

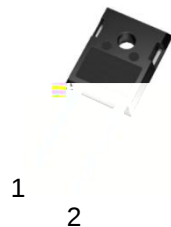
S1D020120C



TriQSiC™ 1200V Silicon Carbide Schottky Diode

Features

- 1.2kv schottky Rectifier
- Zero Reverse Recovery Current / Zero forward recovery
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Low forward voltage
- Positive Temperature Coefficient on V_F
- Increased Creepage/Clearance Distance



TO-247-2L



Benefits

- Replace Bipolar with Unipolar Rectifiers
- Essentially No Switching Losses
- High Efficiency
- Reduction of Heat Sink Requirements
- Parallel Devices Without Thermal Runaway



Applications

- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drives
- AC/DC converters

Table 1 Key performance and package parameters

Type	V_{RRM}	$I_F(T_C = 135^\circ\text{C})$	Q_C	Marking	Package
S1D020120C	1200V	29A	110nC	S1D020120C	TO-247-2L

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1200V SiC Schottky Diodl

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3 Electrical characteristics

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

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
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4 Electrical characteristic diagrams

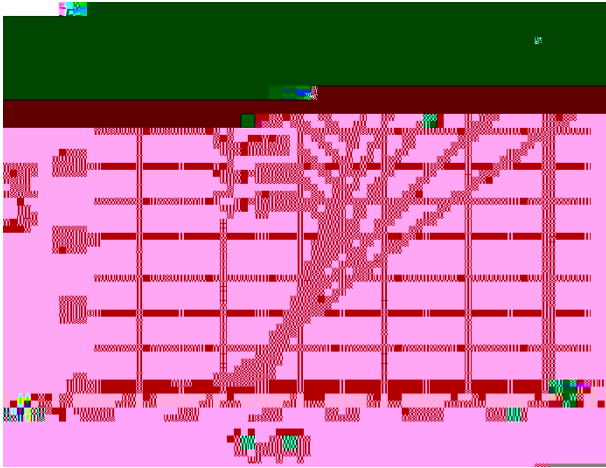


Figure 1. Forward Characteristics

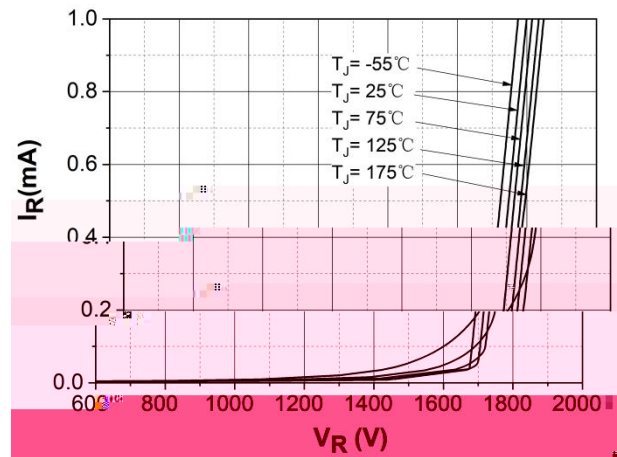


Figure 2. Reverse Characteristics

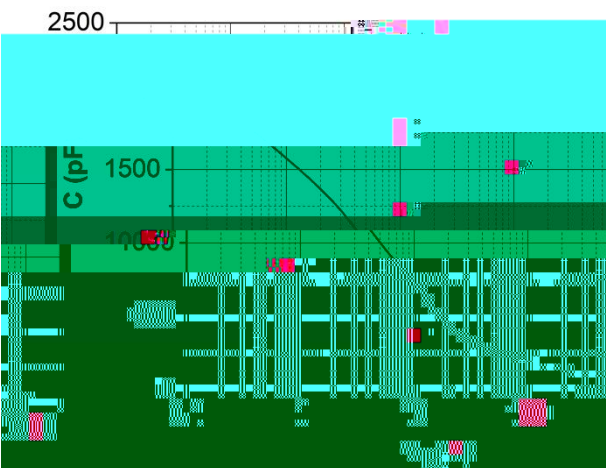


Figure 3. Capacitance vs. Reverse Voltage

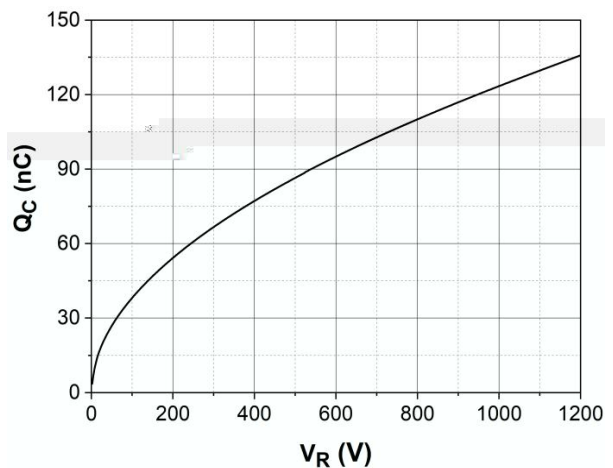


Figure 4. Recovery Charge vs. Reverse Voltage

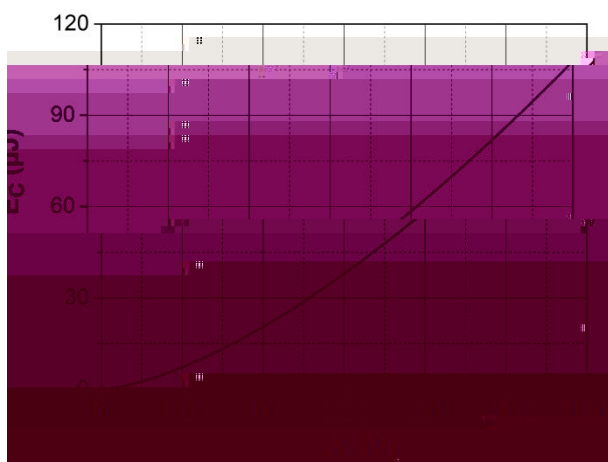


Figure 5. Typical Capacitance Stored Energy

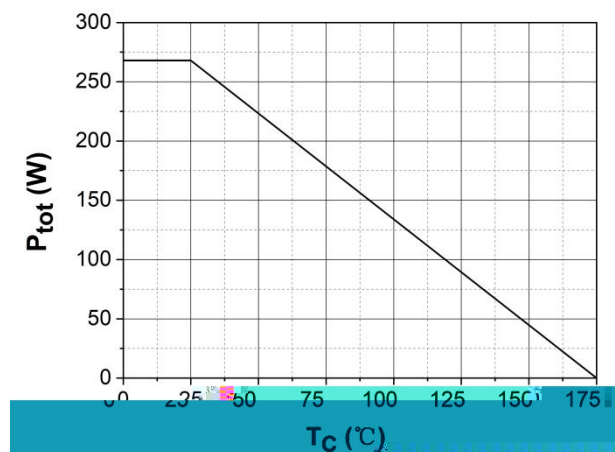


Figure 6. Power Derating

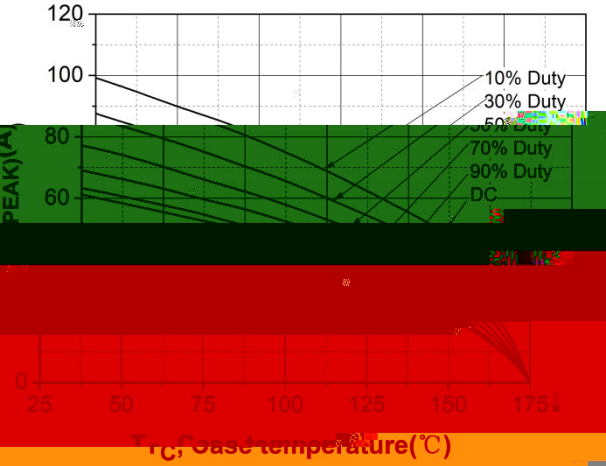


Figure 7. Current Derating

