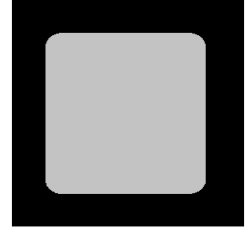


N3D-1200-010

Silicon Carbide Schottky Diode Chip



Part Number	Die Size	Anode	Cathode
SIC-1200-010	2.21 x 2.21mm ²	Al	Ni/Ag

Maximum Ratings

Symbol	Parameter	Value	Unit	Test Conditions	Note
V _{RRM}	Repetitive Peak Reverse Voltage	1200	V		
I _F	Continuous Forward Current	10*	A	T _C =150°C	
I _{FRM}	Repetitive Peak Forward Surge Current	50	A	T _C =25°C, t _P =10 ms, Half Sine Wave,	*
I _{FSM}	Non-Repetitive Peak Forward Surge Current	95	A	T _C =25°C, t _P =10ms, Half Sine Wave,	*
I _{F,Max}	Non-Repetitive Peak Forward Surge Current	600	A	T _C =25°C, t _P = 10 μs, Pulse	*
V _R	DC Peak Blocking Voltage	1200	V		
T _J , T _{stg}	Operating Junction and Storage Temperature	-55 to +175	°C		

* R_{θJC}=0.98°C/W

Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V _F	Forward Voltage	1.5 2.2	1.8 3	V	I _F = 10 A T _J =25°C I _F = 10 A T _J =175°C	Figure 1
I _R	Reverse Current	10 20	50 100	μA	V _R = 1200 V T _J =25°C V _R = 1200 V T _J =175°C	Figure 2
Q _C	Total Capacitive Charge	50		nC	V _R = 800 V, I _F = 10 A, T _J = 25°C Q _C =∫ ₀ ^{V_R} C(V)dV	Figure 4
C	Total Capacitance	610 46 36		pF	V _R = 0 V, T _J = 25°C, f = 1 MHz V _R = 400 V, T _J = 25°C, f = 1 MHz V _R = 800 V, T _J = 25°C, f = 1 MHz	Figure 3
E _C	Capacitance Stored Energy	25		μJ	V _R = 800 V	

Mechanical Parameters

Parameter	Typ.	Unit
Die Size	2.21 x 2.21	mm
Anode Pad Size	1.91 x 1.91	mm
Anode Pad Opening	1.72 x 1.72	mm
Thickness	180 ± 10%	µm
Wafer Size	150	mm
Anode Metalzation (Al)	4	µm
Cathode Metalzation (Ni/Ag)	1.5	µm
Frontside Passivation	Polyimide	

