

PSC1065L

650 V, 10 A SiC Schottky diode in TO-247-2

4 November 2021

Short data sheet

1. General description

Nexperia introduces leading edge Silicon Carbide (SiC) Schottky diode for ultra-high performance, low loss, high efficiency power conversion applications. The SiC Schottky diode encapsulated in a 2-pin TO-247-2 through-hole power plastic package offers temperature independent capacitive turn-off, zero recovery switching behavior combined with an outstanding figure-of-merit ($Q_C \times V_F$). The Merged PIN Schottky (MPS) diode improves the robustness expressed in a high I_{FSM} .

2. Features and benefits

- Zero forward and reverse recovery
- Temperature independent fast and smooth switching performance
- Outstanding figure-of-merit ($Q_C \times V_F$)
- High I_{FSM} capability
- High power density
- Reduced system cost
- System miniaturization
- Reduced EMI

3. Applications

- Switch Mode Power Supply (SMPS)
- AC-DC and DC-DC converter
- Battery charging infrastructure
- Server and telecom power supply
- Uninterruptible Power Supply (UPS)
- Photovoltaic inverters

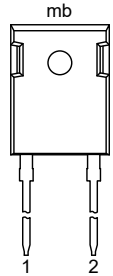
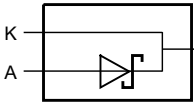
4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{DC}	DC blocking voltage		650	-	-	V
I_F	forward current	$\delta = 1$; $T_{case} \leq 140\text{ }^\circ\text{C}$	-	-	10	A
Q_C	total capacitive charge	$V_R = 400\text{ V}$; $dI_F/dt = 200\text{ A}/\mu\text{s}$; $I_F \leq I_{Fmax}$; $T_j = 150\text{ }^\circ\text{C}$	-	15	-	nC

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode	 <p>TO-247-2 (SOT8022)</p>	 <p>aaa-033312</p>
2	A	anode		
mb	K	mounting base; connected to cathode		

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PSC1065L	TO-247-2	Plastic, single-ended package (heatsink mounted, 1 mounting hole) (TO-247-2); 2 leads; 10.88 mm pitch; 20.95 mm x 15.94 mm x 5.02 mm body	SOT8022

7. Package outline

Plastic, single-ended package (heatsink mounted, 1 mounting hole) (TO-247-2); 2 leads; 10.88 mm pitch; 20.95 mm x 15.94 mm x 5.02 mm body

SOT8022

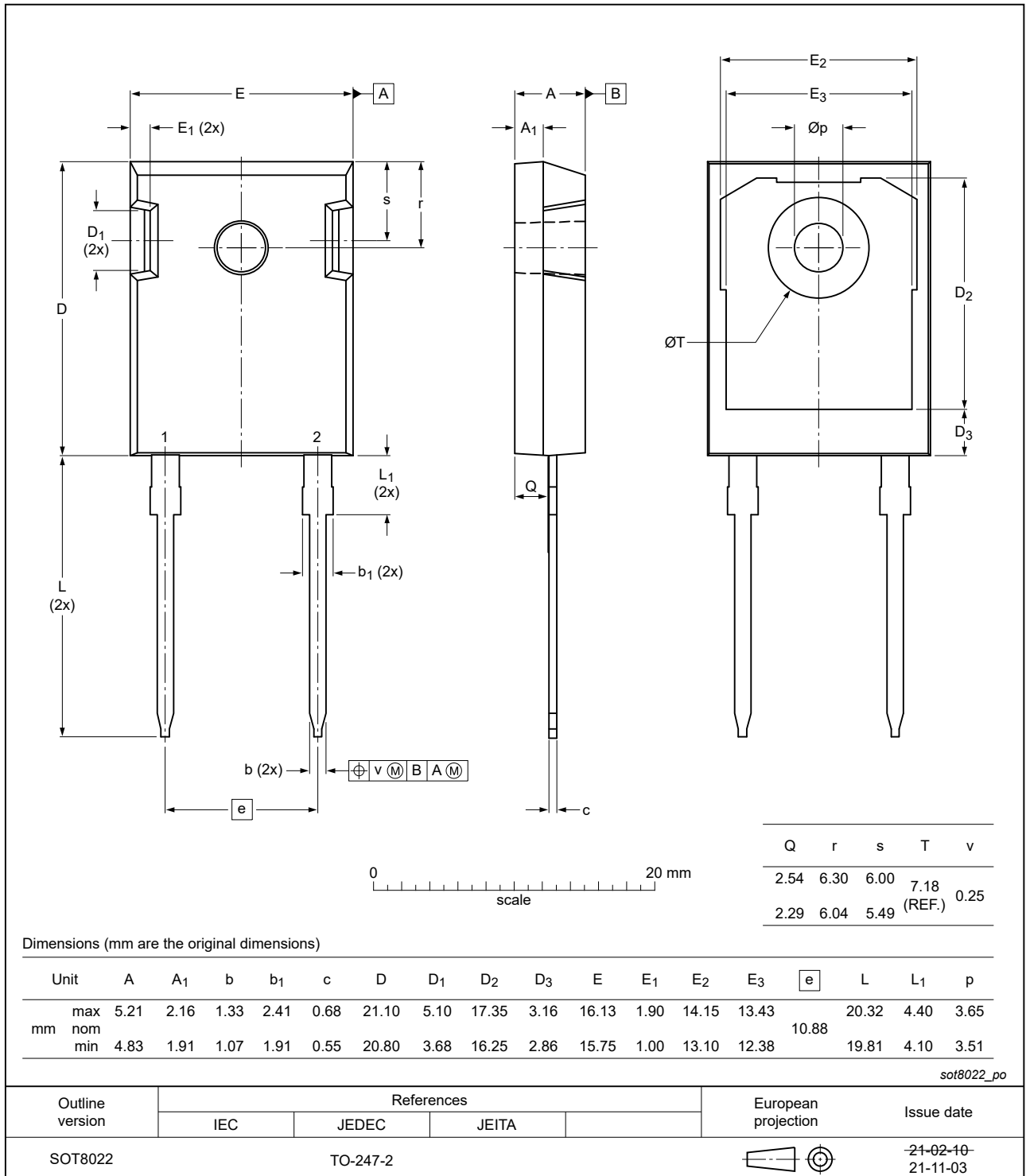


Fig. 1. Package outline TO-247-2 (SOT8022)

8. Revision history

Table 4. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PSC1065L_SDS v.1	20211104	Short data sheet	-	-

9. Legal information

Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

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- [2] The term 'short data sheet' is explained in section "Definitions".
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