



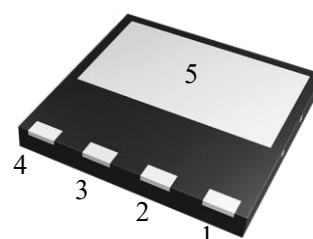
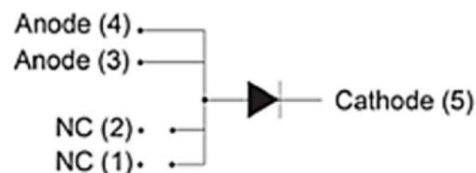
SiC Schottky Barrier Diode

Features

- 650V Schottky Diode
- Zero Reverse Recovery/Zero Forward Recovery
- High Efficiency Operation
- Extremely Fast Switching
- Temperature Independent Switching Behavior

Applications

- Switch mode power supply
- Power factor correction Solar Invertor
- Solar inverter
- Uninterruptible power supply



DFN8*8

Absolute Maximum Ratings ($T_C=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	650	V
DC Blocking Voltage	V_{DC}	650	
Maximum Average Forward Rectified Current@ $T_C=150^{\circ}\text{C}$	$I_{F(AV)}$	10	A
Non-Repetitive Peak Forward Surge Current $t_p=10\text{ms}$, Half Sine Pulse	I_{FSM}	50	A
Total Power Dissipation	P_D	188	W
Operating Junction and Storage Temperature	T_J, T_{STG}	$-40\sim+175$	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.8	$^{\circ}\text{C/W}$

Electrical Characteristics($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test condition	Min	Typ	Max	Units
Forward Voltage	V_F	$I_F=10\text{A}, T_J=25^{\circ}\text{C}$		1.35	1.65	V
		$I_F=10\text{A}, T_J=175^{\circ}\text{C}$		1.75		
Reverse Current	I_R	$V_R=650\text{V}, T_J=25^{\circ}\text{C}$		4	40	μA
		$V_R=650\text{V}, T_J=175^{\circ}\text{C}$		9		
Total Capacitive Charge	Q_C	$V_R=400\text{V}$		25.7		nC
Total Capacitance	C	$V_R=0\text{V}, f=1\text{MHz}$		451		pF
		$V_R=200\text{V}, f=1\text{MHz}$		50		
		$V_R=400\text{V}, f=1\text{MHz}$		48		



