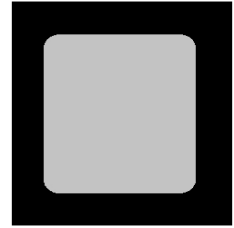


N3D-1200-015

Silicon Carbide Schottky Diode Chip

Part Number	Die Size	Anode	Cathode
SIC-1200-015	2.71 x 2.71 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	15	A	T _C = 150°C	
I _{FRM}	Repetitive Peak Forward Surge Current	80	A	T _C = 25°C, t _p = 10 ms, Half Sine Wave,	*
I _{FSM}	Non-Repetitive Peak Forward Surge Current	120	A	T _C = 25°C, t _p = 10ms, Half Sine Wave,	*
I _{F,Max}	Non-Repetitive Peak Forward Surge Current	850	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} = 0.53°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 = 15 A T _J = 25°C I _F = 15 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	78		nC	V _R = 800 V, T _J = 25°C Q _C = ∫ ₀ ^{V_R} C(V) dV	Figure 4
C	Total Capacitance	1090 70 53		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	40		μJ	V _R = 800 V	

Mechanical Parameters

Parameter	Typ.	Unit
Die Size	2.71 x 2.71	mm
Anode Pad Opening	2.22*2.22	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

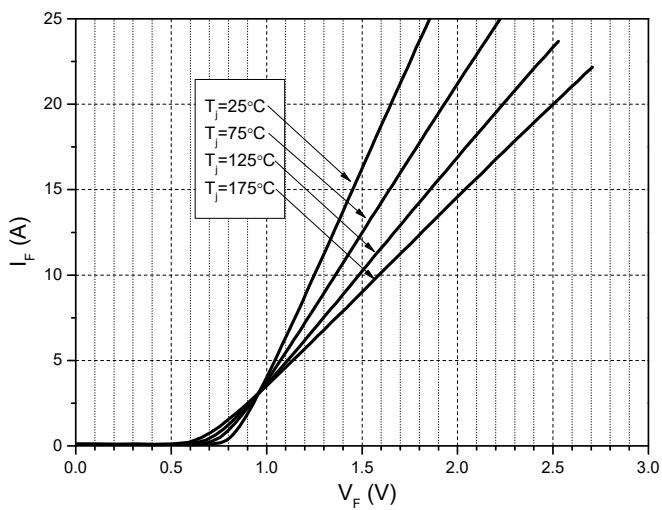
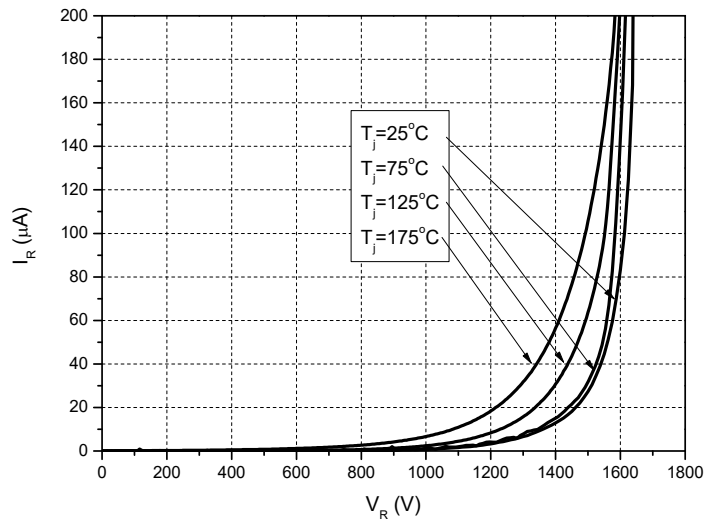


Figure 1. Forward Characteristics



2. Reverse Characteristics

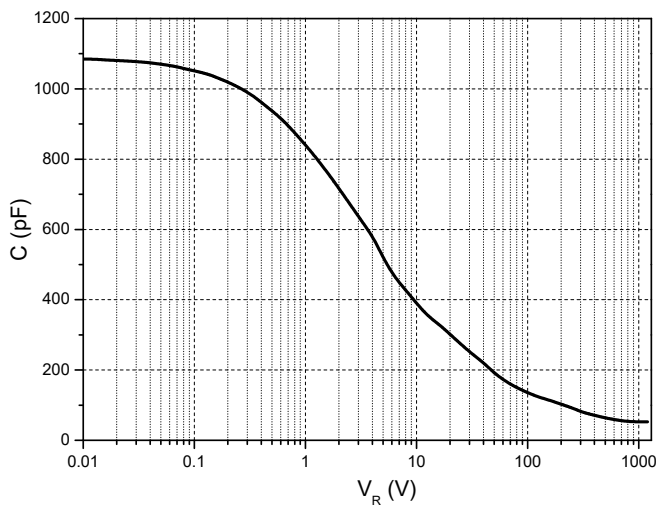


Figure 3. Capacitance vs. Reverse Voltage

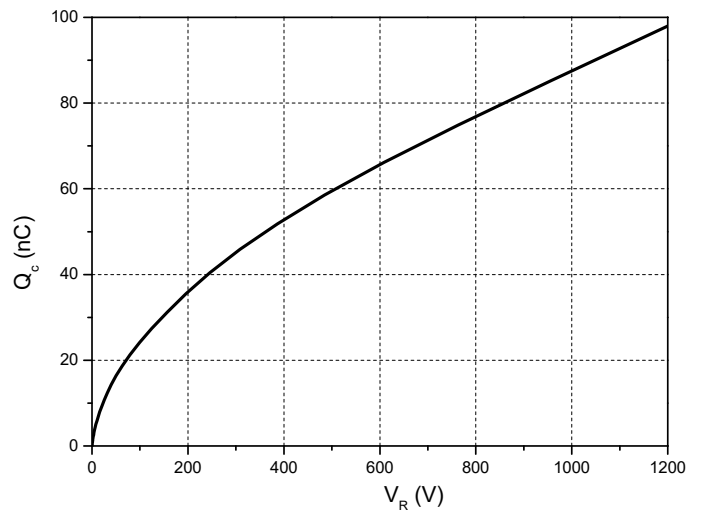
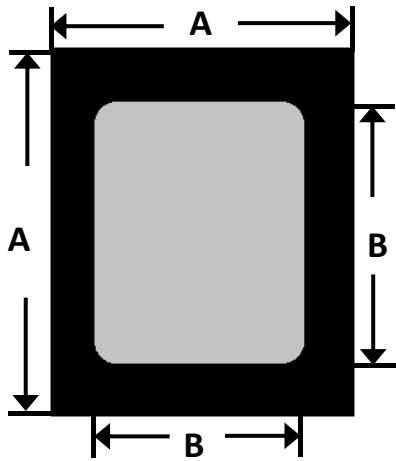


Figure 4. Total Capacitance Charge vs. Reverse Voltage

Chip Dimensions



Symbol	Dimension(mm)
A	2.71
B	2.22