Technical Data
Data Sheet D0209, REV.-

SD3-0650-S020AB
SiC Schottky Power Rectifier Chip

Vrrm = 650V

IF = 20A

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-S020AB	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	20	A
Repetitive Peak Forward Surge Current	I_{FRM}	105	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	170	A
Operating Junction and Storage Temperature	T_J , T_{stg}	-55 to +175	˚C

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Electrical Characteristics(T=25℃ unless otherwise specified):

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 20A, Pulse, T_J = 25 °C	1.45	1.7	V
	V_{F2}	@ 20A, Pulse, T_J = 175 °C	1.65	2.0	V
Reverse Current*	I_{R1}	@V_R = rated V_R, T_J = 25 °C	1.5	50	uA
	I_{R2}	@V_R = rated V_R, T_J = 175 °C	15	200	uA
Junction Capacitance	C_T	V_R=0V, T_J=25℃, f=1MHz	1550	-	pF
Reverse Recovery Charge	Q_c	I_F = 20A, di/dt = 200A/μs V_R = 400 V, T_J =25°C	96.7	-	nC
Capacitance Stored Energy	E_C	V_R = 400 V, T_J =25°C	23.69	-	μJ

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

Mechanical Parameters:

Parameter	Typ.	Unit
Die Size	2.75*2.75	mm
Anode Pad opening	1.90*1.90	mm
Thickness	350 ±25	μm
Anode Metalization (Al)	4	μm
Cathode Metalization (Ag)	0.4	μm
Frontside Passivation	Polyimide	

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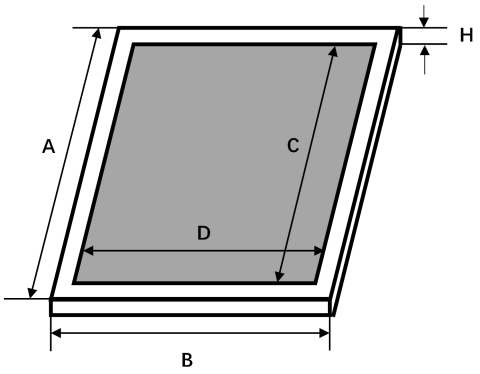
Chip Dimension



symbol	Dimension +/- 10%
A	2.75mm
B	2.75mm
C	1.90mm
D	1.90mm
H	350um