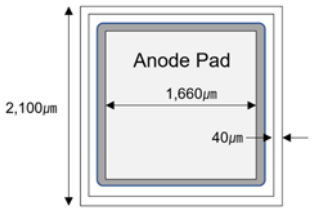
SiC Schottky Barrier Diode

SN1210G3 V_{RRM} = 1200 V $I_F(T_C=150℃)$ = 10 A Q_C = 34 nC

Features

- Silicon Carbide Schottky Barrier Diode
- Small Die Size
- High IFSM
- 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	2,100 * 2,100㎛
Chip thickness	350㎛
Scribe line width	80㎛
Pad diameter	1,660 * 1,660㎛
Top metallization	Al (for Wire)
Back metallization	Ti-Ni-Ag (for Solder)
Chip quantity	3,100 pcs/wafer

Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Conditions	Limit	Unit
Repetitive peak reverse voltage	V_{RM}		1200	V
Reverse voltage (DC)	V_R		1200	V
Forward voltage (DC)	I_F		10	A
Peak surge forward current	I_{FSM}	10 ㎳ Sinusoidal	100	A
Junction temperature	T_j		175	℃
Storage temperature	T_{stg}		-55 to +175	℃

Electrical Characteristics (Ta = 25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
DC blocking voltage	V_{DC}	I_R = 0.2 ㎃	1200	-	-	V
Forward voltage	V_F	I_F = 10A, Ta = 25℃	-	1.48	1.88	V
		I_F = 10A, Ta = 150℃	-	2.15	-	V
		I_F = 10A, Ta = 175℃	-	2.36	-	V
Reverse current	I_R	V_R = 1200V, Ta = 25℃	-	0.1	200	μA
		V_R = 1200V, Ta = 150℃	-	1.2	-	μA
		V_R = 1200V, Ta = 175℃	-	3.5	-	μA
Juction capacitance	C_j	V_R = 1V, f = 1㎒	-	450	-	pF
Total capacitive charge	Q_C	V_R = 800V, di/dt = 500 A/μs	-	34	-	nC
Switching time	T_C	V_R = 800V, di/dt = 500 A/μs	-	15	-	ns

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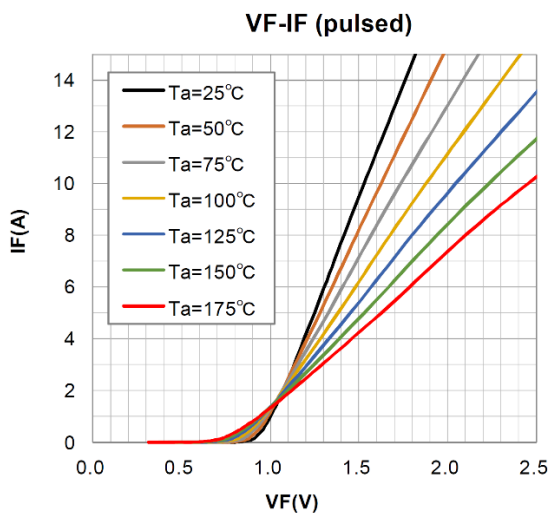
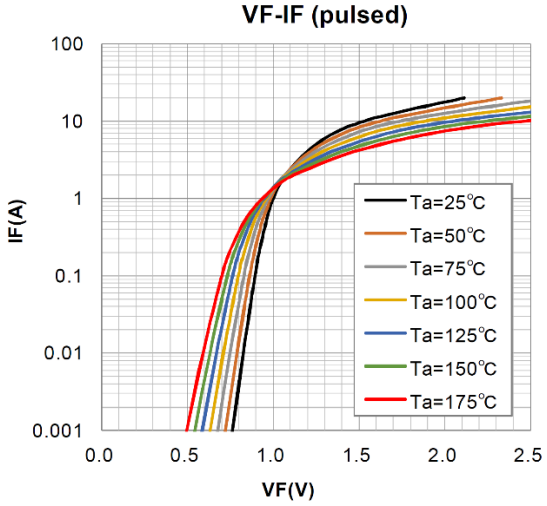
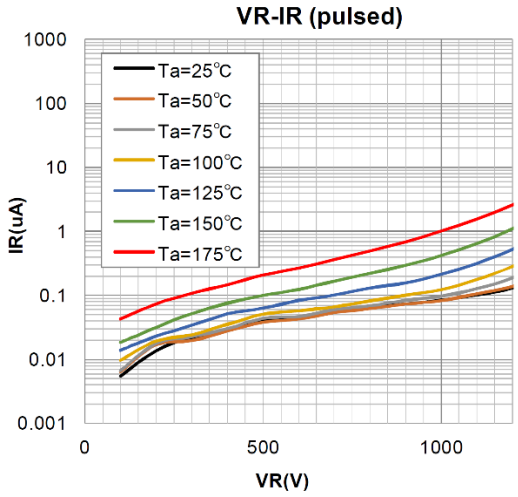
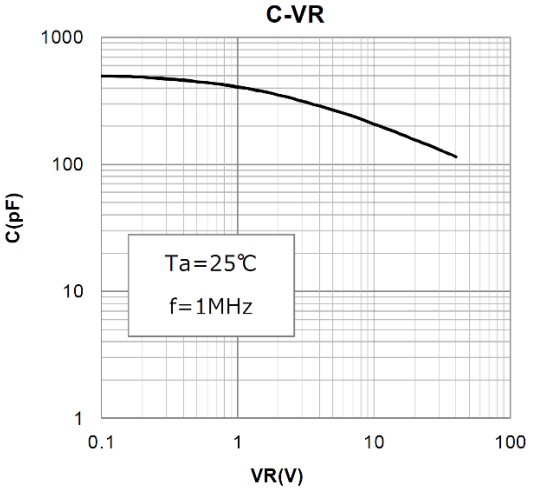
Electrical characteristic curves

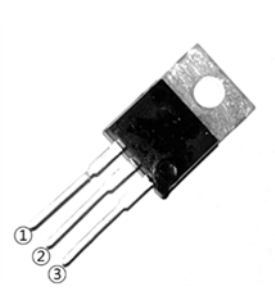




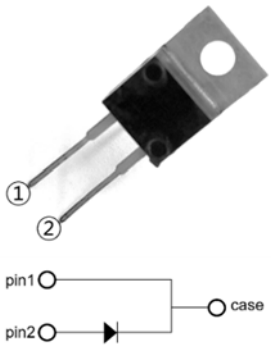




Package



① none
② cathode
③ anode



① Company Logo
② Lot Number: year, week
③ Device Code: SN(SiC Diode), 12(1200V), 10(10A), G2(generation)

Notes

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