

TECHNICAL DATA
DATA SHEET 5331 REV. A

SILICON SCHOTTKY RECTIFIER DIE

Applications:

- Switching Power Supply
- Converters
- Free-Wheeling Diodes
- Polarity Protection Diode

Features:

- Ultra low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Electrically / Mechanically Stable during and after Packaging
- Out Performs 150 Volt Ultrafast Rectifiers

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	40	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	3.0	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, Sine pulse ⁽¹⁾	80	A
Max. Junction Temperature	T_J	-	-55 to +125	°C
Max. Storage Temperature	T_{stg}	-	-55 to +125	°C

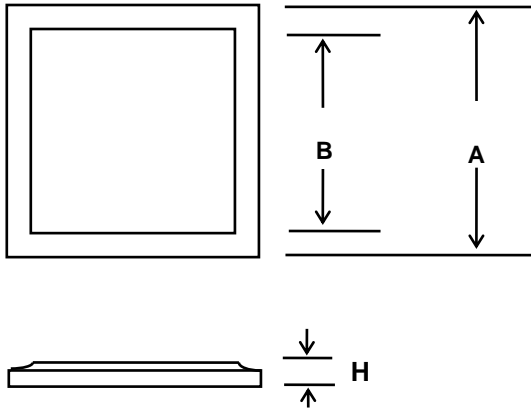
Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 3.0A, Pulse, $T_J = 25\text{ °C}$	0.525	V
	V_{F2}	@ 9.4A, Pulse, $T_J = 25\text{ °C}$	0.950	
Max. Reverse Current	I_{R1}	@ $V_R = 40V$, Pulse, $T_J = 25\text{ °C}$	2	mA
	I_{R2}	@ $V_R = 40V$, Pulse, $T_J = 100\text{ °C}$	20	mA
Typical Junction Capacitance	C_j	@ $V_R = 5.0\text{ V}$, $T_J = 25\text{ °C}$ $f = 1\text{ MHz}$	250	pF

(1) in SHD package

TECHNICAL DATA
DATA SHEET 5331 REV. A

Mechanical Dimensions: In Inches (mm)



Bottom side metalization Ag-5kA minimum

Top side metalization Al-25kA minimum

Bottom side is cathode, top side is anode

Dimension H = 0.0105±0.001(0.27±0.026)

(Can be customized according to customer requirements)

A	B
0.060 ± 0.003(1.52 ± 0.08)	0.054 ± 0.003(1.37 ± 0.08)

PART ORDERING INFORMATION:

1 CXXXX XX X -X

Part Number

Metal Combinations (blank is Al top/Ag bottom):

Suffix	Top	Bottom	Part Number
blank	Al	Ag	1C5822
AG	Al	Au	1C5822AG
BB	Ag	Ag	1C5822BB
BG	Ag	Au	1C5822BG
GG	Au	Au	1C5822GG
GB	Au	Ag	1C5822GB

A = Ti (0.3 kA) / Al (25 kA)

B = Ti (1.2 kA) / Ni (1.8 kA) / Ag (30kA)

G = Ti (1.2 kA) / Ni (1.8 kA) / Au (12kA) (TOP) / Ti (1.2 kA) / Ni (1.8 kA) / Au (4kA) (BOTTOM)

Quality Level (blank is commercial level):

Suffix	Part Number	Description
blank	1C5822	Commercial level
H	1C5822H	Class H level
K	1C5822AGK	Class K level Al top/Au bottom

Polarity (blank is anode top/cathode bottom):

Suffix	Top	Bottom	Part Number
blank	Anode	Cathode	1C5822
-R	Cathode	Anode	1C5822AGK-R

TECHNICAL DATA
DATA SHEET 5331 REV. A

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.