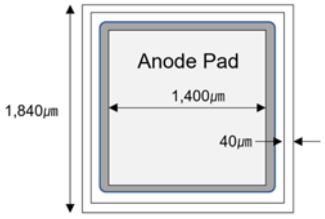
SiC Schottky Barrier Diode

SN0620G2 V_{RRM} = 650 V $I_F(T_C=150℃)$ = 20 A Q_C = 31 nC

Features

- Silicon Carbide Schottky Barrier Diode
- Low V_f
- Low I_R
- High-Recovery Speed

Die Structure & Pattern Diagram



Applications

- Switch Mode Power Supplies
- Power Factor Correction
- Secondary Side Rectification
- PV Power Conditioners

Chip Information

Wafer size	6 inch
Chip size	1,840 * 1,840㎛
Chip thickness	350㎛
Scribe line width	80㎛
Pad diameter	1,400 * 1,400㎛
Top metallization	Al (for Wire)
Back metallization	Ti-Ni-Ag (for Solder)
Chip quantity	4,380 pcs/wafer

Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Conditions	Limit	Unit
Repetitive peak reverse voltage	V_{RM}		650	V
Reverse voltage (DC)	V_R		650	V
Forward voltage (DC)	I_F		20	A
Peak surge forward current	I_{FSM}	10 μs Sinusoidal	56	A
Junction temperature	T_j		175	℃
Storage temperature	T_{stg}		-55 to +175	℃

Electrical Characteristics (T_a = 25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
DC blocking voltage	V_{DC}	I_R = 4.0 ㎃	650	-	-	V
Forward voltage	V_F	I_F = 20A, Ta = 25℃	-	1.57	1.91	V
		I_F = 20A, Ta = 150℃	-	1.99	-	V
		I_F = 20A, Ta = 175℃	-	2.14	-	V
Reverse current	I_R	V_R = 600V, Ta = 25℃	-	0.1	400	μA
		V_R = 600V, Ta = 150℃	-	2.5	-	μA
		V_R = 600V, Ta = 175℃	-	4.7	-	μA
Total capacitance	C	V_R = 1V, f = 1㎒	-	454	-	pF
Total capacitive charge	Q_C	V_R = 400V, di/dt = 350 A/μs	-	31	-	nC
Switching time	T_C	V_R = 400V, di/dt = 350 A/μs	-	19	-	ns

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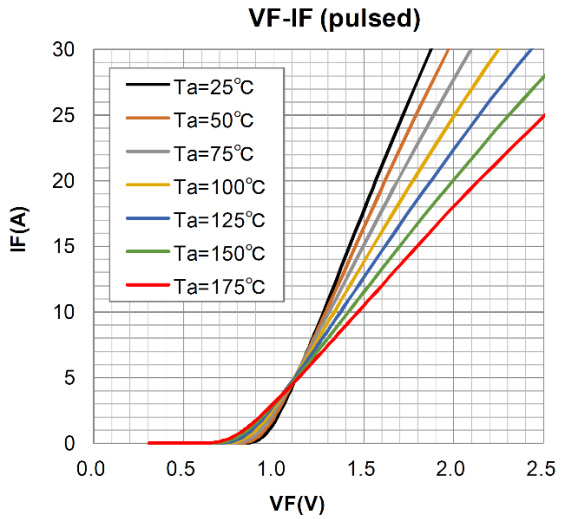
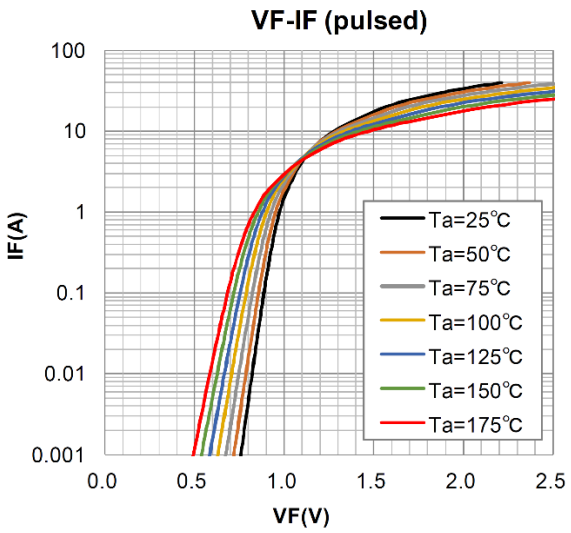
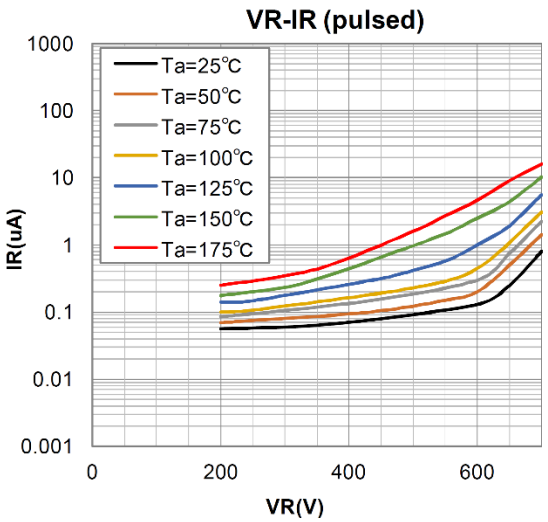
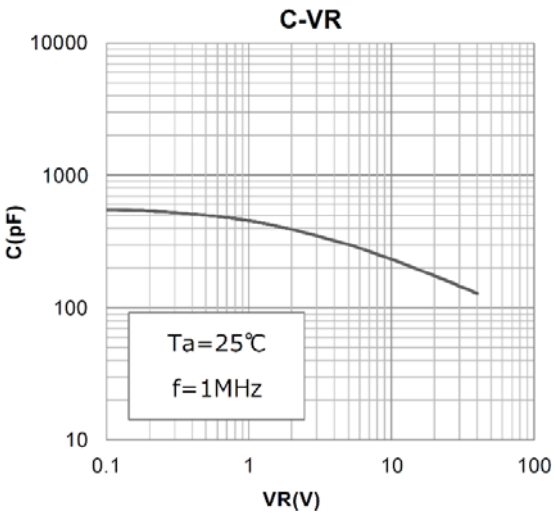
Electrical characteristic curves

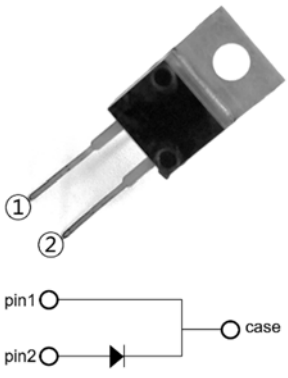


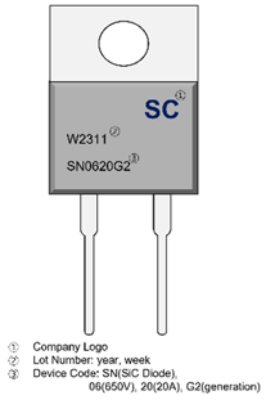






Package





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