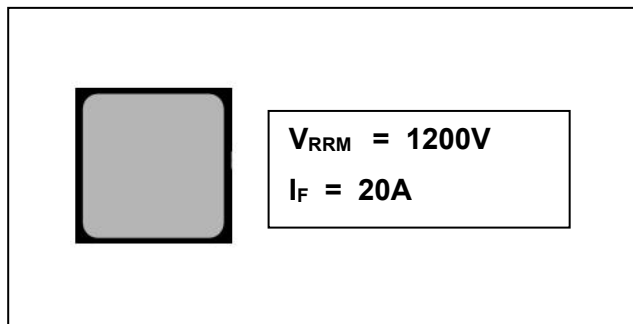


# SD4-1200-S020AB

## SiC Schottky Power Rectifier Chip



### Description

- 1200-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
SD4-1200-S020AB	$3.40 \times 3.40 \text{ mm}^2$	Al	Ag

### Maximum Ratings:

Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	$V_{RRM}$	1200	V
Surge Peak Reverse Voltage	$V_{RSM}$	1200	V
DC Peak Blocking Voltage	$V_R$	1200	V
Maximum DC Current	$I_F$	20	A
Non-Repetitive Forward Surge Current	$I_{FSM}$	162	A
Operating Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +175	°C
Maximum Processing Temperature	$T_{Proc}$	325	°C

**Technical Data**  
**Data Sheet D0251, REV.A**

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

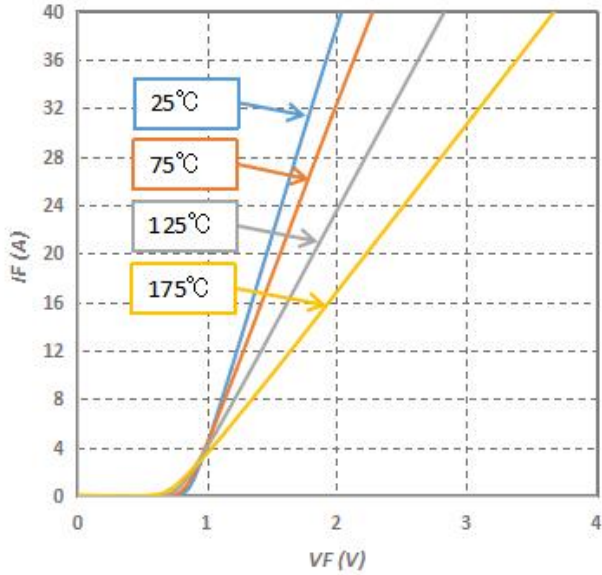
Parameter	Symbol	Condition	Typ.	Max.	Units
DC Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20 A, T <sub>J</sub> =25°C	1.5	1.8	V
		I <sub>F</sub> = 20 A, T <sub>J</sub> =175°C	2.2	3.0	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 1200 V, T <sub>J</sub> =25°C	1	25	uA
		V <sub>R</sub> = 1200 V, T <sub>J</sub> =175°C	10	150	uA
Junction Capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, T <sub>J</sub> =25°C, f=1MHz	1620	-	C <sub>T</sub>
Reverse Recovery Charge	Q <sub>c</sub>	I <sub>F</sub> = 20A, di/dt = 200A/μs V <sub>R</sub> = 800 V, T <sub>J</sub> =25°C	124.89	-	Q <sub>c</sub>
Capacitance Stored Energy	E <sub>c</sub>	V <sub>R</sub> = 800 V, T <sub>J</sub> =25°C	64.20	-	E <sub>c</sub>

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

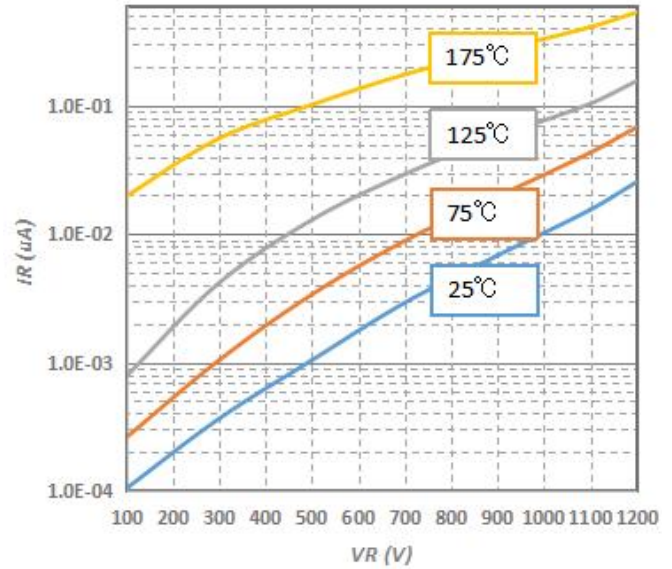
**Mechanical Parameters:**

Parameter	Typ.	Unit
Die Size	3.40×3.40	mm
Anode Pad opening	1.60×1.60	mm
Thickness	350±10%	μm
Wafer Size	150	mm
Anode Metalization (Al)	4	μm
Cathode Metalization (Ag)	0.4	μm
Frontside Passivation	Polyimide	

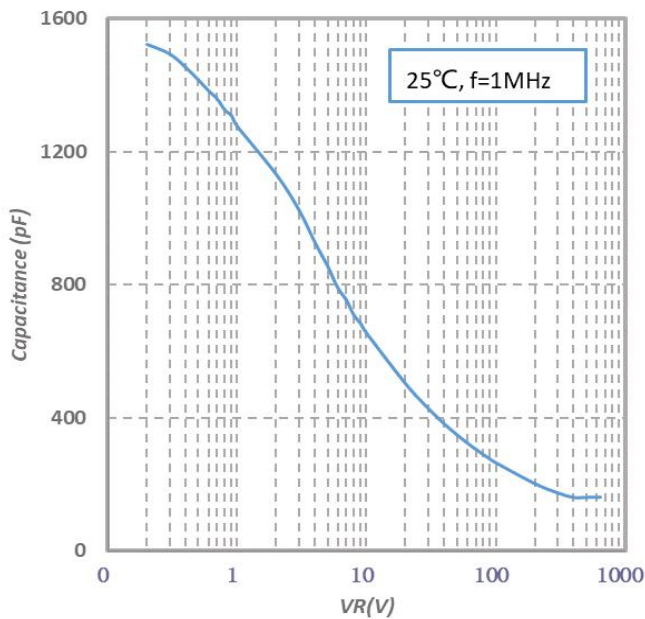
**Ratings and Characteristics Curves**



**Fig.1-Typical Forward Voltage Characteristics**

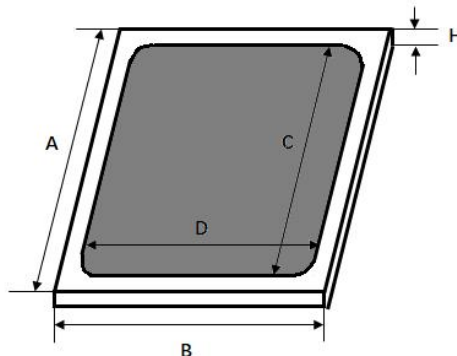


**Fig.2-Typical Reverse Characteristics**



**Fig.3-Capacitance vs. Reverse Voltage**

**Chip Dimension**



symbol	Dimension +/- 10%
A	3.40 mm
B	3.40 mm
C	1.60 mm
D	1.60 mm
H	350 um

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