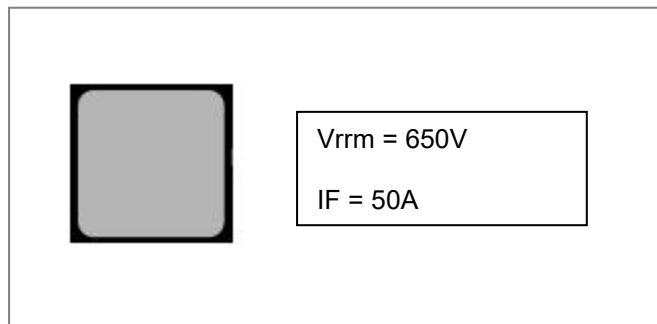


Technical Data  
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# SD3-0650-S050AB

## SiC Schottky Power Rectifier Chip



### Description

- 650-Volt Schottky Rectifier
- Zero Reverse Recovery
- Zero Forward Recovery
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on VF

Part Number	Die Size	Anode	Cathode
SD3-0650-S050AB	Please contact your sales representative to get the detailed information about die layout and dimensions.	Al	Ag

### Maximum Ratings:

Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	$V_{RRM}$	650	V
Surge Peak Reverse Voltage	$V_{RSM}$	650	V
DC Peak Blocking Voltage	$V_R$	650	V
Maximum DC Current*	$I_F$	50	A
Repetitive Peak Forward Surge Current	$I_{FRM}$	121	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	300	A
Operating Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +175	°C

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**Electrical Characteristics(T=25°C unless otherwise specified):**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 50A, Pulse, T <sub>J</sub> = 25 °C	1.5	1.7	V
	V <sub>F2</sub>	@ 50A, Pulse, T <sub>J</sub> = 175 °C	2.0	2.4	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	1	40	µA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 175 °C	10	60	µA
Junction Capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, T <sub>J</sub> =25°C, f=1MHz	3100	-	pF
Reverse Recovery Charge	Q <sub>c</sub>	I <sub>F</sub> = 50A, di/dt = 200A/µs V <sub>R</sub> = 400 V, T <sub>J</sub> =25°C	193.4	-	nC
Capacitance Stored Energy	E <sub>c</sub>	V <sub>R</sub> = 400 V, T <sub>J</sub> =25°C	47.37	-	µJ

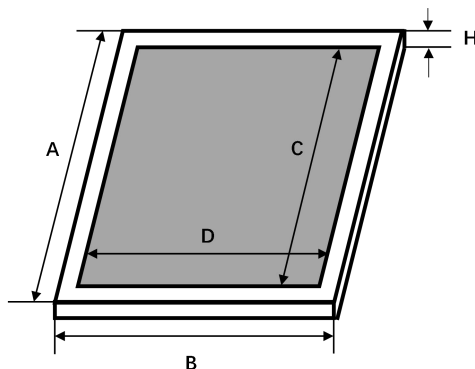
\* Pulse width < 300 µs, duty cycle < 2%

**Mechanical Parameters:**

Parameter	Typ.	Unit
Die Size	4.20*4.20	mm
Anode Pad opening	3.50*3.50	mm
Thickness	350 ± 25	µm
Anode Metalization (Al)	4	µm
Cathode Metalization (Ag)	0.4	µm
Frontside Passivation	Polyimide	

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**Chip Dimension**



symbol	Dimension +/- 10%
A	4.20mm
B	4.20mm
C	3.50mm
D	3.50mm
H	350um

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