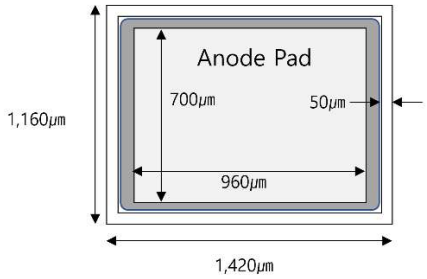
SiC Schottky Barrier Diode

SN0606G4 V_{RRM} = 650 V $I_F(T_C$=150℃) = 6 A Q_C = 19 nC

Features

- Silicon Carbide Schottky Barrier Diode
- Small Die Size
- 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	1,160 * 1,420㎛
Chip thickness	350㎛
Scribe line width	100㎛
Pad diameter	700 * 960㎛
Top metallization	AlCu(Cu 0.5%) for Wire
Back metallization	Ti-Ni-Ag (for Solder)
Chip quantity	9,000 pcs/wafer

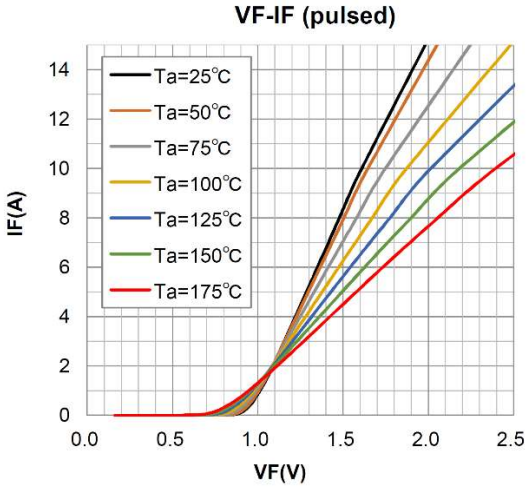
Maximum Ratings (T_a = 25℃)

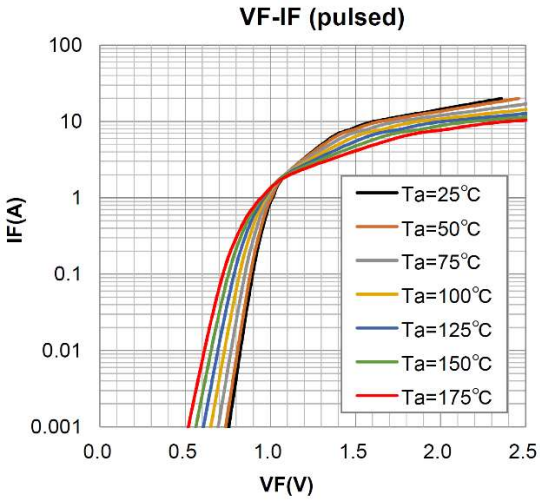
Parameter	Symbol	Conditions	Limit	Unit
Repetitive peak reverse voltage	V_{RM}		650	V
Reverse voltage (DC)	V_R		650	V
Forward voltage (DC)	I_F		6	A
Peak surge forward current	I_{FSM}	10 ms Sinusoidal	60	A
Junction temperature	T_j		175	℃
Storage temperature	T_{stg}		-55 to +175	℃

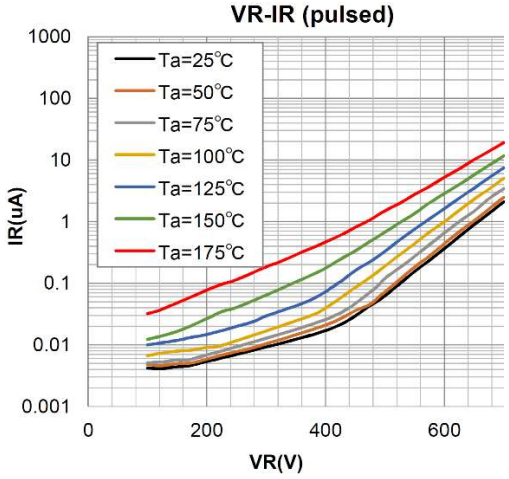
Electrical Characteristics (T_a = 25℃)

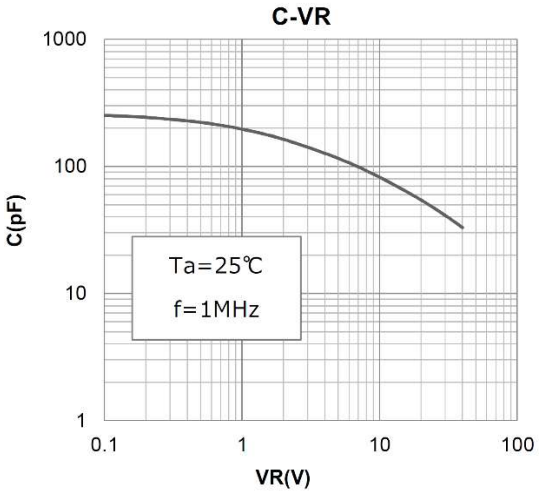
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
DC blocking voltage	V_{DC}	I_R = 30 μA	650	-	-	V
Forward voltage	V_F	I_F = 6A, Ta = 25℃	-	1.35	1.70	V
		I_F = 6A, Ta = 150℃	-	1.63	-	V
		I_F = 6A, Ta = 175℃	-	1.73	-	V
Reverse current	I_R	V_R = 650V, Ta = 25℃	-	0.9	30	μA
		V_R = 650V, Ta = 150℃	-	6	-	μA
		V_R = 650V, Ta = 175℃	-	10	-	μA
Total capacitance	C	V_R = 1V, f = 1㎒	-	196	-	pF
Total capacitive charge	Q_C	V_R = 400V, di/dt = 350 A/μs	-	19	-	nC
Switching time	T_C	V_R = 400V, di/dt = 350 A/μs	-	15	-	ns

Electrical characteristic curves









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