Typical Characteristics

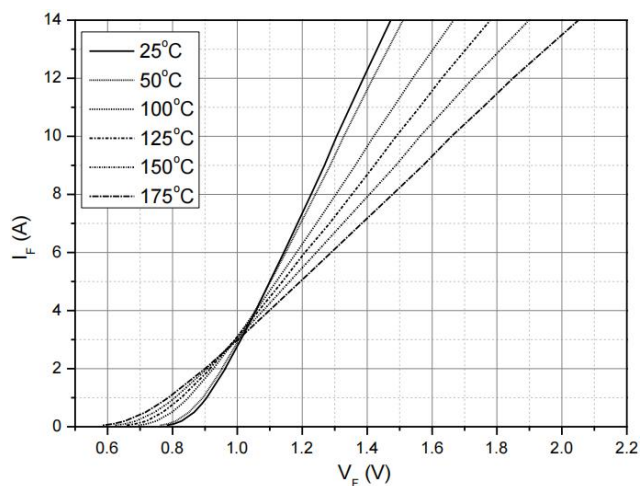


Figure 1. Forward Characteristics

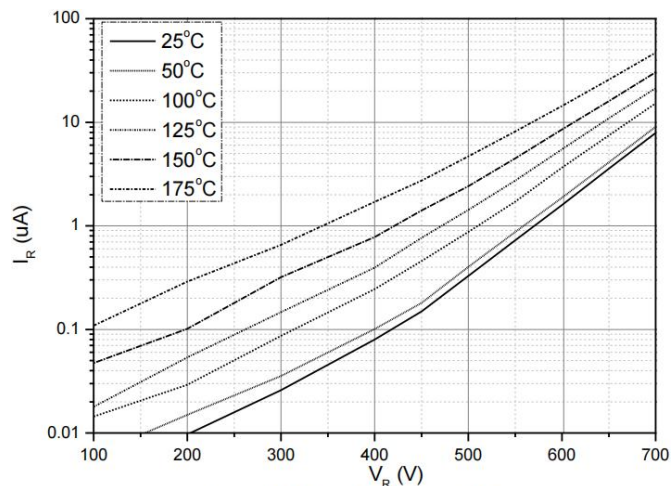


Figure 2. Reverse Characteristics

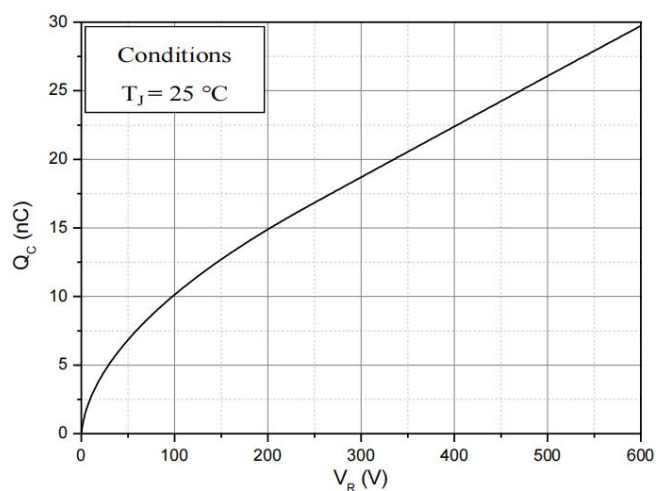


Figure 3. Total Capacitance Charge vs. Reverse Voltage

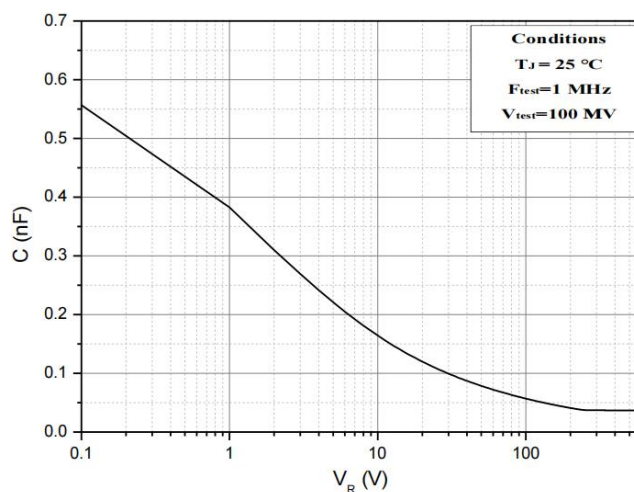


Figure 4. Capacitance vs. Reverse Voltage



DFN8*8

Symbol	Min	Nom	Max
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
A3	-	0.20	-
b	0.90	1.00	1.10
D	7.90	8.00	8.10
E	7.90	8.00	8.10
D2	7.10	7.20	7.30
E2	4.25	4.35	4.45
e	1.90	2.00	2.10
K	2.65	2.75	2.85
L	0.40	0.50	0.60



Shikues Disclaimer

1.Accuracy of Information and Right to Modify

The information provided in this document is for reference only. Shikues reserves the right to make changes to this document and to the specifications of the products described herein at any time, without prior notice, for the purpose of improving reliability, function, design, or for any other reason. It is the customer's responsibility to obtain and verify the latest product information and specifications before making any final design, procurement, or usage decisions.

2.No Warranty

Shikues makes no express or implied warranties, representations, or guarantees regarding the suitability of its products for any particular purpose.

Shikues assumes no liability for any assistance provided or for the design of customer products. All products are supplied "as is."

3.Intended Use and Limitation of Liability

The products described in this document are intended for use in general-purpose electronic devices. They are neither designed nor tested nor authorized for use in transportation equipment or applications requiring high reliability. Unless expressly authorized in writing by Shikues, these products must not be used as critical components in life-support systems or any applications where failure could directly pose a risk to human life (including, but not limited to, medical devices, transportation systems, aerospace equipment, nuclear facilities, and safety-critical systems).

Shikues assumes no responsibility or liability for any consequences arising from the use of its products in unauthorized or unintended applications.

Neither Shikues nor its representatives shall be held liable for any resulting damages.

4.Intellectual Property

This document does not grant any express or implied license—whether by estoppel, implication, or otherwise—to use any intellectual property rights of Shikues.