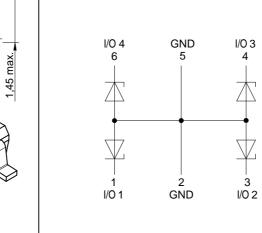
3,0° +5,0

.

W26XY

0,15 -0,05 **1,06** ^{+0,24} -0,16

Marking



Absolute Maximum Ratings (Ambient Temperature 25°C):

Properties		Test conditions	Value	Unit	
(Reverse) Peak Pulse Current	I _{Peak}	$t_p = 8/20\mu s$	6	А	
(Reverse) Peak Pulse Current	I _{Peak EFT}	t _p = 5/50ns	35	А	
ESD Air Discharge Capability ¹⁾	V _{ESD Air}		16	kV	
ESD Contact Discharge Capability ²⁾	V _{ESD Contact}		10	kV	
Channels	4				

 $^{1)}$ in positive and negative polarity $^{2)}$ in positive and negative polarity

Certification:

RoHS Approval	Compliant [2011/65/EU&2015/863]
REACh Approval	Conform or declared [(EC)1907/2006]
Halogen Free	Conform [JEDEC JS709B]
Halogen Free	Conform [IEC 61249-2-21]

General Information:

SIZE/TYPE

SOT23-6L

operating	Temperature		-55 up to +85 °C				
Storage Co packaging	onditions (in))	original	< 4	< 40 °C;< 90 % RH			
Moisture S	ensitivity Le	vel (MSL)		3			
Tes	t conditions of	Electrical Proper	ties: +20 °C, 33 %	RH if not specified	differently		
VCh Cla	amp ESD was		nsmission Line Puls ΣΩ,tp=100ns, tr=1ι		TLP conditions:		
		Compliant:	IEC 61000-4-2, -4	and -5			
CHECKED	REVISION	DATE (YYYY-MM-DD)	GENERAL TOLERAINCE	PROJECTION METHOD	1		
CHECKED RoD	REVISION 004.001	DATE (YYYY-MM-DD) 2021-04-20	general tolerance DIN ISO 2768-1m				
RoD	004.001		DIN ISO 2768-1m				

BUSINESS UNIT

eiSos

STATUS

Valid

PAGE

1/9

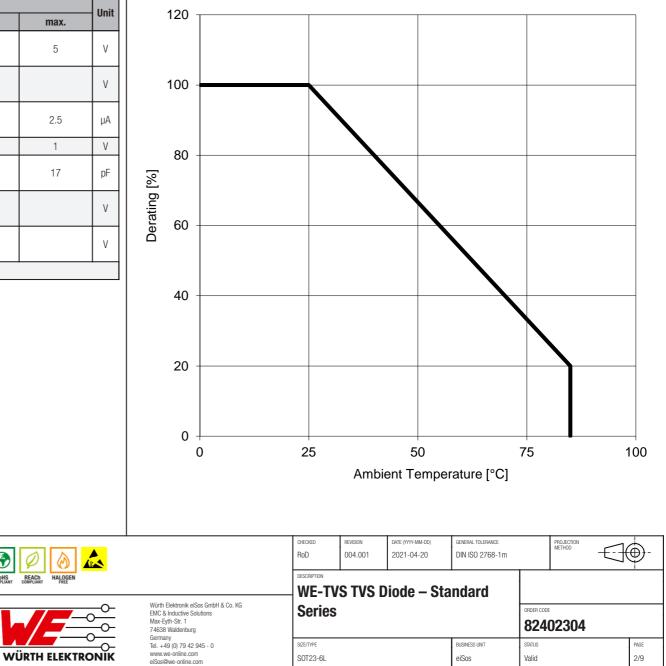


18A

Electrical Properties:

Proportion		Test conditions	Value				
Properties			min.	typ.	max.	Unit	
Channel Operating Voltage	V _{Ch}	I/O to GND			5	V	
(Reverse) Breakdown Voltage	V _{BR}	I/O to GND; I _{BR} =1mA	6			V	
Channel (Reverse) Leakage Current	I _{Ch Leak}	$V_{\rm I/O}$ to GND V _{I/O} =V _{Ch} ; V _{GND} = 0V			2.5	μA	
Forward Voltage	V _F	GND to I/O; I _F =15mA	0.6	0.8	1	V	
(Channel) Input Capacitance	C _{Ch}	I/O to GND V _{I/O} =0V; V _{GND} =0V; f=1MHz		13	17	рF	
Channel ESD Clamping Voltage	V _{Ch Clamp ESD}	IEC 61000-4-2 +8kV (TLP=16A) Contact Mode, I/O to GND		8.5		V	
Channel Surge Clamping Voltage	V _{Ch Clamp}	I/O to GND 5A, $t_p = 8/20 \ \mu s$		6.5		V	
Polarity		4	Unidirectional	8	4		

