Technical Data
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SD3-0650-S006AB
SiC Schottky Power Rectifier Chip

V_{RRM} = 650V
I_F = 6A

Description

- 650-Voltage 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-S006AB	1.55 ×1.55 mm^2	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	6	A
Non-Repetitive Forward Surge Current	I_{FSM}	70	A
Operating Junction and Storage Temperature	T_J , T_{stg}	-55 to +175	˚C
Maximum Procesing Temperature	T_{Proc}	325	˚C

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

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 6A, Pulse, T_J = 25 °C	1.5	1.7	V
	V_{F2}	@ 6A, Pulse, T_J = 175 °C	1.75	2.2	V
Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.03	3	uA
	I_{R2}	@V_R = rated V_R T_J = 175 °C	0.6	25	uA
Junction Capacitance	C_T	V_R=0V, T_J=25℃, f=1MHz	382	-	pF
Reverse Recovery Charge	Q_c	I_F = 6A, di/dt = 200A/μs V_R = 400 V, T_J =25°C	23.8	-	nC
Capacitance Stored Energy	E_C	V_R = 400 V, T_J =25°C	5.88	-	μJ

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

Mechanical Parameters:

Parameter	Typ.	Unit
Die Size	1.55×1.55	mm
Anode Pad opening	0.9×0.9	mm
Thickness	350	μm
Wafer Size	152.4	mm
Anode Metalization (Al)	4	μm
Cathode Metalization (Ag)	0.4	μm
Frontside Passivation	Polyimide	

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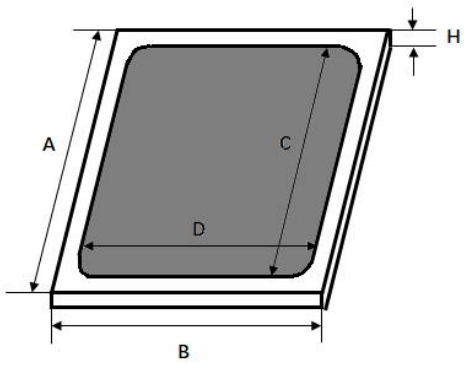
Chip Dimension



symbol	Dimension +/- 10%
A	1.55 mm
B	1.55 mm
C	0.90 mm
D	0.90 mm
H	350 um