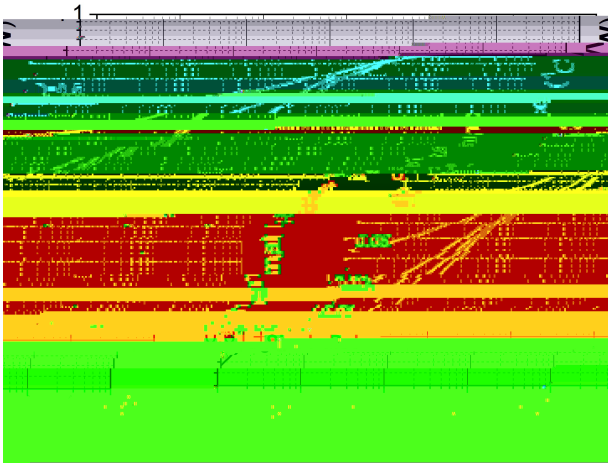


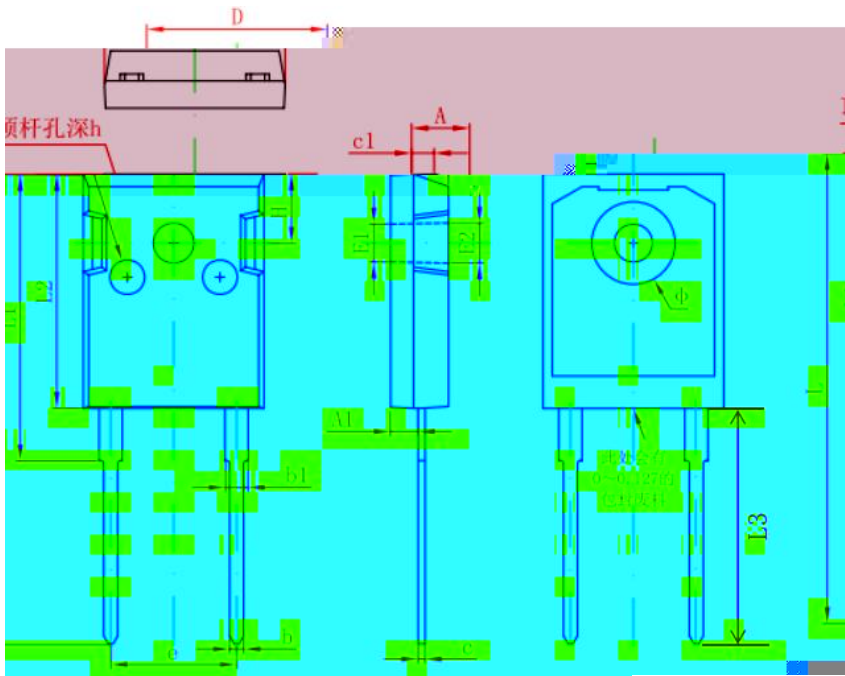
Figure 8. Transient Thermal Impedance

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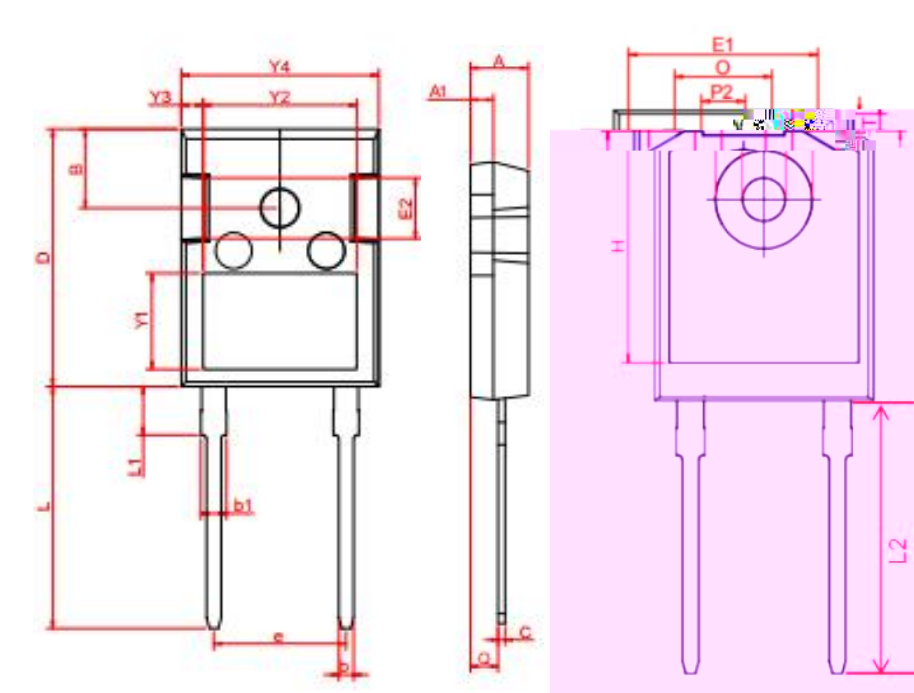
1200V SiC Schottky Diode



5 Package drawing (TO-247-2L-A&TO-247-2L-B)



TO-247-2L-A



TO-247-2L-B

Revision history

Document version	Date of release	Document stage	Description of changes
V02_00	2024-08-05		
V02_01	2024-08-07		
V02_02	2024-10-28		
V02_03	2025-04-30		
V02_04	2025-05-23		
V03_00	2026-05-12	Final	

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.

5. Specifications of any and all products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment.

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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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