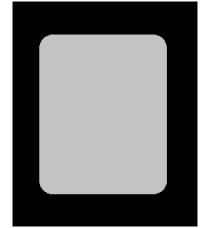


N3D-1200-005

Silicon Carbide Schottky Diode Chip

Part Number	Die Size	Anode	Cathode
SIC-1200-005	1.66 x 1.66 mm 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	8.5	A	T _C =135°C	
I _{FRM}	Repetitive Peak Forward Surge Current	25	A	T _C =25°C, t _p =10 ms, Half Sine Wave,	*
I _{FSM}	Non-Repetitive Peak Forward Surge Current	43	A	T _C =25°C, t _p =10ms, Half Sine Wave,	*
I _{F,Max}	Non-Repetitive Peak Forward Surge Current	370	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}=0.94°C/W

Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V _F	Forward Voltage	1.5 2.0	1.8 2.5	V	I _F = 5 A T _J =25°C I _F = 5 A T _J =175°C	Figure 1
I _R	Reverse Current	2 50	20 100	μA	V _R = 1200 V T _J =25°C V _R = 1200 V T _J =175°C	Figure 2
Q _C	Total Capacitive Charge	24		nC	V _R = 800 V, T _J = 25°C Q _C =∫ ₀ ^{V_R} C(V)dV	Figure 4
C	Total Capacitance	340 22 18		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	12		μJ	V _R = 800 V	

Mechanical Parameters

Parameter	Typ.	Unit
Die Size	1.66*1.66	mm
Anode Pad Opening	1.2 x 1.2	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

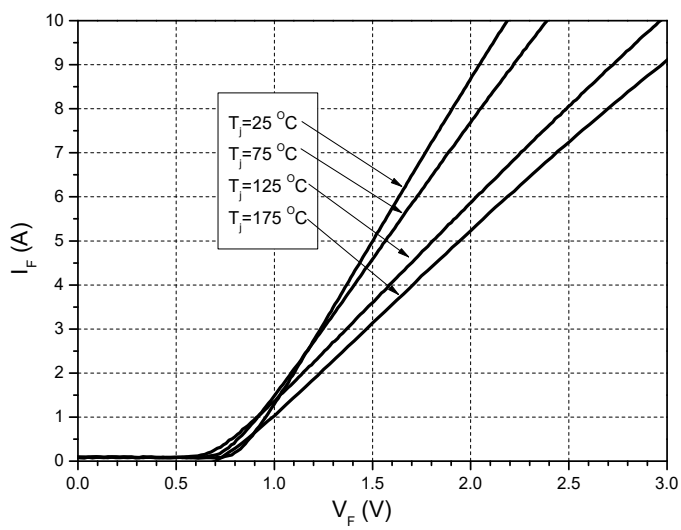


Figure 1. Forward Characteristics

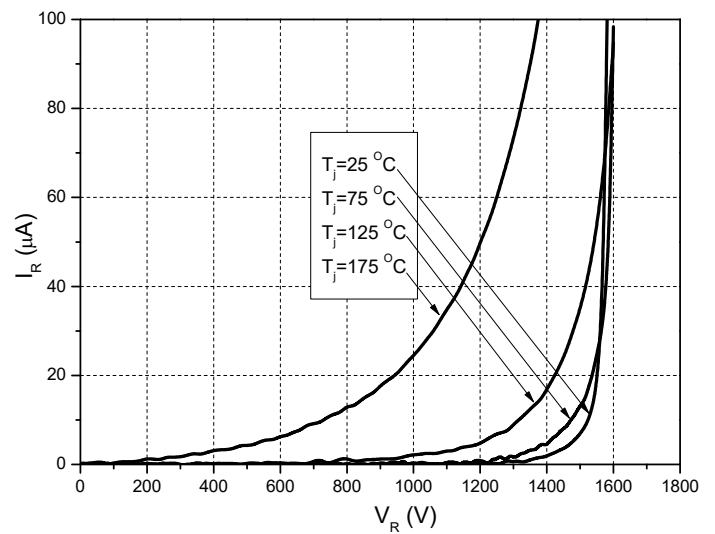


Figure 2. Reverse Characteristics

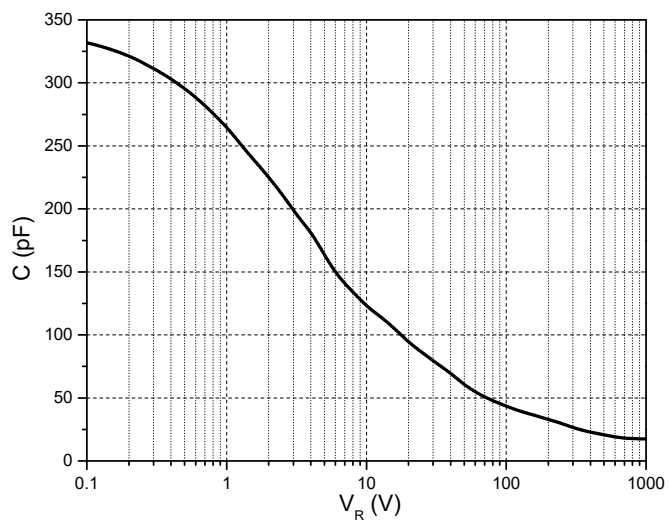


Figure 3. Capacitance vs. Reverse Voltage

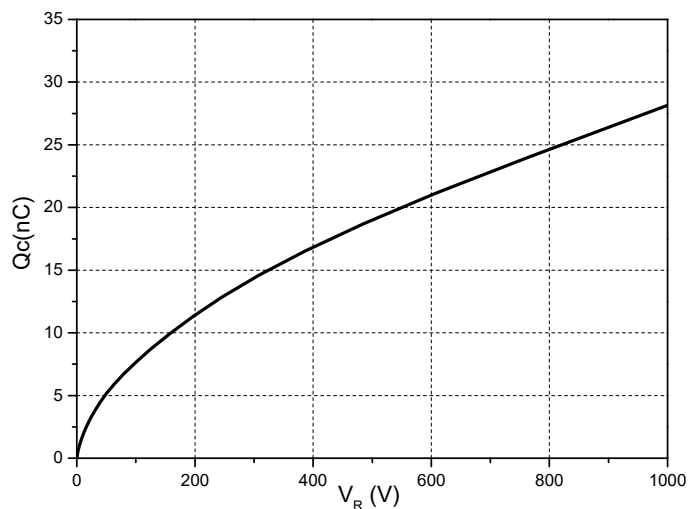
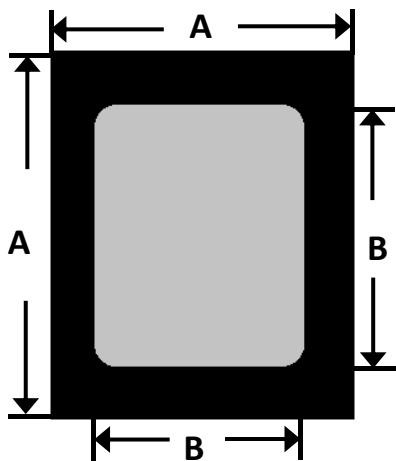


Figure 4. Total Capacitance Charge vs. Reverse Voltage

Chip Dimensions



Symbol	Dimension(mm)
A	1.66
B	1.20