Peak Pulse Power and Current Derating:

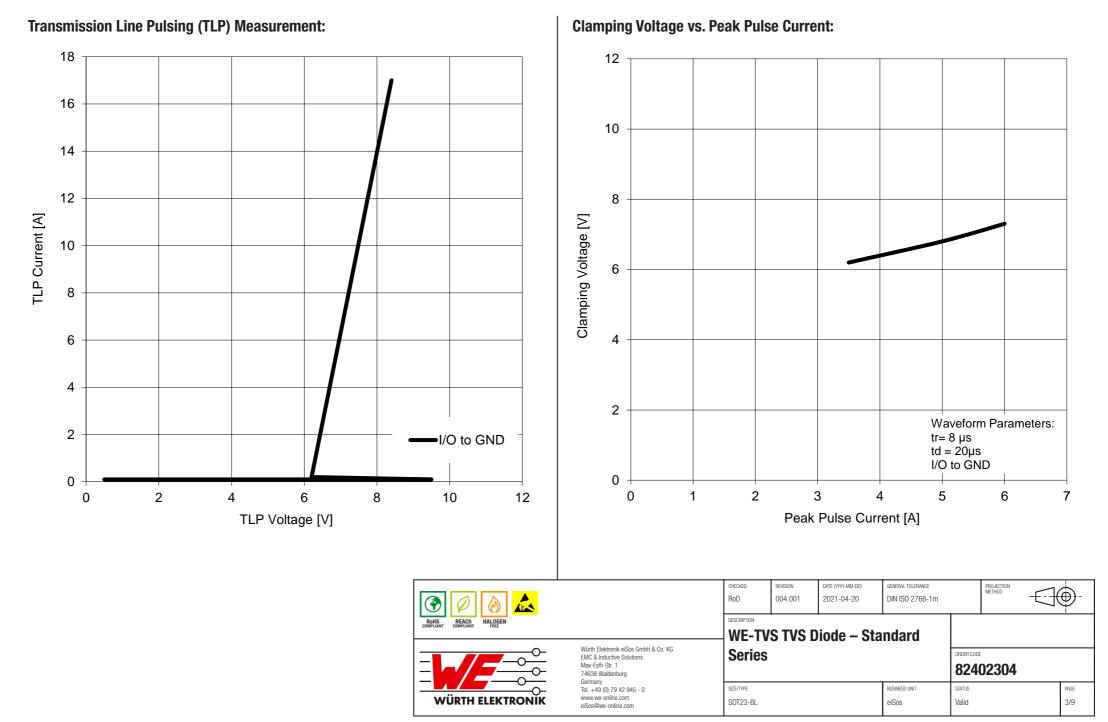


This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is not authorized for use in equipment 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 Wirth Elektronik elSos 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 therefore 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, before the design-in stage, in addition, sufficient reliability transportation isgnal, disaster prevention, medical, public information network etc.. Wirth Elektronik elSos 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 the require high safety and reliability for the safety and reliability for the reliability for the safety and reliability for the