Typical Performance

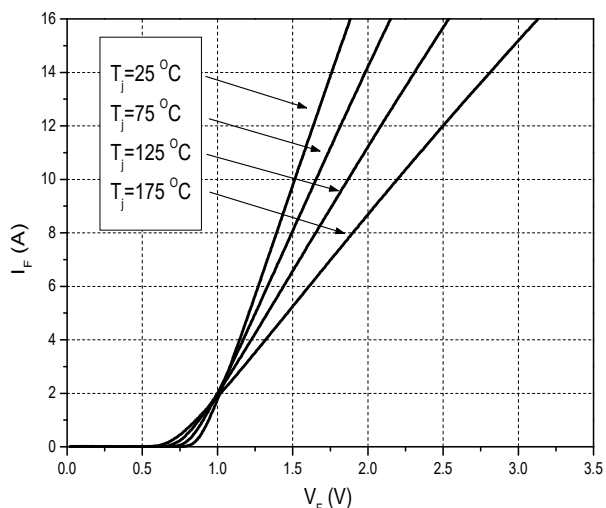


Figure 1. Forward Characteristics

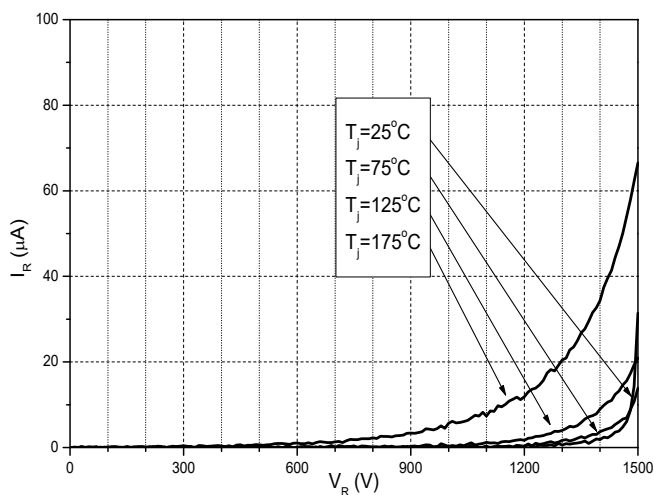


Figure 2. Reverse Characteristics

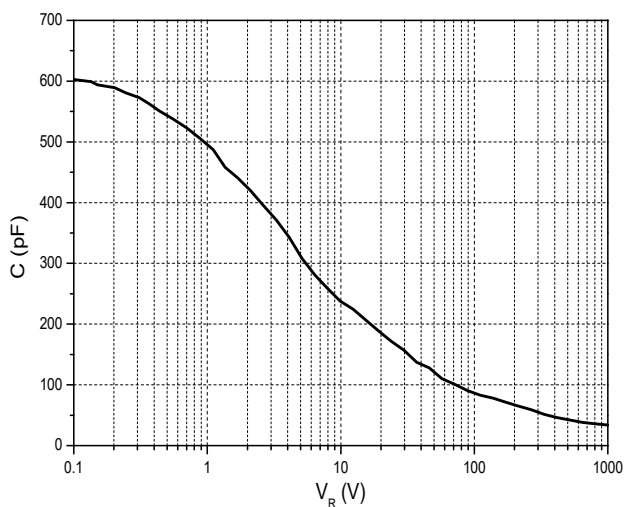


Figure 3. Capacitance vs. Reverse Voltage

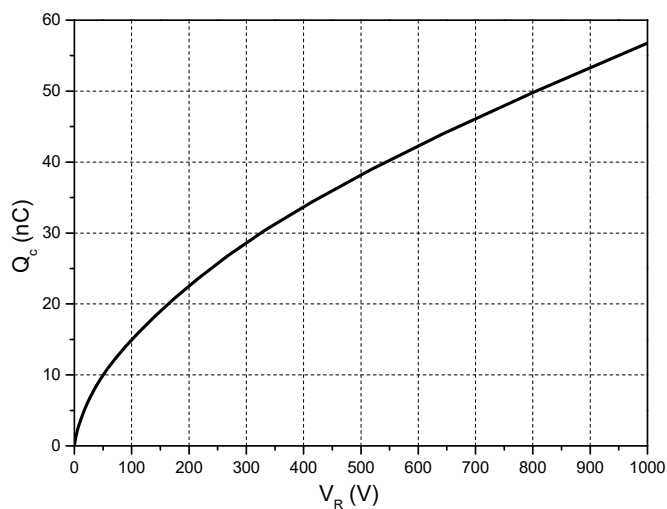
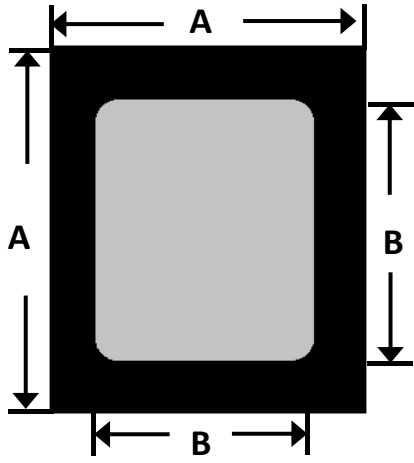


Figure 4. Total Capacitance Charge vs. Reverse Voltage

Chip Dimensions



Symbol	Dimension(mm)
A	2.21
B	1.72