

TriQSiC™ 650V Silicon Carbide Schottky Diode G1

Features

- 650V schottky Rectifier
- Zero Reverse Recovery Current / Zero forward recovery
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Low forward voltage
- Positive Temperature Coefficient on V_{ag}



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650V SiC S



1 Maximum ratings

Table 2 Maximum rating (Tc = 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
V _{RRM}	Repetitive Peak Reverse Voltage	650	V	-	
V _{RSM}	Surge Peak Reverse Voltage	700	V	-	
V _R	DC Peak Reverse Voltage	650	V	-	
I _F	Continuous Forward Current	32 16 10	A	Tc = 25°C Tc = 135°C Tc = 155°C	Fig.7
I _{FSM}	Non-Repetitive Peak Forward Surge Current	80	A	Tc = 25 tp = 10ms Half Sine Pulse	
P _{tot}	Power Dissipation	110 48	W	Tc = 25°C Tc = 110°C	Fig.6
i ² dt	i ² dt	32	A ² S	Tc = 25 tp = 10ms	
T _{stg} , T _J	Operating Junction Range	-55 to +175		-	

2 Thermal characteristics

Table 3 Thermal characteristics

Symbol	Parameter	Typ.	Unit	Test Conditions	Note
R _{th(j-c)}	Thermal resistance from junction to case	1.36	°C/W	-	Fig.8

3 Electrical characteristics

Table 4 Electrical characteristics (Tc = 25°C unless otherwise specified)

Symbol	Parameter	Typ.	Max.	Unit	Test Condit
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Revision history

Document version	Date of release	Description of changes
V01_00	2025-04-29	--

Attention

1. RoHS compliance

The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/ EC (RoHS2), as implemented January 2, 2013.

2. REACH compliance

REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, please contact a Sichain representative to insure you get the most up-to-date REACH SVHC Declaration. REACH banned substance information (REACH Article 67) is also available upon request.

3. With respect to information regarding the application of the product, Sichain hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

4. Any information given in this documents subject to customer's compliance with its obligations and any applicable legal requirements, norms and standards concerning any use of the product of Sichain in any customer's applications.

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6. Due to technical requirements products may contain dangerous substances. For information on the types in question please contact Sichain office.

7. Except as otherwise explicitly approved by Sichain in a written document signed by authorized representatives of Sichain, Sichain' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.

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