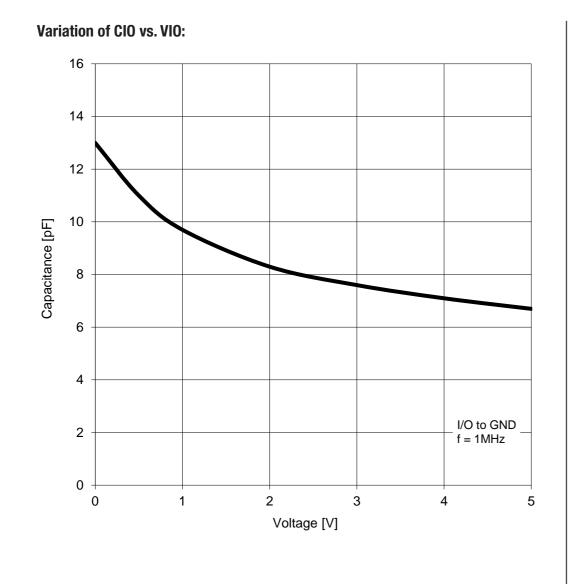
3

RoHS

REACh



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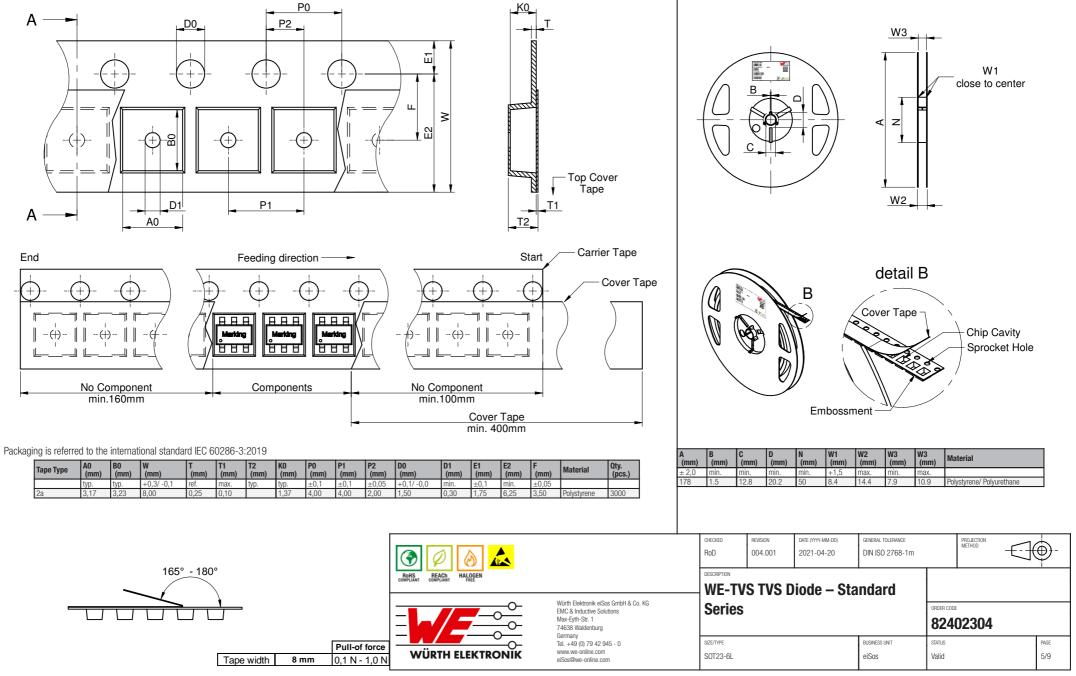


ROHS REACH HALOGEN		CHECKED RoD	REVISION 004.001	DATE (YYYY-MM-DD) 2021-04-20	GENERAL TOLERANCE DIN ISO 2768-1m		PROJECTION METHOD		€-
		WE-TVS TVS Diode – Standard							
Würth Elektronik elSos GmbH & Co. KG EMC & Inductive Solutions Max Eyth Str. 1 74638 Waldenburg						ORDER CODE	02304		
	Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com eiSos@we-online.com	SIZE/TYPE SOT23-6L			BUSINESS UNIT eiSos	status Valid		1	PAGE 4/9

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Packaging Specification - Tape: [mm]

Packaging Specification - Reel: [mm]



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Packaging Specification - Inner Carton: [mm]	Packaging Specification - Outer Carton: [mm]
ESD-Bag	
Lic (mm)Wic (mm)Hic (mm)No. of (ESD-Bag (pcs.))Qty. (pcs.)Materiallyp.typ.typ.typ.184,00182,0080,004412000Paper	Lc (mm)WC (mm)HC (mm)No. of Inner Carton (pcs.)Qty. (pcs.)Materialtyp.typ.typ.383,00283,00195,00672000Paper
Reference Reference	OrecxeD RoD Revision 004.001 Date (vvv-MM-DD) 2021-04-20 GENERAL TOLERANCE DIN ISO 2768-1m PROJECTION METHOD Description WE-TVS TVS Diode – Standard Series Order CODE 82402304 SZE/TVPE SOT23-6L BUSNESS IMIT eiSos STATIS PAGE 6/9

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment only and and and reliability standard and reliability standard and reliability required or where a failure of the product is not authorized for use in 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 Winth Elektronik elSos 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 reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Winth Elektronik elSos 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 inclusions or performance.

Classification Reflow Profile for SMT components:



Classification Reflow Soldering Profile:

Profile Feature		Value	
Preheat Temperature Min	T _{s min}	150 °C	
Preheat Temperature Max	T _{s max}	200 °C	
Preheat Time $\rm t_s$ from $\rm T_{s\ min}$ to $\rm T_{s\ max}$	t _s	60 - 120 seconds	
Ramp-up Rate (T _L to T _P)		3 °C/ second max.	
Liquidous Temperature	TL	217 °C	
Time t_L maintained above T_L	tL	60 - 150 seconds	
Peak package body temperature	Т _р	$T_p \le T_c$, see Table below	
Time within 5°C of actual peak temperature	t _p	20 - 30 seconds	
Ramp-down Rate (T _P to T _L)		6 °C/ second max.	
Time 25°C to peak temperature		8 minutes max.	
		•	

refer to IPC/ JEDEC J-STD-020E

Package Classification Reflow Temperature (T_c):

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

refer to IPC/ JEDEC J-STD-020E

		CHECKED RoD	REVISION 004.001	DATE (YYYY-MM-DD) 2021-04-20	GENERAL TOLERANCE DIN ISO 2768-1m		PROJECTION METHOD	€-
		WE-TV Series	WE-TVS TVS Diode – Standard					
Würth Elektronik elSos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74638 Waldenburg						ORDER CODE	02304	
WÜRTH ELEKTRONIK	Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com elSos@we-online.com	SIZE/TYPE SOT23-6L			BUSINESS UNIT eiSos	status Valid		page 7/9

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Cautions and Warnings:

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

General:

- This electronic component is designed and developed with the intention for use in general electronic equipment.
- Würth Elektronik must be asked for a written approval (following the certain PPAP procedure) before incorporating the components into any equipment in the field such as military, aerospace, aviation, nuclear control, submarine, transportation, (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc. where higher safety and reliability are especially required and/or if there is the possibility of direct damage or human injury.
- Electronic components that will be used in safety-critical or high-reliability applications, should be pre-evaluated by the customer.
- The component is designed and manufactured to be used within the datasheets specified values. If the usage and operation conditions specified in the datasheet are not met, the wire insulation may be damaged or dissolved.
- Do not drop or impact the components, the component may be damaged
- Würth Elektronik products are qualified according to international standards, which are listed in each product reliability report. Würth
 Elektronik does not warrant any customer qualified product characteristics beyond Würth Elektroniks' specifications, for its validity and
 sustainability over time.
- The responsibility for the applicability of the customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products also apply to customer specific products.

Product specific:

Soldering:

- The solder profile must comply with the technical product specifications. All other profiles will void the warranty.
- All other soldering methods are at the customer's own risk.

Cleaning and Washing:

 Washing agents used during the production to clean the customer application might damage or change the characteristics of the body, the marking or the plating. Washing agent may have a negative effect on the long term functionality of the product.

Potting

If the product is potted in the customer application, the potting material might shrink or expand during and after hardening. Shrinking
could lead to an incomplete seal, allowing contaminants into the component body, pins or termination. Expansion could damage the
components. We recommend a manual inspection after potting to avoid these effects.

Storage Conditions:

- A storage of Würth Elektronik products for longer than 12 months is not recommended. Within other effects, the terminals may suffer degradation, resulting in bad solderability. Therefore, all products shall be used within the period of 12 months based on the day of shipment.
- Do not expose the components to direct sunlight.
- The storage conditions in the original packaging are defined according to DIN EN 61760-2.
- The storage conditions stated in the original packaging apply to the storage time and not to the transportation time of the components.

Packaging:

 The packaging specifications apply only to purchase orders comprising whole packaging units. If the ordered quantity exceeds or is lower than the specified packaging unit, packaging in accordance with the packaging specifications cannot be ensured.

Handling:

- Violation of the technical product specifications such as exceeding the nominal rated current will void the warranty.
- The TVS Diode is not designed for voltage stabilization with continuous power dissipation.
- The exposure of steam, saline spray, atmosphere with reduced oxygen content, corrosive gases, rain or condensation and direct sunlight shall be prohibited.
- Signals operated continuously with a high ratio of direct-current voltage might have an influence on the product life time.
- The temperature rise of the component must be taken into consideration. The operating temperature is comprised of ambient temperature and temperature rise of the component. The operating temperature of the component shall not exceed the maximum temperature specified.

These cautions and warnings 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.

COMPLIANT COMPLIANT FREE		CHECKED RoD	revision 004.001	DATE (YYYY-MM-DD) 2021-04-20	GENERAL TOLERANCE DIN ISO 2768-1m		PROJECTION METHOD	 ⊕-
		WE-TVS TVS Diode – Standard						
	Würth Elektronik elsos GmbH & Co. KG EMC & Inductive Solutions Max-Eyth-Str. 1 74538 Waldenburg	Series				ORDER CODE	02304	
	Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com elSos@we-online.com	size/type SOT23-6L			BUSINESS UNIT eiSos	status Valid		PAGE 8/9

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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 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 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 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.

		CHECKED RoD	REVISION 004.001	DATE (YYYY-MM-DD) 2021-04-20	GENERAL TOLERANCE DIN ISO 2768-1m		PROJECTION METHOD		€-
Ref HALOGEN Wirth Elektronik elSos GmbH & Co. KG EMC & Mulcrive Solutions Max-Eyth-Str.1 74638 Waldenburg		WE-TV	S TVS D	iode – Sta	ndard				
		Series				ORDER CODE	02304		
	Germany Tel. +49 (0) 79 42 945 - 0 www.we-online.com elSos@we-online.com	SIZE/TYPE SOT23-6L			BUSINESS UNIT eiSos	status Valid		1	PAGE 9/9

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